



*with Alstom*

REGISTRATION DOCUMENT  
Annual Financial Report  
2012/13

**ALSTOM**  
*Shaping the future*

# SUMMARY

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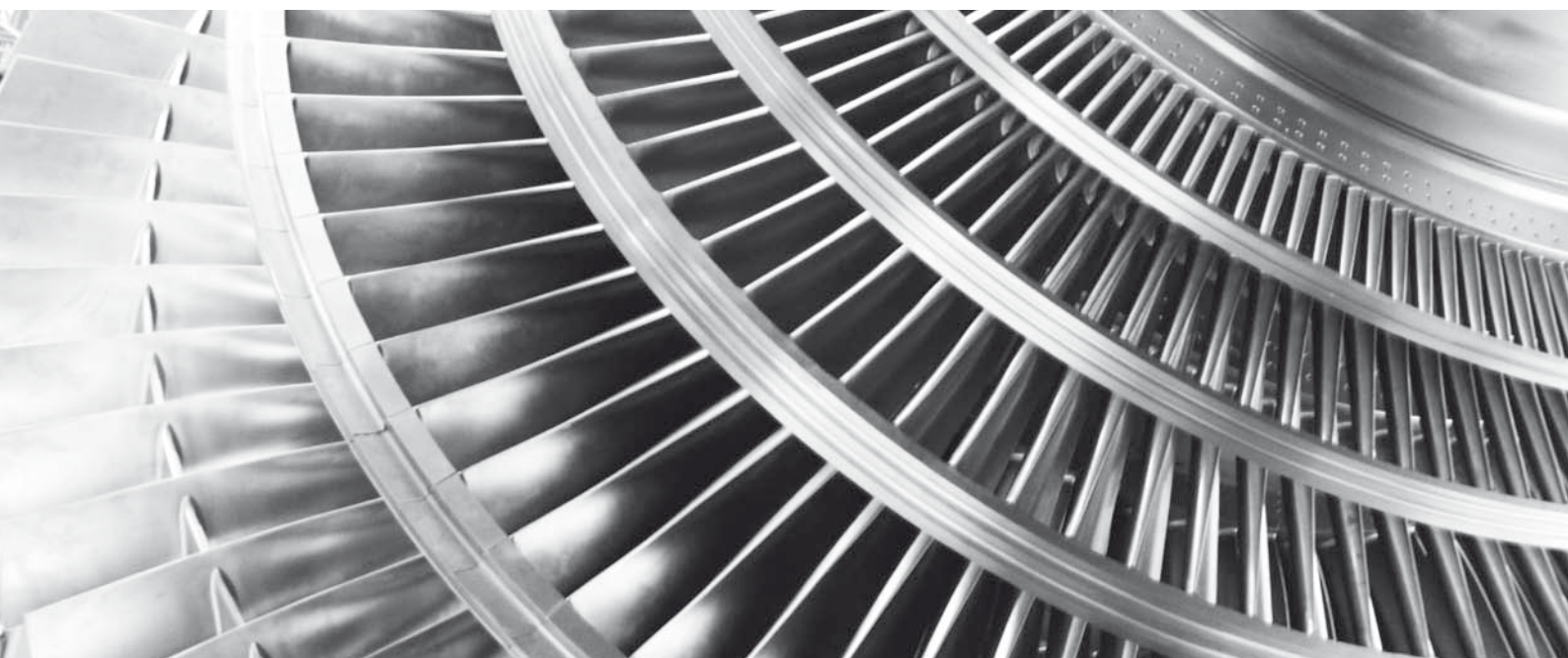


# ALSTOM

Société anonyme with share capital €2,158,777,754  
3, avenue André Malraux – 92300 Levallois-Perret – RCS: 389 058 447 Nanterre

## REGISTRATION DOCUMENT 2012/13

### ANNUAL FINANCIAL REPORT



The original French version of this Registration Document was filed with the *Autorité des marchés financiers* (AMF) on 29 May 2013 in accordance with Article 212-13 of its General Regulation.

It may be used in connection with an offering of securities if it is supplemented by a prospectus ("*note d'opération*") for which the AMF has issued a visa.

This document has been prepared by the issuer under the responsibility of its signatories.

This Registration Document includes all elements of the Annual Financial Report specified by Article L. 451-1-2 of the *Code monétaire et financier* and Article 222-3 of the AMF's General Regulation.

A table of reconciliation is provided on page 305.

This Registration Document is available on our website: [www.alstom.com](http://www.alstom.com).

[www.alstom.com](http://www.alstom.com).

## MESSAGE OF THE **CHAIRMAN**

**PATRICK KRON** – Chairman and Chief Executive Officer



### **The Group booked €24 billion of orders in 2012/13, despite the unfavourable economic context. Is this sales performance the primary source of your satisfaction?**

It is not the only one, but the high level of orders last year – building on our successes from previous years – is obviously very important. This satisfying sales performance shows that we have done good work, and I would like to thank our employees for their commitment. Thanks to our large footprint, we have been able to make the most of high growth area, particularly in emerging markets. They accounted for half of all orders, and almost two-thirds of the orders for our power generation and transmission Sectors. The orders booked in 2012/13 represent more than two and a half years of business.

### **How does this result break down among Alstom's various business lines?**

In power generation, Thermal Power booked major successes, and in particular sold 12 gas turbines – including next-generation GT26 turbines. Service orders were also at a high level. Renewable Power won some very large onshore wind contracts in Brazil and recorded a particularly important victory in offshore wind in France.

Grid, our power transmission business, booked record orders, with two important contracts in India and Germany for high voltage direct current transmission, a high-tech area. In rail infrastructure,

Transport also turned in an excellent sales performance. That includes Europe, where the market fortunately did not suffer too much from the public spending crisis, but also non-European markets like Canada and Brazil, where we won large contracts. In short, we have continued to work very hard across the board, and our offer was the driver of our success.

### **What other key points should we remember about 2012/13?**

Three figures: the 10% rise in orders that we have just mentioned; a 10% increase in net profit as well; and free cash flow turning positive at €400 million. Sales were up too, though they did not rise as much as we expected owing to some projects being delayed. Our operating margin has improved, largely because our project execution was generally good and we worked to optimise costs. With free cash flow positive again, our balance sheet was still sound at the end of the fiscal year. Shareholders' equity stood at over €5 billion, and net debt was down.

### **Last year you focused on environmental concerns, stressing that they were a growth driver. Where does Alstom stand on that front?**

We have drawn up an ambitious social responsibility programme, with a view to better anticipate the challenges that we will face tomorrow in a world with a fast-growing population, massive power and mobility needs, and environmental concerns.

We built our programme around three principles.

- The first is that we must constantly adapt our offer to present the best solutions, and that includes developing technologies based on renewable energies, striving constantly for the highest energy efficiency, and practising what we call “eco-design.”
- The second principle is that we should have quality interactions with our professional environment, and that means staying close to our customers so that we better adapt to their needs; maintaining good relationships with our suppliers and business partners; making an in-depth evaluation of the environmental and social impact of our projects; and supporting the local communities around our sites.
- The third principle is that we must constantly improve the way we work, by strengthening our high exacting ethical standards; by giving our employees the best – and safest – possible workplace; and by reducing the environmental footprint of our operations.

**When your results were released, you were cautious about the outlook for the Group over the next few fiscal years.**

Yes, because the economic environment remains difficult in the short term. That’s why we have anticipated modest annual sales growth and a stable operating margin in 2013/14, rising to around 8% in the next two or three years. Meanwhile, free cash flow remains a priority and should remain positive year after year over this period.

**Are you adopting a wait-and-see attitude in response to market uncertainty?**

On the contrary, we have continued to prepare the future by stepping up our research and development expenses, which exceeded €700 million in fiscal year 2012/13. These recurring efforts are paying

off now, positioning us in innovative, fast-growing sectors like offshore wind, high voltage direct current technology, Smart Grids and urban transport systems.

We are also continuing to adjust our manufacturing base by modernising it and adapting it to the growth in emerging countries. We have invested more than €500 million to modernise and develop our industrial footprint. We had to rethink the Group’s structure, adapt our capacities in certain areas of Thermal Power, Renewable Power and Grid, and provide the necessary support to our employees, especially in the USA, Mexico and Spain. At the same time, we have responded to markets’ evolution – which is changing both geographically and technologically – by launching new units and modernising existing ones, in Canada, Brazil, India, Kazakhstan and France.

**So Alstom is ready to face the new world that is gradually emerging?**

Our strategy is unchanged. Our goals are to support our growth by expanding our global presence and our offer, to continue our efforts to maintain our technological edge, to support our expansion in emerging countries with targeted investments, and to continue to improve our operational performance thanks to sound project execution, cost optimisation and cash flow generation.

Alstom is on the right track. Over the long term, our markets are headed in the right direction, with considerable needs for efficient power generation and transmission infrastructures as well as rail transport. We will continue to work to strengthen our positions and to make the most of our many advantages!

**PATRICK KRON**

Chairman and Chief Executive Officer

“ We have continued to prepare for the future ”







# 1

## DESCRIPTION OF GROUP ACTIVITIES

### THERMAL POWER SECTOR

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The Content of the Annual Financial Report is identified in the summary table with the help of a pictogram 

## THERMAL POWER SECTOR

The Thermal Power Sector designs, manufactures, and delivers solutions which allow customers to generate competitive, eco-friendly, reliable and flexible power.

With over 100 years' experience in supplying turnkey power plants worldwide, Alstom also upgrades, refurbishes and retrofits all components for existing thermal power plants to maximise returns on customers' assets over their entire lifecycle.

Alstom Thermal Power Sector has the industry's most comprehensive portfolio of thermal technologies – coal, gas, oil and nuclear – and holds leading positions in turnkey power plants, power generation services and air quality control systems. Alstom is also a pioneer in carbon capture technologies.

## INDUSTRY CHARACTERISTICS

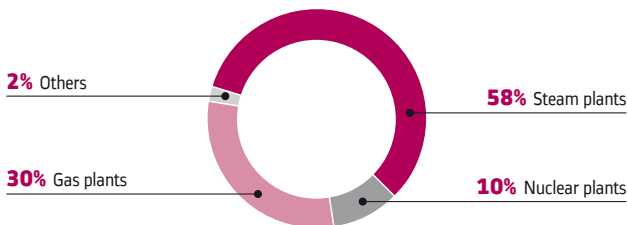
The thermal power market has been through another eventful year with a strong contrast between industrialised and emerging regions.

The emerging countries are faced with an urgent need for new capacity, for either thermal peak or base load, to meet growing demand, which is directly linked to their economies and dynamic demographics. Despite the recent slowdown in growth, Asia and other emerging regions are likely to remain the largest markets for new thermal power plants in the years to come.

In most industrialised countries, economic uncertainties (recession and debt crisis) have affected investments in new thermal power generation facilities. However, the ageing installed base of power plants in those regions continues to drive strong and recurrent need for retrofit, sustained by environmental concerns and the need to reduce the cost of electricity.

The world's installed thermal power generation capacity in 2012 was estimated at a new record of 4,030 GW, growing at nearly 5-6% year over year. The thermal installed base represents about 74% of the total installed base, with the rest being mainly renewables.

### GLOBAL THERMAL POWER INSTALLED BASE (GW)



Source: Alstom

### Market evolution

The global market for new thermal power generation equipment in 2012 is nearly half what it was in the boom times of 2007/2008, before it was hit by the most serious economic crisis in 80 years.

Continuing weak economic growth – even recession in some countries – and subsequent lower electricity demand have hindered the expected market recovery in Europe.

Both North America and Europe suffered in 2012. However, in North America cheap gas prices and significant coal plant retirement are now supporting a progressive recovery of the gas plant market despite weak electrical consumption growth and low electricity prices.

Comparatively, emerging countries driven predominantly by China and East Asia have shown an overall sustained demand for new build, despite their more moderate economic growth levels.

In the meantime, growing renewable penetration is lowering utilisation of thermal plants, making the business case for new build uncertain in some geographies.

Globally in 2012, the new build thermal power market has stabilised overall compared with 2011. On a more positive note, the installed base market growth has proven again to be quite resilient, not only thanks to service activities, but also to an active Air Quality Control System market driven by tighter environmental regulations notably in the USA, Europe and China and demand for retrofit in the USA and Europe.

Two years after the Fukushima disaster, nuclear power future is still being debated in a number of countries. However a progressive recovery is underway, with China's decision to press ahead with nuclear development, orders placed in India and Russia and active bidding processes in UK, Finland, Turkey and the Czech Republic. As for the existing nuclear fleet, there is a sustainable retrofit market, and "stress tests" performed worldwide will drive significant additional spending for safety enhancements.

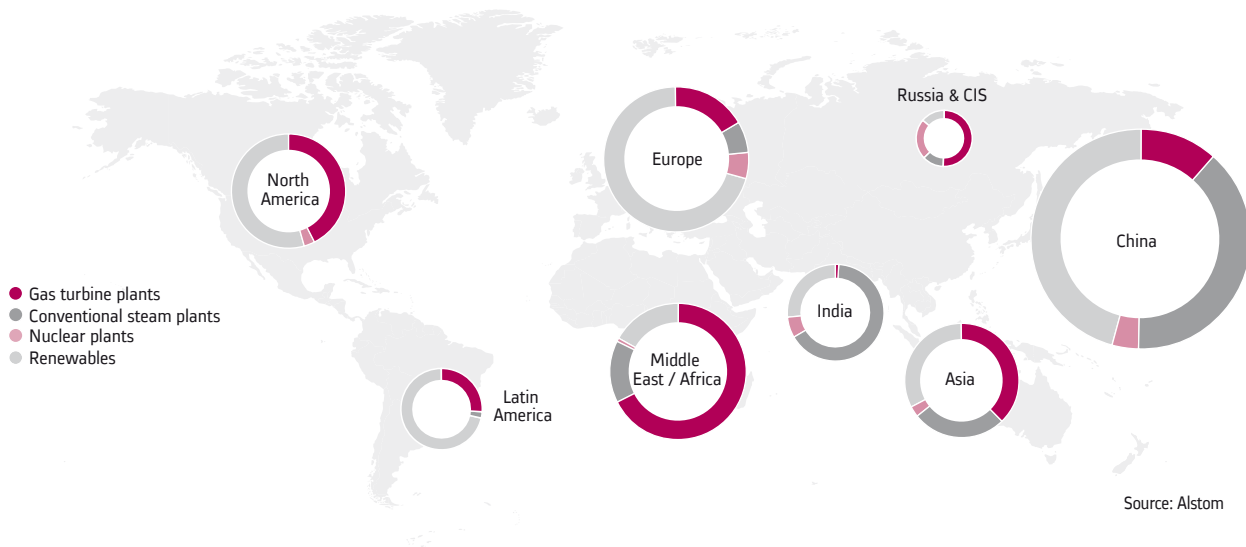


The coal plant market has tended to stabilise overall compared with 2011: most orders came from China and Asia, while India is still suffering from less favourable economics and difficult access to fuel. Outside Asia, the steam market was smaller but resilient in the Middle East and in Europe.

After the strong rebound of 2011, the overall gas plant market declined in 2012 by almost 20%, with the simple cycle gas turbine market decreasing sharply versus combined cycle, and a growing share of the market went to China and Asia despite high gas price in these regions.

Over the years to come, new build growth should be supported by demand for gas power plants. Investment in new nuclear should re-start progressively in a number of countries – and in China especially. As for new steam plants, investment should globally be moderate but will keep a significant share in the global thermal market for the years to come, driven by the continuous need to add capacity in Asia and the Middle East.

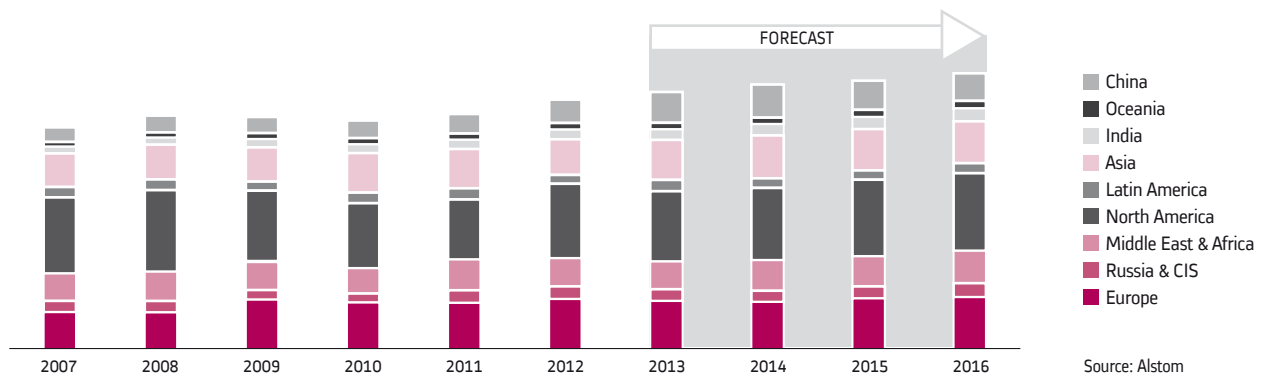
**MEDIUM TERM GLOBAL POWER MARKET FORECAST**  
**AVERAGE 230/270 GW P.A.**



The service market drivers remain strong, notably in Europe and North America, where an ageing installed base has increased the requirement for regular equipment maintenance, lifetime extension and performance upgrades. Environmental products and retrofit markets should offer growing opportunities in mature countries, driven mainly by more

stringent regulations and the ageing of the installed base. In developing markets such as China, India, the rest of Asia or the Middle East, the increasing size of the installed base of power plants will progressively boost service needs.

**THERMAL SERVICE AND RETROFIT MARKET**



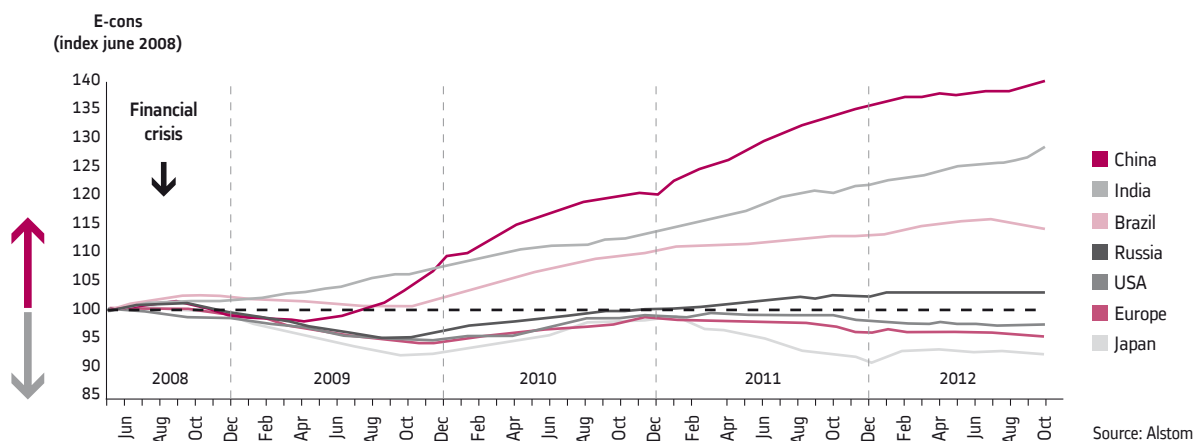
## Market drivers

### Economic growth

There is a correlation, especially in emerging markets, between power consumption and Gross Domestic Product (GDP), since economic development drives consumption of electricity. In mature countries, the ratio of electricity consumption to GDP, known as electricity intensity, is progressively declining due to a shift to a more service-based

economy and increasing energy efficiency. After the decline in electricity consumption in 2009 and its rebound the year after, most of the regions faced a protracted slowdown of GDP in 2012. Growth in emerging markets, particularly in China and India, is expected to continue in the short to medium term, but may be slowed by the impact of sluggish mature economies on their exports. Alongside this two-speed economic growth, power generation across most of Asia is expected to continue to increase substantially.

### ELECTRICITY CONSUMPTION (TWH, 12 MONTHS MOVING AVERAGE)

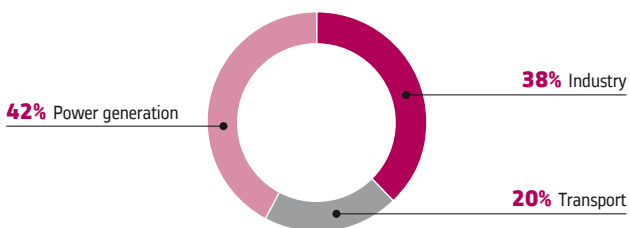


### Environmental concerns

Everywhere, environmental concerns highlight the need for lower emissions and water conservation in both existing and new power plants. A change in behaviour is clearly visible. Furthermore, fossil fuel prices, which are expected to remain structurally high in the coming decades, except in North America, are also contributing to the demand for the improvement of efficiency rates. This will have a long-term effect in all parts of the world, although at different speeds.

### Controlling CO<sub>2</sub> emissions

#### CO<sub>2</sub> EMISSIONS FROM FOSSIL FUEL COMBUSTION



There is a consensus on the need for urgent action to tackle climate change. The IEA has been repeatedly clear in its yearly editions of World Energy Outlook about the dire consequences of lock-in into a high carbon infrastructure. International discussions within the

United Nations Framework Convention on Climate Change (UNFCCC) and the Copenhagen Agreement 15 (COP 15) prompted voluntary commitments to cut emissions by a significant number of both mature and emerging countries.

Since COP 17 in Durban, projects that reduce CO<sub>2</sub> emissions by applying carbon capture and storage have been included in the Clean Development Mechanisms (CDM). There is a growing interest for the Green Climate Fund, which could become a major source of financing for low carbon investments that remain to be funded. All these initiatives will push demand for cleaner solutions. COP 18 in Doha was not decisive, but countries made incremental progress. France will host the next COP 21 round.

Alstom has developed an innovative and advanced approach to assess the impact of Alstom's offering on the actual CO<sub>2</sub> emissions reduction, based on equipment operation at customer sites. Methodology and results are detailed in chapter 6 on Sustainable Development.

### Managing the water resources

Alstom has recognised the rapidly growing concerns about water scarcity and quality in many regions of the world. Water is an essential part of the electricity production value chain, particularly for thermal power generation plants. The Group has therefore dedicated on-going efforts to optimise the impact of its offering on water resources based on three main pillars: reducing water dependency, enhancing water use efficiency and lowering impact on water quality. See chapter 6 on Sustainable Development for detailed methodology and results.

## Regulations

Country-specific regulations are creating both uncertainty and opportunities for the thermal power market. One prominent example is Germany's decision to abandon nuclear power, following the tragic accident at the Fukushima nuclear plant in Japan. Another example is the regulatory turmoil witnessed in a number of mature economies regarding coal fired power generation, both for the installed capacity and new projects. These regulations as well as the access to fuels, such as availability of non-conventional gas will play a major role in the energy mix in each country.

Alongside the importance of de-carbonising the industrial sector, there is also a global push for stricter environmental regulations on conventional pollutants such as SO<sub>2</sub>, NO<sub>x</sub>, Particulates and Mercury. In Europe and the USA, there are already a number of regulations that greatly influence investments in control technology for the installed power generation base. Emerging economies are set to follow. In Europe, the Large Combustion Plant Directive (LCPD), a European Union directive that aims to reduce acidification, ground level ozone and particulates by controlling the emissions of sulphur dioxide, oxides of nitrogen and dust from large combustion plants, has been recast into the single Industry Emissions Directive (IED), along with six other pieces of EU legislation on industrial emissions. This IED continues to drive Air Quality Control System installations in new and existing thermal power plants.

In the USA, the Environmental Protection Agency (EPA) has rolled out the first national standards, Mercury and Air Toxics Standards (MATS) to control mercury, acid gases, particulates and dioxins & furans, driving a

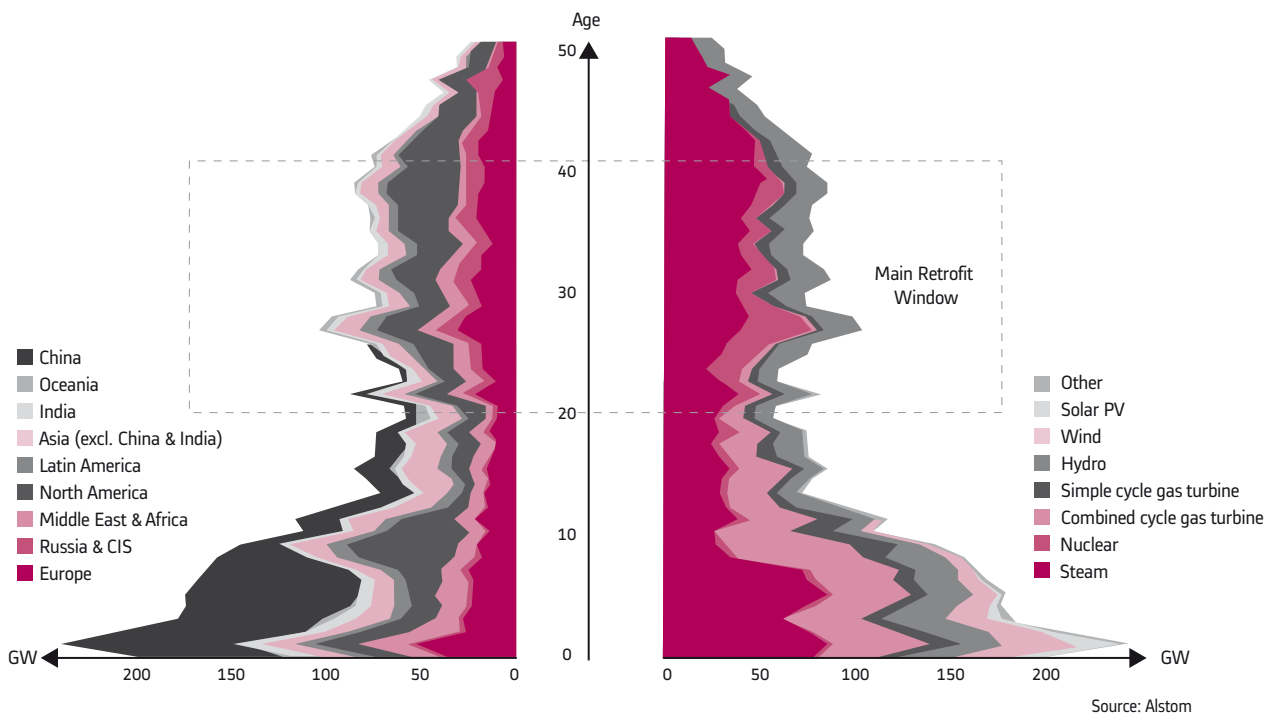
significant market for Air Quality Control System retrofit. Other proposed regulations include the Coal Ash Rule, which would regulate the solid waste by-products, and the Cooling Water Intake Structures Rule, which would regulate cooling water withdrawals at existing thermal power plants.

In the rest of the world, despite positive developments, markets have been slower to implement more stringent regulations. In China, the Ministry of Environmental Protection issued new emission standards for new and existing thermal power plants. The new regulations took effect on 1 January, 2012 and place more stringent limits on emissions of particulates, sulphur dioxide (SO<sub>2</sub>), and NO<sub>x</sub>, and set new limits for emissions of mercury and other chemical compounds. Stricter rules are emerging in India, as exemplified by the recently enhanced regulations for emissions of particulates.

## Installed base: ageing of power plants

The ageing installed base along with stricter environmental regulations and increased fuel prices should lead to higher demand for retrofit and modernisation solutions. In recent years, demand for maintenance and refurbishment has been strengthened by a general trend among power producers to seek increased performance, lower operating costs and extended lifetimes of their existing plants. The growing number of old plants reaching retirement age will continue to drive the market for servicing and retrofits as utilities strive to replace components to maintain current levels of installed capacity, or take the opportunity to increase the capacity of power plants to simultaneously address rising power demand.

AGE PYRAMID OF WORLD INSTALLED CAPACITY  
INSTALLED BASE 5,430 GW (2012)





## COMPETITIVE POSITION

Alstom Thermal Power holds leading positions in all of its businesses.

In steam & gas turbine plant market (gas turbine, steam turbine, boiler, emission control systems), Thermal Power is among the leaders of the global competition, alongside Western players like General Electric or Siemens, Japanese players like Mitsubishi Heavy Industries or Toshiba, and other Asian players like Doosan, Shanghai Electric, Harbin and Dongfang in China and BHEL in India.

In the nuclear integrated turbine islands market, Alstom holds the #1 position with over 30% of orders in the last 10 years using the Alstom steam turbine generator (STG) technology. Thermal Power and its partners have been awarded 100% of the 2012 nuclear STG orders,

gaining ground on Mitsubishi Heavy Industries, General Electric, Power Machines, Toshiba (Westinghouse) and Siemens (source Alstom).

Having supplied equipment present in around 25% of the global installed base (gas turbines, steam turbines, generators, boilers, air quality control systems, balance of plant and instrumentation and control), Alstom has the experience and offering to best support customer needs throughout the lifecycle of the plant, enabling power plants to remain competitive in a changing market. In servicing for the installed base, Alstom typically competes with original equipment providers, independent service providers (Woodgroup, Turbocare...) and many local field service companies.

## STRATEGY

The Thermal Power strategy is organised around three pillars: growth, technology and "Dedicated to Excellence" Programme, aiming at improving operational expertise.

### Growth

Thermal Power growth encompasses five objectives:

#### Further expand service of the installed base

Thanks to its large base of installed equipment, Alstom Thermal Power has a unique position to support power generators with a broad range of service and retrofit solutions. Growth will be sustained by servicing the full share of Alstom Original Equipment Manufacturers (OEM) fleet, expanding the scope of service to existing service customers by providing them an increased value out of their equipment operation and supporting customers operating equipment not provided by Alstom.

#### Develop sales of components for power and industry

Alstom Thermal Power provides a full range of contractual options to meet customer needs from turnkey plants to engineered packages and components. Stand-alone components (steam turbines, generators, gas turbines, auxiliaries, boilers, etc.) give customers the opportunity to have access to Alstom original technology and have elements integrated by a third-party of its choice.

Thanks to technologies derived from the power industry, Thermal Power aims to expand its orders from solutions and equipment in selected non-power industrial applications.

#### Increase presence on the 60 Hz market

Historically, Alstom's presence has been stronger in the 50 Hz market. The 60 Hz new plants market is growing thanks to the expected rising

gas market in North America, the sound market in Saudi Arabia, growing opportunities in Korea, Taiwan and in some parts of South America. Thermal Power aims at increasing its footprint and market share in these regions. Leveraging and expanding its existing portfolio and business will be the key success factors in the 60 Hz market.

#### Expand Alstom products portfolio

Currently, Alstom Thermal Power has the broadest portfolio of thermal technologies in the market. Thermal Power is dedicated to developing its offering for existing or emerging equipment/services segments and maintaining its technology leadership in ultra-supercritical power plant components, next generation of nuclear turbo-generator, new range of gas & steam turbine or generators, service to existing power plant, etc.

#### Strengthen presence in Asia, Russia and Middle East

Alstom forecasts that two thirds of the thermal power market (new equipment and service of the installed base) will be located in emerging countries over the next five years. Thermal Power will pursue its strong efforts to increase orders and sales in the emerging markets, relying on an adapted offering, a local footprint and strong partnerships with key regional players.

### Technology

Technology is a vital part of both current and future success of Alstom. Through technology and continuous development of its products, Alstom Thermal Power improves its competitiveness and customer value along the Clean Power levers: reducing cost of generated electricity, lowering environmental footprint, and increasing flexibility and reliability of major component and integrated power plants.

Thermal Power will further enhance the existing gas turbine range to address changing gas market demand and explore entry in new segments, while sustaining its technological leadership in fossil steam turbines and generators for both the gas and the coal/oil markets. Ultra-supercritical boilers will also be a focus area for Alstom Thermal Power, with the objective of increasing the steam parameters and ultimately improving the heat rate and efficiency for the end-users.

Regarding carbon capture and storage technology, the focus will be on continuing to selectively develop applications for power in steam and gas, as well as for industrial applications.

In nuclear, Thermal Power will further leverage the ARABELLE™ advantages and develop the equipment and offering to address the post-Fukushima market demand.

In Automation, Thermal Power will develop the existing control system offering to cover the full scope of power plant automation and control.

Additionally, to better serve the installed base and maximise the customer asset plant lifecycle, Thermal Power will enhance its offering with some innovative concepts and a wider range of equipment and solutions.

Please refer to the Research and Development section for more information.

## Dedicated to Excellence

Alstom Thermal Power wants to be recognised by its customers for its operational excellence and has put its main focus on a thorough and disruptive ambition called "Dedicated to Excellence":

- quality: significantly reduce the number of non-conformity (NCR) discovered at site;
- lead-time reduction: ambition to reduce the overall lead-time of all major equipment;
- cost reduction: target to reduce the total cost of major components;
- standardisation and modularisation increase;
- EHS & people: zero accident at Alstom manufacturing and sites.

## OFFERING

The Thermal Power offering aims at optimising customer value along the Clean Power levers. They drive the Thermal Power product and portfolio development strategy. The ultimate ambition is to maximise returns of customer's assets over the entire lifecycle by:

- reducing cost of electricity generation, to ensure assets competitiveness;
- lowering environmental footprint, to make these assets increasingly eco-friendly;
- increasing flexibility and reliability, to ensure assets can respectively:
  - adapt to fluctuating electricity and fuel markets conditions,
  - generate the required electrical load through maximised availability, reliability, and maintainability.

Thermal Power offers solutions for new plants:

- integrated power plants: steam power plants, combined cycle power plants;
- engineered packages: power island, steam add-on;
- stand-alone equipment: steam turbines, generators, boilers, gas turbines, heat recovery steam generator (HRSG), emission control systems, auxiliaries like air preheaters, mills for coal and minerals grinding, CO<sub>2</sub> capture and storage systems;
- automation and control solutions for equipment and power plants.

To help customers keep their power plants competitive throughout their lifecycle, Thermal Power also provides a complete range of services for its own products but also for products from other manufacturers, including:

- power plant management: tailored service packages including Operation and Maintenance (O&M) agreements for plants' full lifecycles;

- consulting, advice and support: emissions and performance analysis, technical services, training, monitoring and diagnostics;
- solutions for emissions reduction, performance and flexibility improvements: modernisation, retrofitting, upgrades and lifetime extension;
- field implementation and field service: outage management, field repairs, erection, commissioning, construction and supervision;
- spare parts, improved parts and component repairs and reconditioning.

Through technologies derived from the power industry, the Thermal Power Sector also provides solutions and equipment in selected non-power industrial applications.

### Global Footprint

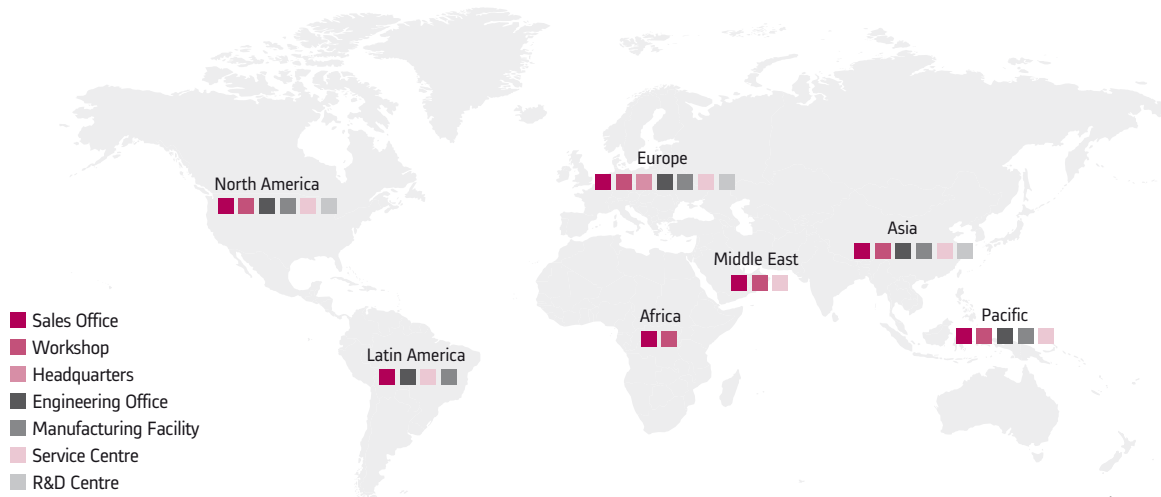
The Thermal Power Sector operates in all geographic markets and is present in over 70 countries with a worldwide reinforced manufacturing footprint:

- in India, a manufacturing site for steam turbines and generators in partnership with Bharat Forge is being built. In steam auxiliaries, a new air preheaters elements manufacturing line was opened at the existing Shahabad site.
- in China, the existing Alstom-Aohan joint venture extended the capacity of its air-preheater heating element by a third.
- in Russia, a nuclear steam turbine generator assembly plant is being developed with Alstom's partner AtomEnergMash.
- in Poland, Thermal Power commissioned a new turbine shaft welding shop at its Elblag steam turbine factory.

- in Saudi Arabia, Thermal Power launched a new power generation services workshop programme with the aim of increasing its presence in the Middle East. The project will begin with the construction of a state-of-the-art facility located in Rabigh, which will handle the reconditioning of gas turbine components, as well as the inspection and repair of a wide range of other power plant equipment.

- in Vietnam, Alstom and EVN established a joint venture to develop a workshop to provide a gas turbine reconditioning services locally to EVN customers and for export.

**A WORLDWIDE REINFORCED MANUFACTURING FOOTPRINT**



Thermal Power is also active on all continents through its engineering and/or research and development centres operating in over 50 locations. With a network of over 200 locations in 70 countries and over 30 centres of technical expertise, Thermal Power has a strong field services organisation worldwide.

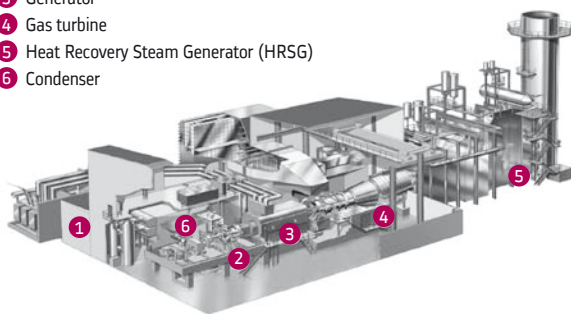
produce over 150 GW of power for various applications including cogeneration, district heating, desalination, as well as for special industrial applications like aluminium and steel making industry.

With a comprehensive portfolio of reference plants and its comprehensive technology ownership of all key equipments entering in a gas plant, Alstom can rapidly assess the most appropriate configuration and propose proven solutions.

**Gas**

**Combined cycle power plant**

- 1 Control systems
- 2 Steam turbine
- 3 Generator
- 4 Gas turbine
- 5 Heat Recovery Steam Generator (HRSG)
- 6 Condenser



Alstom Thermal Power has leading experience and knowledge in gas-fired simple and combined cycle power projects based on Alstom technology for gas turbines and all other key plant components. Alstom gas power plants are fully adapted to power markets that require more and more flexibility and are designed for both base-load and part-load operation, as well as for daily cycling (stop/start). Whatever the operating configuration, these power plants are designed to minimise the environmental impact. Today, Alstom-built gas fired power plants

**Integrated solutions**

Today, simple cycle power plants are used whenever power generation capacity needs to be built rapidly and/or for peaking operations. Alstom offers simple cycle reference power plants with a high degree of customisation to meet wide-ranging customer requirements.

For efficient, flexible and competitive power-generating capacity, Alstom proposes combined cycle power plant designs with optimised installation times, high-performance, low emissions, high operational and fuel flexibility features. The Alstom-made reference power plants are adaptable to various site conditions.

Alstom combined cycle plants are also ideal for energy intensive industries like aluminium and steel.

Alstom's project capabilities and references encompass the transformation of simple cycle into combined cycle power plants (add-ons), and the conversion of steam power plants into combined cycle power plants.

**Hybrid solutions**

The ability of Alstom gas turbines to be flexible in part/low-load and base-load allows for seamless integration of solar renewable solutions within combined cycle power plants.

Integration of high temperature and pressure steam from the Group concentrated solar tower-based solutions directly into the steam turbine allows for the most efficient integrated solar combined cycle plants.



## Products

### Gas turbines

Alstom's high performance, low emissions, operational and fuel flexible gas turbines are successfully operating in simple and combined cycle power plants, in pure power generation and cogeneration applications around the world.

With the revival of the gas-fired power generation market, Alstom has boosted its gas turbine product portfolio with two upgraded gas turbines for global electricity markets: the next generation GT26™ and its associated KA26 (500 MW) <sup>(1)</sup> combined cycle plant for the 50 Hz markets and the next generation GT24™ and its associated KA24 (700 MW) <sup>(2)</sup> combined cycle plant for the 60 Hz markets. A new rating of the GT13E2 was also announced in spring 2012.

With these upgrades, Alstom products deliver:

- higher operational flexibility to support the development of power generation from renewable sources;
- higher base-load and part-load output and efficiency;
- lower emissions.

Alstom's gas turbine products span from 113 MW to more than 320 MW:

- GT26™ (>320 MW) for 50 Hz;
- GT24™ (>230 MW) for 60 Hz;
- GT13™E2 (200 MW) for 50 Hz;
- GT11™N2 (113 MW) for 50 Hz and (115 MW) for 60 Hz (also available for low calorific fuels like blast furnace gas as GT11™N2LBtu).

### Steam turbines

In combined cycle power plants with advanced gas turbines, the thermal design of Alstom steam turbine delivers a highly efficient heat recovery cycle and offers excellent operational flexibility:

- STF30C: (150-400 MW);
- STF15C: (100-250 MW).

### Turbogenerators

Alstom provides a full range of turbogenerators based on leading technologies for simple cycle and combined cycle gas power plants:

- TOPGAS™ covers a power output range from 300 MW to 530 MW at 50 Hz and from 250 MW to 450 MW at 60 Hz.
- TOPAIR™ covers a power output range from 150 MW to 400 MW at 50 Hz and from 90 MW to 300 MW at 60 Hz. As a leader in air-cooled technology, Alstom has set the trend with TOPAIR™ by designing a simple, robust and highly reliable air-cooled turbogenerator resulting in low lifecycle costs for its customers. The largest air-cooled turbogenerator in operation is a TOPAIR™ at 340 MW.
- TOPACK™ covers a power output range from 40 MW to 150 MW at 50 Hz and from 40 MW to 90 MW at 60 Hz.

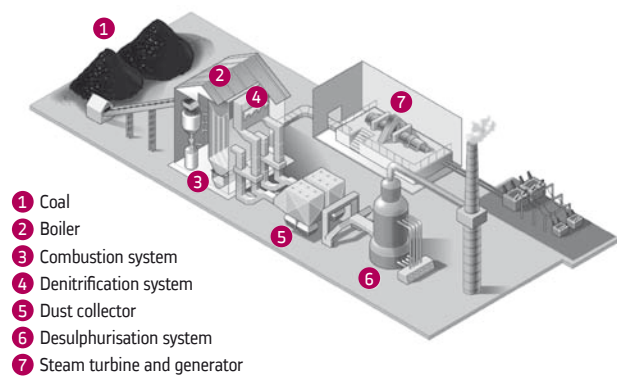
These turbogenerators are the result of continuous, evolutionary development that has pushed the limits of power output while maximising efficiency. At the same time, they are characterised by simplicity and ease of operation and maintenance.

### Heat Recovery Steam Generator (HRSG)

Alstom offers a complete range of HRSG, optimised for cycling and constructability that provide high performance in all modes of operation. More than 600 HRSG behind gas turbines of 50 MW and above have been supplied from Alstom's own manufacturing facilities, including drum-type and once-through HRSG, thus providing Alstom with unparalleled experience in this field (source: Alstom).

## Steam

### Coal power plant



- 1 Coal
- 2 Boiler
- 3 Combustion system
- 4 Denitrification system
- 5 Dust collector
- 6 Desulphurisation system
- 7 Steam turbine and generator

With over a century's experience in building coal-fired power plants, Alstom has the expertise, technology and product portfolio needed to meet its customers' specific requirements, combining fully integrated and optimised high performance solutions with reliability and total environmental compliance.

Alstom has the largest installed base, with approximately 30% of boilers installed worldwide using Alstom technology, totalling around 850 GW (source: Alstom). Alstom's experience includes subcritical, supercritical and ultra-supercritical steam parameters as well as a broad range of fuels including all types of coal, oil and biomass. Alstom has developed firing systems for both suspension firing and fluidised bed that have been proven to offer the lowest emission levels with high combustion efficiency. Alstom drives technology improvements to increase efficiency and reliability while reducing all emissions including NO<sub>x</sub>, SO<sub>2</sub>, particulates and greenhouse gases.

Alstom manufactures, delivers, installs and services steam turbine generator sets from 15 MW to 1,200 MW. Today, Alstom's fleet represents more than 20% of the world's installed steam turbine capacity (source: Alstom). Alstom steam turbines for power generation solutions

(1) Gross figures, performance for 1-on-1 configuration.

(2) Gross figures, performance for 2-on-1 configuration.

are available as back-pressure or condensing turbines with and without controlled steam extractions for a wide range of applications, including steam turbine power plants, combined cycle power plants, cogeneration power plants as well as renewable applications, like concentrated solar power plants (CSP).

### Integrated solutions

Alstom's Plant Integrator™ approach makes use of proven solutions tailored to meet each customer's specific needs. Alstom provides a comprehensive range of flexible integrated solutions for the full range of required output. The steam power plants can efficiently operate in single or multi-unit arrangements, and with different types of boilers.

Due to the combination of different elements and technologies used in coal-fired power plants, these projects are inherently complex and require specialist expertise. Alstom manages large-scale and complex projects, providing the entire range of services from technical engineering and sub-contracting to construction and commissioning.

Alstom delivers all major parts of the power station with in-house solutions to provide optimum performance for all steam cycles from 100 MW to the largest plants in service today. Its cutting-edge expertise with ultra-supercritical technologies ensures high efficiency. Alstom's position as a leading supplier of environmental control systems significantly reduces the environmental impact of the power plants. Moreover, Alstom's new steam power plants can be now designed to be CO<sub>2</sub> capture ready.

### Products

#### Large steam turbines

Alstom offers a comprehensive portfolio of highly reliable, efficient and operationally flexible steam turbines for all fossil-fired power plant applications, with outputs of up to 1,200 MW.

In fossil-fired steam plants, Alstom steam turbines are compatible with the highest ultra-supercritical steam parameters:

- STF100: 700-1,200 MW;
- STF60: 500-900 MW;
- STF40: 250-700 MW;
- STF25: 100-350 MW.

In cogeneration power plants, Alstom steam turbines enable highly flexible operation between power and heat demand and efficiently accommodate wide variations in process steam flows:

- COMAX™: 100-400 MW

#### Boilers

Alstom offers a broad range of high performance utility boilers and related equipment for an extensive range of fuels, providing highly efficient, reliable and operational flexibility combined with low emissions. This equipment range includes:

- suspension-fired boilers, up to 1,200 MW today, using advanced pulverised coal firing technologies;
- circulating fluidised bed (CFB) boilers, up to 660 MW with ultra-supercritical steam cycles, particularly efficient in burning a wide variety of low-grade fuels;

- oil and gas-fired boilers, up to 800 MW;
- boiler auxiliary equipment including air preheaters and coal mills as part of the boiler package as well as individual components.

Alstom's expertise in boiler technologies and in firing systems provides the perfect blend of knowledge and experience to ensure that each fuel burns cleanly. Alstom has designed a family of low-NO<sub>x</sub> tangential and wall-fired combustion systems to significantly abate emissions, such as NO<sub>x</sub>.

#### Turbogenerators

Alstom provides a full range of turbogenerators based on leading technologies for steam power plants:

- GIGATOP™ 2-pole covers a power output range from 400 MW to 1,400 MW at 50 Hz and from 340 MW to 1,100 MW at 60 Hz. Alstom's GIGATOP™ 2-pole has demonstrated extremely high reliability in operation resulting in low lifecycle costs for Alstom's customers.
- TOPGAS™ covers a power output range from 300 MW to 530 MW at 50 Hz and from 250 MW to 450 MW at 60 Hz.
- TOPAIR™ covers a power output range from 150 MW to 400 MW at 50 Hz and from 90 MW to 300 MW at 60 Hz. As a leader in air-cooled technology, Alstom has set the trend with TOPAIR™ by designing a simple, robust and highly reliable air-cooled turbogenerator resulting in low lifecycle costs for its customers. The largest air-cooled turbogenerator in operation is a TOPAIR™ at 340 MW.
- TOPACK™ covers a power output range from 40 MW to 150 MW at 50 Hz and from 40 MW to 90 MW at 60 Hz.

These turbogenerators are the result of continuous, evolutionary development that has pushed the limits of power output while maximising efficiency. At the same time, they are simple and easy to operate and maintain.

#### Auxiliary components

Alstom provides a full range of auxiliaries for both power generation plants as well for other industrial applications, like petrochemical, chemical and the metallurgical sectors. These include:

- regenerative rotating heat exchangers:
  - air preheaters for coal and oil fired boilers,
  - gas-gas heaters for use on FGD systems;
- heat transfer solutions;
- mills: all types of grinding equipment, covering bowl mills, beater wheel mills, tube mills, roller mills and impact mills for hard coal, lignite, limestone and most other minerals of use in power stations.

### Environmental control systems

Alstom is the world-leading supplier of air quality control systems for power generation and many other industrial applications (source: Alstom). The wide range of post-combustion solutions addresses all existing and future emission-compliance needs for all traditional pollutants:

- control of sulphur dioxide (SO<sub>2</sub>): above 99% reduction;
- control of nitrogen oxide (NO<sub>x</sub>): up to 95% reduction;

- control of particulates: 10 mg/Nm<sup>3</sup> or lower and PM 2.5 compliant;
- control of mercury emissions: above 90% reduction;
- control of other pollutants such as SO<sub>3</sub>, HCl, HF, dioxins and furans.

The next challenge will be the capture of carbon dioxide (CO<sub>2</sub>). Alstom is testing and demonstrating various oxy-combustion and post-combustion solutions. Alstom is now proceeding with the industrialisation of these technologies.

## CO<sub>2</sub> capture and storage (CCS) and usage (CCU)

Power generation today represents more than 40% of global CO<sub>2</sub> emissions. In 2035, under a “business as usual scenario”, two thirds of the global power generation will still come from fossil fuel power plants with CCS being seen as the only option to mitigate these emissions in order to meet global CO<sub>2</sub> reduction targets. The IEA recently stated that “carbon capture and storage is not a substitute, but a necessary addition to other low-carbon energy technologies and energy efficiency improvements.” It also added: “fossil-fuel CCS is particularly important in a world that currently shows absolutely no sign of scaling down its fossil-fuel consumption.”

Alstom focuses mainly on post-combustion and oxy-combustion technologies as these applications cover both new build power plants and the existing installed base.

- Post-combustion capture technology separates CO<sub>2</sub> from the exhaust gases using a solvent. Alstom has prioritised two technologies: advanced amines and chilled ammonia. These technologies can be applied to both coal-fired and combined cycle gas-fired power plants.
- The oxy-combustion method burns the fuel in a mixture of oxygen and recycled CO<sub>2</sub> instead of air. This combustion produces a concentrated stream of CO<sub>2</sub> that can be easily separated and stored.
- Second generation technologies, such as chemical looping combustion (CLC) and regenerative calcium cycle (RCC), are also being looked at because they offer the prospect of additional future benefits.
- Pilot and demonstration projects: four units have completed tests in the USA and Europe. Nine units are in operation or in commissioning using oxy-combustion, chilled ammonia, advanced amines or second generation technologies.

Alstom Thermal Power is now engaged in the full commercialisation of the technology and is on track to deliver fully integrated CCS-enabled fossil-fuelled power plants to our customers across the world, well in time for the anticipated large-scale deployment of the technology into the 2020's and beyond.

To this end, Alstom is involved in several large-scale CCS demonstration projects in development, notably in China, Romania, Norway and in the UK. In particular, the White Rose CCS Project (a new 426 MWe high efficiency coal-fired power plant, to operate in oxy-combustion mode, capturing and storing ~2Mt CO<sub>2</sub>/y) was short-listed in October 2012 by the Department of Energy and Climate Change (DECC) as one of the

candidate projects to receive capital grant funding and market support (Contract for Difference) as part of the UK CCS Commercialisation programme. The project is developed in partnership with Drax Power, BOC-Linde and National Grid Carbon.

In the medium term, CO<sub>2</sub> utilisation in the Chemical and Oil & Gas sectors could also offer interesting spin-off opportunities for Alstom's CO<sub>2</sub> capture systems (CCU). For example, CO<sub>2</sub> has long been utilised to extend the production life of oil fields particularly in North America where demand for CO<sub>2</sub> is increasing. In addition, CO<sub>2</sub> is also used in the production of several chemicals and chemical intermediates where carbon pricing is leading many producers to re-evaluate their carbon management strategies, including the recovery of emitted CO<sub>2</sub>. Alstom is currently investigating the potential application of its CO<sub>2</sub> capture technologies in these areas.

## Nuclear



*Ling Ao Ph 1 & 2, China nuclear power plants using ARABELLE™ steam turbine and generator.*

Alstom is the world's leading supplier of steam turbine generators to the nuclear power plants market: 40% of the world nuclear power stations operating today use Alstom's technology (source: Alstom). Alstom is committed to meeting the customers' needs by providing reliable, proven and state-of-the-art technology. The turbines with the highest output in the world today are four ARABELLE™ turbines now in operation in EDF plants in France: Chooz B1 and Chooz B2; Civaux 1 and Civaux 2. These turbines have already notched up 350,000 operating hours and boast an outstanding reliability rate of 99.96%.

Another example is Alstom's latest nuclear references in operation, units 3 and 4 of Ling Ao II power plant in China. These units entered commercial operation in 2010 and 2011 with a significant performance improvement compared to Ling Ao I. Thanks to the use of ARABELLE™ half-speed technology, the delivered power output has not only met but exceeded customer expectations.

## Nuclear solutions

Alstom offers integrated turbine islands as well as a wide range of nuclear specific products. The Group is an experienced turbine manufacturer able to fully design, engineer and manufacture all the main conventional equipment of a turbine island for any type of nuclear reactor.



Alstom's core competencies cover all phases of implementation of the power conversion systems, starting from turbine island basic and detailed design, including general turbine hall layout, civil work interface studies, supply of mechanical and electrical equipment, as well as instrumentation and control systems, project documentation and customer training, erection up to commissioning and performance testing.

## Products

### Steam turbines

Widely acknowledged as the most advanced in the market, the "half-speed" ARABELLE™ turbine offers outstanding power output (900 to 1,900 MW) and uses exclusive welded-rotors. The ARABELLE™ technology ensures unparalleled efficiency, reliability and highest availability, resistance to stress corrosion cracking, longevity (60 years) and facilitates operation and maintenance.

### Turbogenerators

With an output range from 900 MW to 1,900 MW, in both 50 and 60 Hz markets, GIGATOP™ 4-pole, the turbogenerator behind Alstom's proprietary ARABELLE™ steam turbine, sets the benchmark for reliability and efficiency. Alstom's GIGATOP™ 4-pole is the world largest turbogenerator in operation today.

### Heat exchangers

Alstom also offers a comprehensive range of heat exchange equipment for all kinds of power plants, steam, gas, solar, and nuclear.

Alstom's heat exchanger equipment is designed for up to 1,900 MW units, with an installed base of over 450 GW worldwide (source: Alstom).

The heat exchanger offering comprises three major product clusters: surface condensers, moisture separation/reheating equipment and feed-water heater systems.

### Pumps

Alstom is one of the world's leading specialists in custom-built large centrifugal pumps, with over 6,000 large pumps installed in more than 70 countries.

Its outstanding pumps portfolio for nuclear, steam and gas power plants and for industrial applications includes:

- concrete volute pumps for cooling water;
- multi-stage barrel pumps for condensation extraction;
- tailor-made design of metallic volute pumps for feed-water pumps;
- metallic volute pumps, single suction and double suction, including:
  - essential cooling pumps,
  - residual heat removal pumps,
  - intermediate cooling pumps,
  - open loop cooling pumps;
- vacuum pumps;
- vertical turbine pumps.

### Auxiliaries for nuclear islands

#### Emergency Diesel Generator (EDG) Packages

In the last ten years, Alstom has installed over half of the world's integrated EDG packages for nuclear reactors, covering the whole emergency power range required, from 3 to 10 MW (source: Alstom). With a track record of 100 starts without a single failure, Alstom EDG packages are totally reliable reflecting Alstom's in-depth expertise in power plant technology and extensive experience in EDG packages engineering.

#### Liquid Purification Systems (LPS)

As a pioneer of clean energy, Alstom has developed leading-edge solutions for treating waste emanating from a nuclear power plant. The Alstom liquid waste treatment system and the boron recycling system are leading-edge solutions to ensure that nuclear power stations are clean power generation plants. They benefit from unique Alstom-developed and manufactured technology such as the Alstom jet-tray gas stripper. Alstom has supplied such systems for French, British, South African, South Korean and Chinese nuclear power plants.

### Power automation and control solutions



The Power Automation and Controls business is dedicated to the delivery of solutions for the automation and control of a power plant, or a portfolio of power plants, using all generation fuels: steam, gas, nuclear and renewables. It is a major component of the Plant Integrator™ and Clean Power offering of Alstom.

These solutions aim at optimising the efficiency, quality, availability and security of power generation plants and fleet, thus providing the means to obtain the best output from power plants, the right amount of power at the right time and the desired voltage or frequency in a protected and secured environment.

Alstom Thermal Power control solutions are adapted to all power generation challenges:

- Efficiency: solutions adapted to each plant that ensure a power generating unit is running at optimal performance at all times. These include distributed control systems (DCS), machine controlling solutions such as turbine governing and generator excitation, instrumentation and electrical balance of plant equipment. For availability and security, Alstom's automation and controls solutions embed proven security code and cyber-security technologies with a high level of redundancy, guaranteeing a high level of availability. Alstom's site security solutions ensure secured access to the power plant and its equipment while monitoring and diagnostics solutions enable plant employees to work in a safe environment.

- **Optimisation:** in order to achieve best performance of a plant, monitoring of key equipment is of the essence. Alstom provides plant lifecycle and maintenance management solutions, as well as monitoring and diagnostic systems for rotating and non-rotating equipment of the plant. In addition, Alstom's portfolio includes advanced process control software and simulation tools to train plant operators, as well as test production scenarios for plant production scheduling optimisation. When the performance of an entire fleet needs to be enhanced, Alstom provides advanced decision-making solutions for fleet performance management, fleet scheduling, fleet asset management and power generation risk and trading to help the customers find the best use of their power generation assets.
- **Flexibility:** the electricity network needs to be served with the right amount of energy at the right time and at the expected quality in order to guarantee its stability. This in turn has considerable consequences on the power generating equipment that needs to be able to constantly adapt to this tailored generation. Alstom's solutions allow to quickly adapt to lower or higher demand.
- **Services:** Alstom offers a full range of products and services adapted to all needs for the installation and the maintenance of automation and controls solutions, starting from engineering, manufacturing, testing and system integration, through to training, lifetime extension or retrofit.

Today, the ALSPA® Series 6 products line includes a full range of products, systems and service solutions covering the entire control room with plant management operation and optimisation tools, plant and machine automation, asset management and online or remote monitoring and diagnostic systems.

## Thermal Services

### Full and dedicated service provider across the entire plant

Having supplied equipment present in around 25% of the global installed base (gas turbines, steam turbines, generators, boilers, air quality control systems, balance of plant and instrumentation and control), Alstom has the experience and offering to best support customers' needs throughout the lifecycle of the plant, enabling power plants to remain competitive in a changing market (source: Alstom).

Its service and performance improvement solutions, adapted to all types of equipment and power plants, enable power plants to achieve competitive cost of electricity while ensuring safe and reliable operation, improved performance, reduced emissions, and extended operating lifetimes.

Through the acquisition and integration of various technologies, Alstom delivers effective solutions both for its own fleet and the fleet of other equipment manufacturers. This leads Thermal Services to a unique position which is further developed through significant and dedicated investment in research and development for service, with a particular focus on higher efficiency and output, outage and inspection technology, cost reduction, emissions reduction and improved operational and fuel flexibility.

### Strong local presence

With more than 15,000 employees present globally through a network of over 200 locations in 70 countries, Thermal Power has the largest service organisation in the industry dedicated to serving the installed base, counting over 30 centres of technical expertise, 30 dedicated service factories, reconditioning centres, service workshops and mobile workshops.

Alstom's footprint and broad industry expertise enable it to support customers with strong technology and product portfolio, local service and engineering capabilities and quick access to expertise centres.

### Integrated solutions

Power plant emissions, performance and flexibility depend on very complex interactions between all components and systems. In depth plant knowledge, experience and expertise in product and component integration enable Alstom to offer solutions at plant level to support customers throughout the complete lifecycle:

- **Plant assessments:** technical and economical assessments of existing plants taking into account market drivers and customers' improvement strategy to help optimise investment decisions and improve competitiveness;
- **Plant products:** modular "add-on" plant improvement products focusing on performance, environmental impact and flexibility;
- **Plant retrofit:** key technologies optimising the entire plant in a retrofit project rather than just the original components (all of them are in-house).

### Products for all fuels and all equipment

Alstom offers services for all types of equipment in gas, steam, nuclear and industrial plants. With a large installed base covering all technologies, dedicated research and development and the large footprint and capabilities for service, Alstom has a comprehensive service and modernisation offer for its own and other manufacturers' equipment:

- **Alstom gas turbines:** benefiting from the experience of an installed fleet of more than 700 gas turbines, Alstom delivers cutting-edge solutions to improve performance, reduce cost, extend lifetime and minimise emissions of a plant. Alstom's plant support centres, local expertise and workshops support customers to optimise their asset performance with customised service contracts, integrated plant services, state-of-the-art reconditioning, field services and solution packages for parts or upgrades.
- **Gas turbines from other manufacturers:** With dedicated resources and products, Alstom has the full capabilities to design and supply improved parts, field services, reconditioning, gas turbine upgrades and emission reduction solutions and long-term agreements for F-class, E-class and B-class turbines and combined cycle plants.
- **Steam turbines:** Alstom has the capability to perform steam turbine service and retrofits with "impulse" (ITB) or "reaction" (RTB) turbine blading technology for Alstom and other manufacturers' steam

turbines. With advanced solutions to improve performance and extend lifetime with minimal downtime and cost, Alstom is the global leader in steam turbine retrofits. Regardless of the original manufacturer and the existing turbine technology, Alstom's broad technology expertise allows customising solutions to match customer needs.

- **Generators:** Alstom has accumulated and developed the broadest technical portfolio and expertise enabling customers to benefit from upgrades and rewind solutions for Alstom and other manufacturers' generators – whether hydrogen, water or air-cooled. Alstom's leading stainless steel technology and monitoring and inspection solutions ensure safe and reliable operation with minimal downtime and cost.

- **Boilers:** with the largest installed base in the world, Alstom offers a full scope of technical and engineering services – from parts to outages and repairs to component upgrades and engineered solutions – meeting today's growing environmental and economic demands for the world's ageing installed base. Alstom provides products and services for Alstom fleets, Alstom-licensed fleets and other manufacturers' fleets worldwide.
- **Air Quality Control Systems:** Alstom has the complete range of solutions for electrostatic precipitators (ESP), fabric filters (FF), flue gas desulphurisation (wet FGD and dry FGD), selective catalytic reduction (SCR) including advanced controls and inspection solutions and upgrades to meet new regulatory requirements and reduce cost.

## RESEARCH AND DEVELOPMENT

Thermal Power has a long-term research and development (R&D) programme in place. Its mission is to create and/or acquire the best available technologies to improve competitiveness and customer value for each of the Clean Power levers: reducing cost of generated electricity, lowering environmental footprint, increasing flexibility and reliability of major components and integrated power plants.

The R&D organisation of Thermal Power and its partners consists of more than 2,500 people dedicated to around 70 critical transversal technologies used to develop product upgrades, new equipment and solutions. For example, Thermal Power has put a great deal of effort into the following axes:

- **Materials & material processing:** high temperature alloys for Steam & Boilers (700°C), digital X-ray computerised tomography, welding, laser hardening, non-destructive test inspector qualifications, ceramic parts and coatings, thin wall material properties, etc.;
- **Electrical insulation systems:** high utilisation insulation systems, new electrical insulation materials and application processes, etc.;
- **Equipment optimisation and design methods improvement.**

R&D execution centres are located throughout Europe, Asia and North America. In addition to internal resources, Thermal Power actively works with leading academic institutions to access facilities, expertise and research talent across the world. The Group has active R&D collaboration relations with more than 300 universities.

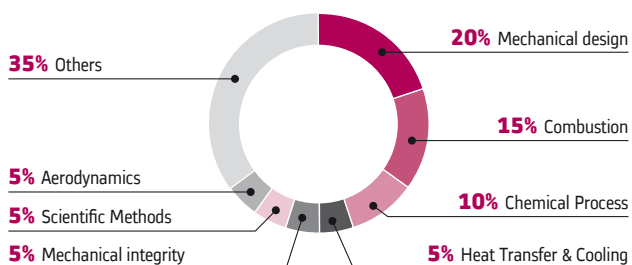
In 2012, Thermal Power once again pushed the boundaries of the most advanced technologies. Recent technology developments and applications for Thermal Power components and solutions led the Thermal Power R&D team to apply for hundreds of patents in 2012 worldwide. About half of these were related to innovative mechanical designs, new combustion methods and chemical processes.

In gas technologies, the R&D focus has been and remains on providing flexibility and increased combined cycle efficiency. Recently, Thermal Power has been working extensively on the development of the GT24™, GT26™ and GT13™E2 gas turbines, including performance upgrade packages and combustion system improvements to reduce emissions and increase fuel flexibility, and features to further enhance operational flexibility. A new rating of the GT13E2 was announced in spring 2012 and the newest turbine upgrades (GT24™ and GT26™ turbines) for the 50 and 60 Hz markets were added to the Thermal Power portfolio. Thermal Power continues to focus its R&D efforts on selected technological fields that are essential for the successful development of the next generation of turbines and upgrade packages: GT mass flow, innovative blades, cooling air reduction, ceramic thermal protection system and advanced manufacturing techniques.

For coal application, Thermal Power's current R&D ambition is to reach over 50% efficiency with reduced emission levels for large power plants, thanks to a long-term R&D strategic focus on advanced combustion, steam cycle and steam turbine blade technologies. In this area, Thermal Power is involved in development projects, partly funded by the European Union and the US Department of Energy, to develop and validate such technologies for coal fired plants. As an example, the Neurath power plant (Germany) with the largest and latest boiler, turbine and generator technology for efficient use of lignite coal, has been operating throughout 2012.

Thermal Power has been carrying out an intensive R&D programme over the past years to meet the technological and economic challenges of capturing the CO<sub>2</sub> created by fossil fuel-based electricity production. Alstom is actively involved in many demonstration programmes around the world. After large-scale demonstration of the technology, the Group will be able to offer solutions for all fossil fuel-based power plants to capture CO<sub>2</sub> emissions on a commercial basis.

### PATENTS, 2012



Source: Alstom

In the field of nuclear, Thermal Power is preparing the ground for steam turbine generators adapted to future 4<sup>th</sup> generation nuclear reactors. On a more short-term scale, Thermal Power launched in 2012 the development of a new last-stage blade for low pressure turbines specifically designed for cold countries. Thermal Power also introduced new feed-water pumps with reduced power consumption. Both products allow power producers to increase efficiency and ultimately produce more electrical power from their nuclear power plants.

In the Power Automation and Control Business, Alstom Thermal Power is focused on solutions that improve plant operation efficiency, enhance asset reliability and availability, support predictive maintenance strategies and optimise plant performance. Continuous improvements of the ALSPA® product line are made for Distributed Control Systems or

Machine controls, as well as Monitoring and Diagnostics solutions with the newly introduced ALSPA® Care product family.

In Thermal Service, strong R&D work will enable Thermal Power to achieve the goal of increasing the current market coverage offering. R&D programmes are focused on a wide range of upgrade designs for plant components (gas and steam turbines, generators, boilers, environmental systems); a unique set of inspection technologies, based on advanced in-house competencies in inspection robotics; the development of a comprehensive range of monitoring and diagnostics systems; methods and technologies to reduce outage duration and related costs for the benefit of customers; and technologies to increase plant efficiency and improve lifecycle management.

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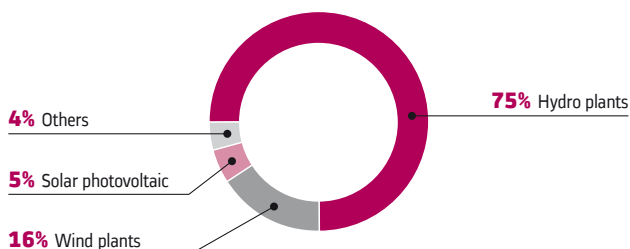
## RENEWABLE POWER SECTOR

The Renewable Power Sector offers the most comprehensive range of renewable power generation solutions from integrated power plants for hydroelectricity, wind, geothermal, biomass, solar thermal, as well as wave and tidal stream energies and all types of turbines, generators, to a full range of services, including plant modernisation, maintenance and operational support.

### INDUSTRY CHARACTERISTICS

The worldwide renewable installed power generation capacity in 2012 was estimated at around 1,400 gigawatts (GW), representing 26% of total installed base.

#### RENEWABLE INSTALLED BASE, 2012



Source: Alstom

#### Market evolution

Renewable power markets have been growing strongly over the past decade and are forecasted to represent 40% to 45% of the new power plants (in GW) to be ordered over the next decade (source: Alstom). New orders should be driven by existing markets such as hydro, but also more recent ones such as offshore wind and solar.

2012 was a challenging year for the renewable power market as a whole. The economic crisis in Europe and lower than expected GDP growth in emerging countries affected demand and project financing volumes. This combined with the increased regulatory uncertainty caused numerous projects to be either postponed or abandoned. Nevertheless, 2012 is expected to constitute a low point in order volumes and renewable power markets should recover worldwide in the next years.

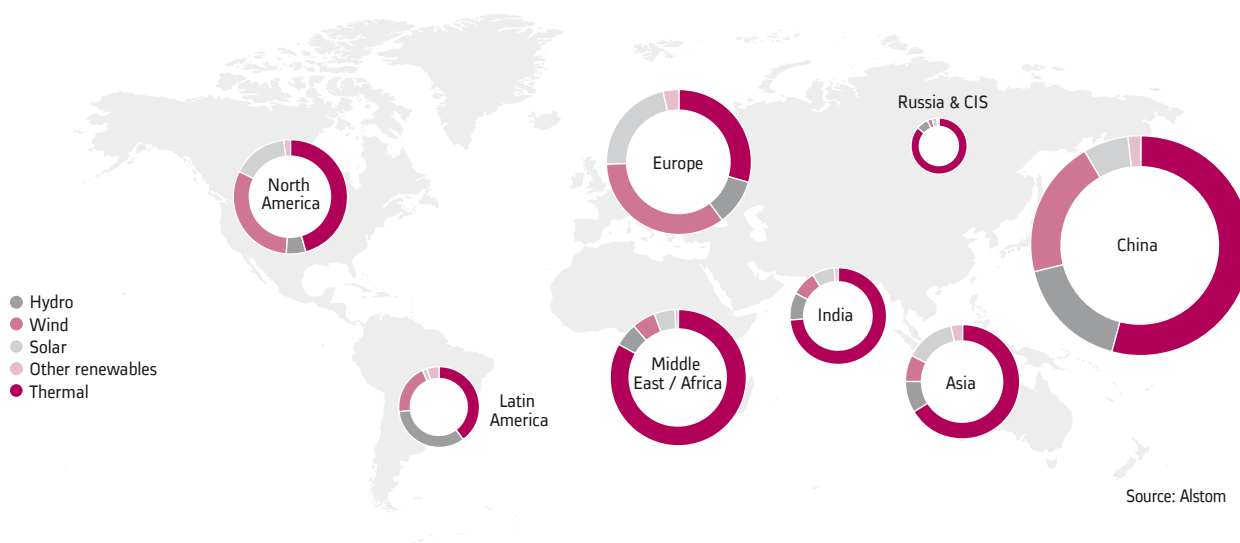
In 2012, the new build hydro market was below historical levels due to postponement of large projects in China and elsewhere. In the coming years, China is expected to resume its large projects and should continue to be the largest market, representing approximately half of the global Hydro investment in gigawatts (GW) followed by Latin America and

Europe, where there is, among others, a solid outlook for pumped storage projects. Further growth in Hydro will also come from the Service & Retrofit market driven by the ageing installed bases in North America, Europe and Russia & CIS. Roughly half of the overall Hydro market in value is expected to be driven by Service & Retrofit.

The onshore wind market environment has continued to be challenging. Tightening market conditions and overcapacity have resulted in strong competition putting pressure on turbine prices, although these seem to have stabilised recently. China remained the largest wind market, followed by Europe that stayed solid despite the current financial crisis and Latin America, particularly Brazil, where wind power is now competitive with other energy sources. In the USA, the anticipation of the expiring Production Tax Credit resulted in a wind installation boom leading to strong market volumes but with a concomitant drop in new contracts. Offshore (today a European market) was below expectations in 2012 with interconnection issues hampering certain projects. However, going forward, offshore wind is expected to grow over a decade from the current 7% of the overall wind market, in value to over 30%, primarily in Europe and China (source: Alstom).

The new energies market was impacted too in 2012. In Geothermal, projects were delayed mostly due to financing constraints in countries like Indonesia (tariffs policy), USA and Kenya. In Solar, several Concentrated Solar Power (CSP) projects were pushed back as customers waited for a proven reference in Tower technology that should be forthcoming this year. The new energies market is however expected to show a strong growth over the next 10 years, with Solar CSP driving most of that growth in the short term. The development of storage solutions, performance and cost optimisations and new applications such as in hybrids will be key drivers in ensuring the competitiveness and growth of this segment. Geothermal and biomass markets should increase by 50% over the next decade. Finally, the Ocean market is currently emerging with numerous announcements of pilot farms and tenders to come, particularly in Europe. This market is expected to reach 600 MW per year in 2020 with tidal power to emerge first and dominate and wave technology possibly taking off later.

**MEDIUM TERM GLOBAL POWER MARKET FORECAST**  
**AVERAGE 230/270 GW P.A.**



**Market drivers**

Demand for power generation equipment tends to be increasingly driven by environmental targets, subsidies and incentives schemes, as well as ageing of the installed base. Other factors such as economic growth (especially for large hydro plants), fuel prices and availability, as well as energy management, are also key elements shaping the power market. The unprecedented interest in renewable energy, particularly solar and wind energy, adds additional complexity but also great opportunities to this equation.

Harnessing renewable energy is a complex matter. For renewable power, in order to experience long-term sustainable growth, developers must eventually target what is commonly referred to as grid parity, which is achieved when electricity produced by solar, wind or any renewable energy equals the price of electricity from the grid. In fact, in remote

or particularly favourable areas, electricity from geothermal energy, solar or wind is already cheaper than building new distribution lines to connect them to the main transmission grid supplied with conventional sources of electricity. But in most cases and technologies, this is not yet the case and can for now only be achieved through support schemes, such as feed-in tariffs or tax incentives. The second challenge lies in the intermittent nature of most renewable energies. Typical examples are low solar radiation during cloudy days and varying wind patterns. The intermittency of renewables is pushing energy providers to look at ways of storing energy to guarantee stable supply or to have back-up power ready if weather conditions change. This characteristic of renewable energy becomes more evident as the share of grid-connected renewables increases, spurring challenges and developments in both energy management and grid infrastructure. Hydropower has a strong role to play as an efficient way to store energy on a large scale.

## Climate change concerns and political targets

Discussions within the United Nations Framework Convention on Climate Change (UNFCCC), COP 15 (Copenhagen Agreement) in Copenhagen in 2009, COP 16 in Cancun in 2010, COP 17 in Durban in 2011, and COP 18 in Doha in 2012 confirmed the growing consensus on the urgency of action towards climate change. In parallel, a number of countries have announced targets for domestic greenhouse gas emissions (GHG) reduction, with usually a role to be played by generating power from renewable sources.

Country/Regions	Targets and timeline
EU	Reduce GHG by 20% in 2020 compared to 1990 level and reach 20% of renewable in energy consumption by 2020
Russia	Reduce GHG by 15%-25% in 2020 compared to 1990 level and reach 4.5% of renewable in power generation
Turkey	Reach 30% of renewable in power generation by 2030
Egypt	Reach 20% of renewable in power generation by 2020, including 12% from wind
Morocco	Reach 42% of renewable in the energy mix by 2020
Algeria	Reach 30% of renewable in the energy mix by 2030
South Africa	Reach 17.6 GW of renewable capacity by 2030
Saudi Arabia	Reach 15% of renewable in the energy mix by 2020
Brazil	Reduce CO <sub>2</sub> emissions by 36-39% by 2020 compared to business as usual baseline, and continue to generate more than 80% of power from renewable sources through to 2030
Mexico	Reach 35% of renewable in the energy mix by 2024 (i.e. 28 GW)
China	Improve carbon intensity by 40-45% by 2020 compared to 2005 level and 15% of energy to come from renewable sources by 2020
India	Improve carbon intensity by 20-25% by 2020 compared to 2005 level
Australia	Cut carbon emissions by 5-25% by 2020 from 2000 level (based on actions taken by other states) and reach 20% of renewables in power generation by 2020

In addition, other countries have taken initiatives supporting this trend. In the United Arab Emirates, MASDAR city project in Abu Dhabi will rely entirely on solar energy and other renewable energy sources. In the USA there are still no federal laws that set a specific target for renewable power; however mandated State Renewable Portfolio Standard (RPS) policies play a similar role. In Canada, ambitious renewable targets – while nonbinding – are set at provincial level.

## Clean energy mechanisms

The success of so called “new renewable” energy (mainly wind and solar – but not accounting for large hydro that is one of most proven and economical ways of generating electricity) differs greatly between nations, more because of the policy context in each country than the actual natural potential. Many nations, predominantly in the EU and the USA, have had significant incentives, which have led to fast expansion of new renewable capacity, sometimes even outpacing the targets set by governments. With the rapid cost reductions witnessed for some technologies, nations are now adjusting their incentives schemes downwards; the costs of generating electricity from these technologies can progressively reach grid parity, thus making incentives less and even no longer needed for established power production sources while they remain greatly needed for supporting emerging technologies such as concentrated solar power or marine energies.

There are several types of renewable incentives schemes. The first can be defined as investment-based, providing awards for the initial investment, regardless of how much electricity is generated. Common types are investment tax credits, loan guarantees or accelerated depreciation. The second is production-based and provides an award that is proportional to the actual power generated. Feed-in tariffs and production tax credits are common examples. The Feed in Tariff (FiT) has been a particularly successful way for policy makers to introduce renewables. With FiTs, governments step in to insure an inflated price is paid for clean megawatt hour generated from wind, solar, or any other renewable energy project. The difference between what would have been the market price and the FiT price is usually ultimately covered by taxpayers. Additionally, the Renewable Portfolio Standards have been implemented in the USA, requiring that a certain proportion of power comes from renewable sources by a given date. Another way for countries to engage in renewable programmes can be through dedicated auctions and tenders organised by governmental entities that invite developers to bid with a price ceiling per megawatt hour.

## Ageing installed base of power plants

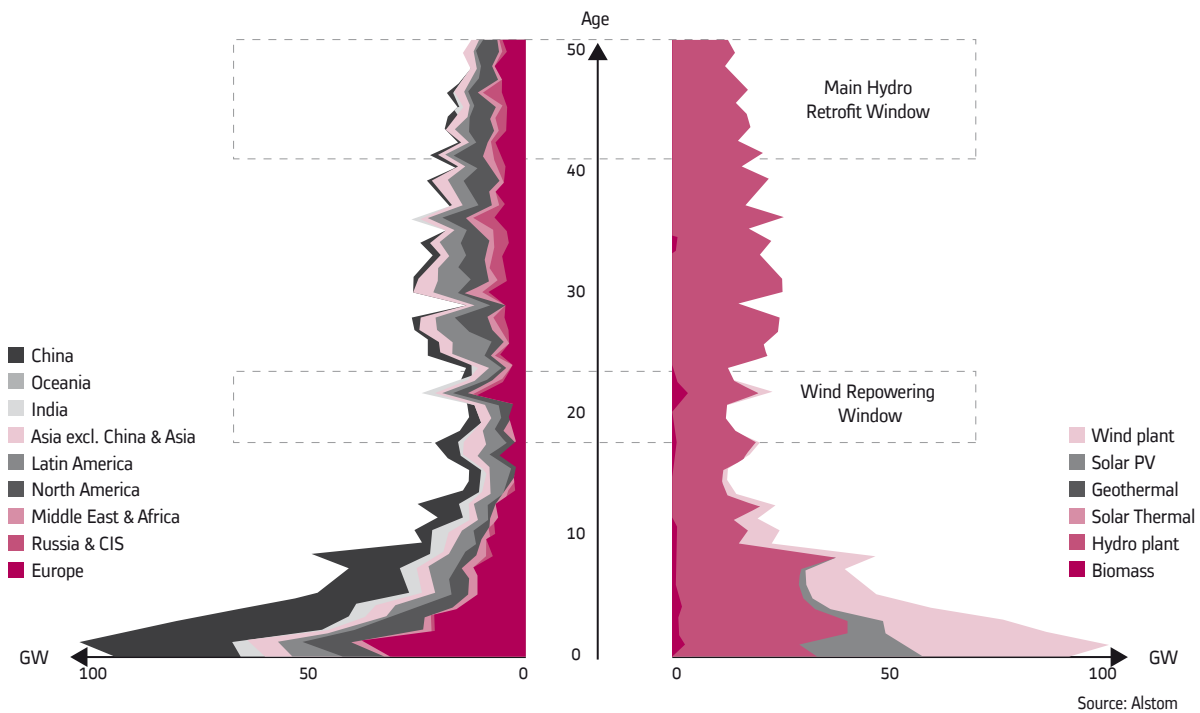
The ageing installed base and increased fuel prices should lead to a higher demand for retrofit. This is not only the case for the thermal power market, but is also beginning to become a growing part of the renewable power market. The retrofit business window has been

around for decades in the hydro business and has benefited power plant manufacturers such as Alstom. The Group believes that the large worldwide ageing installed base will be a significant source of future growth for its service and retrofit activities, especially in Europe and in the USA, but also increasingly in other regions such as Asia. The growing number of old plants reaching retirement age will continue to drive the market for servicing and retrofits as utilities strive to replace components

to maintain current levels of installed capacity, or take the opportunity to increase the capacity of power plants to simultaneously address rising power demand.

By carrying out an integrated analysis of power plant equipment, operation and maintenance, individual plants can be improved to run more efficiently, thus cutting fuel costs, enhancing performance and reducing emissions.

**AGE PYRAMID OF RENEWABLE INSTALLED BASE**  
**1,400 GW IN 2012**



## COMPETITIVE POSITION

In hydroelectric power generation, the main competitors are Voith Hydro, Andritz Hydro, Toshiba as well as Harbin, Dongfang and BHEL.

Alstom wind's main competitors are Vestas, General Electric, Gamesa, Suzlon/REpower, Enercon and Siemens.

In geothermal power generation, Alstom faces competition in turbine and component supply from Japanese suppliers such as Mitsubishi Heavy Industry, Toshiba and Fuji.

In solar thermal power, Alstom and its partner Brightsource Energy, compete mainly with Abengoa, Sener and Solar Reserve.

The competitive strength of the Alstom Renewable Power Sector includes its strong global presence and references, a broad portfolio of existing and under development renewable energy technologies, continued investment into R&D, project execution expertise and strong relationships established with all key power generators worldwide. Alstom Renewable Power technologies allow an improved availability and increased efficiency of energy conversion as well as lowered construction and maintenance costs. Its integration and control solutions also offer the ability to manage renewables within a complex fleet. The close link with Alstom Grid provides the opportunity to offer customers integrated solutions for power production and distribution.



## STRATEGY

The Renewable Power Sector strategy is based on two pillars: an important programme of investments in cutting edge renewable technologies and the development of an efficient international leadership set-up in all main markets. Alstom intends to leverage overall its existing leading position in hydroelectricity while enhancing the development of other energy sources.

### Remain a leader in hydro

Hydropower is the largest source of renewable power worldwide and Alstom has been the leading supplier for over 100 years in that market. In Hydro, Alstom intends to rely on its global production footprint, with production facilities in all key regions of the world, while adapting its offer to the specific demand of each particular market and striving to have the most competitive cost structure. Alstom has an undisputed track record and ability to execute large and complex hydro projects.

Within Hydro, Alstom is the number one worldwide in large projects, refurbishment and pump storage. Alstom has an ambition to be involved in the large Hydro projects that are expected notably in Asia, Latin America and Africa over the next few years. Pump Storage is the only mature technology allowing large and CO<sub>2</sub>-free energy storage and quick load variation to compensate wind and solar variability. This segment should grow substantially in the coming years.

In hydropower, technological development is focused on continuous improvement of the performance and reliability of the current product portfolio as well as the development of new technologies. Performance of turbines and generators, especially for the higher head projects, will involve efficiency, stability and reliability. New developments such as variable speed pump turbines and permanent magnet generators as well as the reinforcement of its operation and maintenance expertise for the installed base, should allow Alstom to keep its technology leadership. Environmental design is also an important axis of improvement with the development of green solutions such as fish-friendly turbines, oil free components or dissolved oxygen.

Alstom will develop its innovation and test capacities closer to key markets such as China, Canada (retrofit), Brazil (Kaplan turbines), Europe (especially variable-speed technology) and India (Pelton turbines) with its Global Technology Centres to strengthen and consolidate its positions in them.

Growth opportunities will also rely on Russia and CIS, through the joint venture and cooperation with RusHydro which were signed in 2012. Other key drivers will be the reinforcement of its operation and maintenance expertise for the installed base as well as further development of the small and mini hydro and the hydro mechanical activities.

### Develop offshore wind offering and grow selectively in onshore

Alstom is an important player in the wind industry worldwide. From its historical base in Europe, it expanded in 2011 into Brazil and the USA by building local production facilities.

On the onshore field, Alstom is now a market leader in Brazil and will continue its development strategy in Latin America. With one of the most demonstrated from 2.7 to 3 MW platforms for onshore applications, Alstom can address new wind markets in all wind conditions. The range was extended with a new high capacity factor low wind turbine, the ECO 122, successfully deployed this year.

In parallel, the offshore wind market should become a key growth area for the Group.

The award in April 2012 of three wind offshore farms to the consortium led by EDF EN for which Alstom is the exclusive turbine supplier (Saint-Nazaire, Courseulles-sur-Mer and Fécamp for a total of around 240 wind turbines) has been a key milestone. Alstom has since confirmed that four facilities (nacelles, generators, blades and towers) will be set up in France and the first stone of the Saint-Nazaire factory for nacelles was laid in early 2013. The Sector is also targeting other large European offshore wind markets (Germany, UK) and expects to position itself as a leader of this growing part of the renewable energy mix, which requires large, efficient and reliable turbines.

The Haliade™ 150-6 MW turbine based on cutting edge technologies such as the largest rotor ever designed and a direct drive permanent magnet generator should help Alstom to capture a significant share of the promising offshore market.

### Grow in new energies

To sustain emerging technologies development, a "New Energies" business was created within the Renewable Power Sector to provide an offering in EPC for solar, geothermal and biomass projects, in industrial steam turbines for renewable and other applications and in marine energies for both tidal and wave. Alstom aims at building and developing an affordable, sustainable and reliable New Energies offering.

For its engineering, manufacturing and project (EPC) activity, Alstom will leverage the partnership with BrightSource Energy in solar (CSP tower technology) to secure further projects across the "Sun belt" region. In Geothermal and in Biomass, Alstom will build on its long track record in project fields to further develop and adapt the offering to market requirements globally.

Regarding the industrial steam turbine activity, Alstom's priorities are focused on further developments of its products and industrial footprint in emerging countries (mainly Brazil, Russia, India and China) to expand the Group's portfolio and market coverage.

For marine energies (tidal stream and wave), the development of prototypes, demonstration and commercial activities will be the key priorities to bring Alstom's technologies to market as early as possible.

Alstom's recent acquisition of Tidal Generation Limited (TGL) should significantly contribute to achieving this goal. Alstom is one of the very few companies to have produced energy on the grid with a full-scale immersed tidal turbine.

The New Energies business strategy will also continue to rely on the development of an international set up to be even closer to clients.

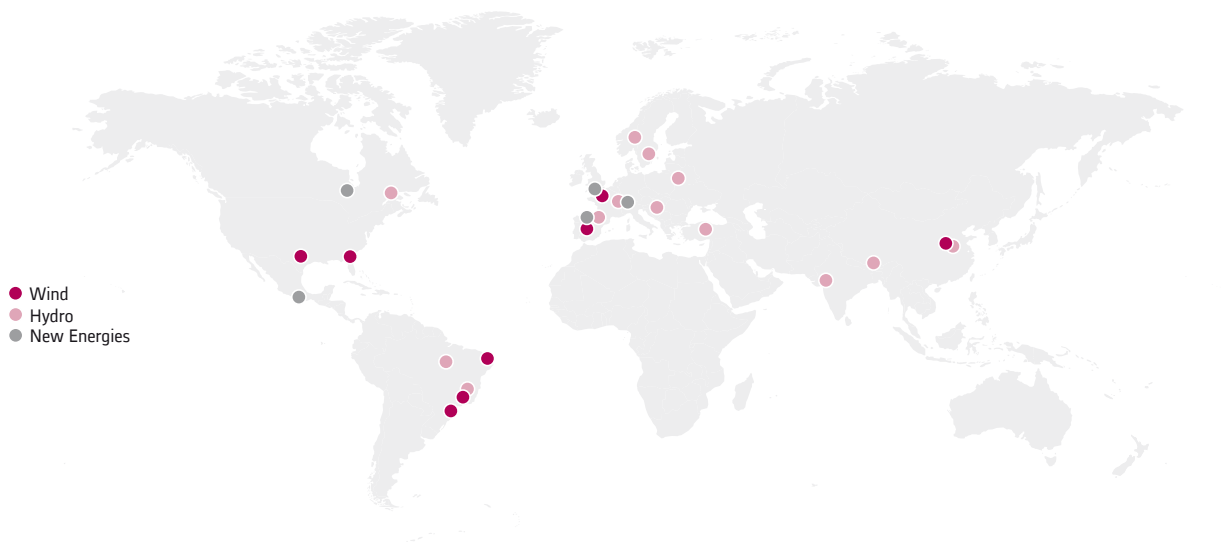
## OFFERING

Renewable Power Sector's offering is derived from a deep understanding of power markets, customer needs and technologies. It is organised around three levers driving Alstom's product and portfolio development strategy in order to maximise returns of customers' assets over the entire lifecycle by:

- reducing cost of electricity generation to ensure assets competitiveness;

- lowering environmental footprint to make these assets increasingly eco-friendly;
- increasing flexibility and reliability to ensure assets can respectively adapt to fluctuating electricity and fuel markets conditions as well as generate the required electrical load through maximised reliability, availability and maintainability.

### MAIN INDUSTRIAL, ENGINEERING AND R&D CENTRES



<b>Canada</b>	▲ Sorel Tracy - Hydro	<b>France</b>	◆ Levallois - Wind, Hydro, New Energies	<b>Austria</b>	◆ Vienna - Hydro
<b>USA</b>	◆ Richmond - Wind	▲ Grenoble - Hydro	■ Moirans - Hydro	<b>Portugal</b>	◆ Lisbon - Hydro
	■ Amarillo - Wind	■ Belfort - Hydro	■ Belfort - Hydro	<b>Turkey</b>	◆ Ankara - Hydro
	■ Denver - Hydro	▲ Nantes - New Energies	◆ Toulouse - Wind	<b>Norway</b>	◆ Oslo - Hydro
	■ Schofield - Hydro	■ Saint-Nazaire - Wind	■ Saint-Nazaire - Wind	<b>Sweden</b>	◆ Vasteras - Hydro
	■ Monroe - Hydro	<b>Switzerland</b>	▲ Baden - New Energies	<b>India</b>	▲ Vadodara - Hydro
	▲ Windsor - New Energies	▲ Birr - Hydro	■ Birr - Hydro	<b>Russia</b>	◆ Moscow - Hydro
<b>Mexico</b>	■ Morelia - New Energies	<b>United Kingdom</b>	◆ Bristol - New Energies	■ Ufa* - Hydro	
<b>Brazil</b>	▲ Taubaté - Hydro	<b>Spain</b>	▲ Barcelona - Wind, Hydro	<b>Bhutan</b>	■ Gelephu* - Hydro
	■ Porto Velho - Hydro	■ Buñuel, Coreses, Somozas - Wind	■ Buñuel, Coreses, Somozas - Wind	<b>China</b>	▲ Tianjin - Hydro
	◆ São Paulo - Wind	■ Rio del Pozo - Wind	■ Rio del Pozo - Wind	◆ Beijing - Wind	
	■ Camaçari - Wind	■ Bilbao - Hydro	■ Bilbao - Hydro		
	■ Canoas* - Wind				

- Manufacturing and engineering
- ▲ R&D and technology centres
- ◆ Main offices
- \* Under construction

Source : Alstom

## Hydro Power

Alstom Hydro has been the global leading supplier for over 100 years, for hydropower solutions and services, with over 25% of the global hydropower installed capacity (source: Alstom). Leveraging its 100-year experience and global network, Alstom offers unique solutions based on proven state-of-the-art technology and project-specific research and development (R&D). Alstom's technology is central to many record-breaking hydropower plants including the world's five highest capacity hydro installations in operation: Three Gorges (22.7 GW) in China, Itaipu (14.8 GW) in Brazil, La Grande (13.8 GW) in Canada as well as Guri (12.5 GW) and Tucuruí (8.4 GW) in Brazil.

### A large portfolio

Hydropower is the most important source of renewable energy in the world, representing over 16% of the global electricity production, while using only one third of the potential economic global hydropower capacity. Alstom offers the most comprehensive range of in-house power generation services and equipment and has the largest reference list. Alstom's expertise covers all hydropower schemes from water to wire: from designs to services, from small to large, from run-of-river to pumped storage power plants, from individual equipment to complete turnkey solutions, for new and for retrofit projects.

### Full project management

Alstom is recognised for its project management competence. As an integrator, Alstom offers a single point of contact to coordinate and interact with all related parties and can act as the consortium leader for major projects, taking full responsibility for the project and its optimisation. As an engineering, procurement and construction (EPC) provider, Alstom has a unique perspective for the optimisation of the full hydro mechanical and electro mechanical module as an integrated system.

### Be where customers are

Alstom's global footprint spans a network of research and development capabilities along with engineering, manufacturing and project management offices around the world, located in close proximity to its customer base. Alstom's Hydro Global Technology Centres (GTC) are located in Grenoble (France – the lead centre), Birr (Switzerland), Sorel-Tracy (Canada), Vadodara (India) as well as in Tianjin (China) and Taubaté (Brazil). In 2012, the China centre launched the construction of new buildings while the Brazil centre launched the expansion of its facilities and capabilities. Thus Alstom has a network of six full-value chain entities, located in main markets, on three continents. Using common platforms for product development across all facilities promotes effective international collaboration and provides a useful overview of local needs. With the support of local service centres, Alstom can adapt to local customers' specific needs and deliver timely efficient hydropower solutions and services all over the world.

### Products and services

Its comprehensive product range enables Alstom to provide cost effective hydropower solutions for any application for both new and installed power plants. Combining reliability and very high efficiency, Alstom hydropower plants convert more than 90% of available energy into electricity.

### Turbines and generators

Alstom provides a full range of hydro turbines, with maximum power capacities today of 1,000 MW. This range includes Francis, Kaplan, Pelton, propeller, bulb, pump turbines as well as control systems to meet all customers' needs and applications.

Depending on the type of hydropower application, Alstom's generators can produce up to 1,000 MVA. The range includes large, medium and small hydro generators, bulb generators, variable-speed generators, motor-generators, ring motors and excitation systems.

With more than 30% of the market share (source Alstom, 2002-2012), Alstom is the leader in pumped storage plants (turbines and generators). Pumped storage will play an important role in tomorrow's energy market due to the development of intermittent energy production sources (wind, solar...) which increases the need for storage. In that area, the new variable speed technology has a strong potential due to the increased reactivity needed for Pumped Storage Plants (PSP) units to address the impact on the grid of intermittent generation sources.

### Hydro-mechanical equipment

Alstom designs and manufactures hydro-mechanical equipment for hydro power plants as well as for waterways and irrigation systems.

### Balance of plant and control systems

Alstom's core competencies in control systems span over all types of hydro power plants to improve power production. In this field of strategic products for power generation applications, Alstom has developed and qualified specific control system solutions as well as dedicated machine control equipment, in order to guarantee safe, optimised power plant operations.

### Services

When customers choose Alstom, they are tapping into a huge reservoir of hydropower know-how and experience. The operating fleet, representing over 25% of the world installed base, provides proven models and large amounts of data that are used to establish benchmarks and best practices. Completed by its leadership in refurbishment, it gives Alstom a unique perspective allowing to analyse the whole plant and the complete lifecycle as an integrated system. Specific investment costs can be understood in their operational context and make a real difference to the long-term efficiency and profitability of a plant.

Therefore Alstom maximises customer investment throughout the equipment's entire lifecycle with its PlantLife™ programme, which segments operation and maintenance into three service modules adapted to the age and condition of each plant: assess, secure and extend, reset and upgrade. As service and maintenance is not dependent on the origin of the components, all Alstom's solutions are offered for Alstom and non-Alstom equipment.

## Wind Power

Alstom believes in wind as a viable and competitive source of clean power to help meet energy challenges and aims at becoming a major player in this field. The acquisition in 2007 of the Spanish wind turbine company Ecotècnia provided Alstom with a strong foothold to enter this activity. Today, Alstom is an international expert in wind power throughout the entire cycle.

Alstom provides today global wind energy solutions from wind turbine design and supply to wind farm development, construction, and operation and maintenance services. The Company offers onshore and offshore wind turbines ranging from 1.67 MW to 6 MW, providing solutions for all types of geographical locations and weather conditions.

As part of its R&D activities, Alstom has developed the Haliade™ 150 – 6 MW, the first new generation large offshore wind turbine. The first unit of the Haliade™ 150 – 6 MW was installed onshore in March 2012, in France. A second unit is being installed offshore at the Belwind farm off the Belgian coast.

All Alstom wind turbines feature the ALSTOM PURE TORQUE® concept, a unique rotor support concept protecting the gearbox and other drive train components from deflection loads, delivering higher gearbox reliability, higher operational availability, and lower maintenance costs.

To date, Alstom has installed more than 2,500 wind turbines in over 150 farms worldwide with a total capacity of more than 3,800 MW.

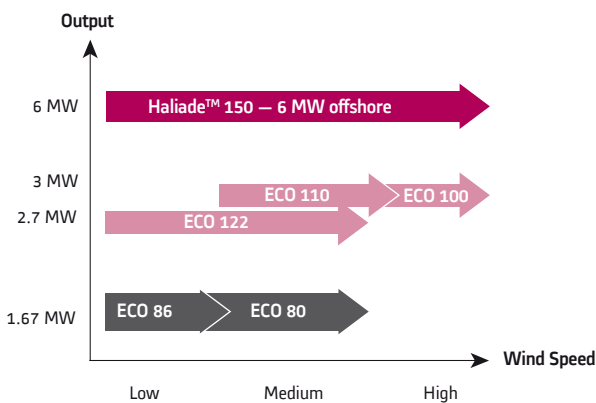
### An integrated approach

Alstom offers integrated wind farm solutions, covering site development activities, system or key component design and manufacturing, assembly, installation and services.

### Products

The Alstom portfolio offers the appropriate choice of wind turbines to match different wind farm locations and wind speeds.

#### ALSTOM WIND, A COMPREHENSIVE PORTFOLIO



Source: Alstom

Alstom onshore wind turbines, ranging from 1.67 MW to 3 MW, are divided into the ECO 80 and the ECO 100 platforms:

- the ECO 100 platform offers one product and three rotor diameters in the 2.7 to 3 MW-range: 100 metres (ECO 100), 110 metres (ECO 110) and 122 metres (ECO 122), offering high yield and leading efficiency across all wind classes. The ECO 100 platform is an extensively proven platform with over 750,000 cumulated operating hours since 2008 and more than 900 MW installed or under construction worldwide;

- in the ECO 80 platform, Alstom offers a range of 1.67 MW to 2 MW wind turbines for wind speeds ranging from low to medium/high designed to optimise transport for complex terrains.

Alstom's robust ECO 100 platform allows developers to select the best rotor location for each specific site. The combination of two or even three ECO 100 platform wind turbine models wind farm has been named by Alstom as POWEROF3™ concept. This unique offering optimises each project's capacity factor by up to 20% whilst reducing its balance of plant costs by 15%. In addition, having one platform with various models enables Alstom to provide common spare parts, standardised operation and maintenance procedures for the whole site, allowing a lower cost of energy in a wide range of wind projects.

With the development of the Haliade™ 150-6 MW direct-drive offshore wind turbine, Alstom is well positioned to become a leader in offshore wind technology.

Early 2011, Alstom and EDF Energies Nouvelles signed an exclusive agreement covering French offshore wind market starting with the 3 GW call for tenders from the French Government for the launch of offshore wind projects. In April 2012, the consortium led by EDF Energies Nouvelles, including DONG Energy, Nass&Wind Offshore, wpd Offshore and Alstom was awarded a total of three sites (Saint-Nazaire, Courseulles-sur-Mer and Fécamp). This announcement has allowed Alstom to confirm its industrial plan, building four new factories: two in Saint-Nazaire (Loire-Atlantique) and two in Cherbourg (Manche) to manufacture the key components of the turbines supplied by the consortium. This represents the first step towards creating a French industry able to set the standard in offshore wind power and bolsters Alstom's growth strategy in wind technology.

With the integration of Areva Transmission activities under Alstom Grid in June 2010, Alstom also benefits from experience in electrical infrastructure for offshore wind.

### Services

Alstom's full range of service capabilities can provide everything from spare parts, repair, and on-site field services up to and including long-term operating and maintenance solutions. A modular approach covering manpower and materials for both corrective and preventive maintenance tasks means that customers can select the optimal combination of services to meet their specific needs.

Based on over 30 years of wind turbine maintenance experience and the latest developments in industrial communications, Alstom's Supervisory Control and Data Acquisition (SCADA) system lies at the heart of its enhanced operation and maintenance strategy. WindAccess™ is a web-based tool, which provides remote access to wind turbine data. By using Alstom's SCADA system, the performance of an individual wind turbine or the whole wind farm can be studied and optimised in real time.

## New energies

### Geothermal

With more than 50 years of experience, Alstom has built a total capacity of more than 350 MW to date in geothermal energy.



State-of-the art technology honed by years of experience, Alstom can provide tailored plant configurations for both 50 Hz and 60 Hz electricity markets, starting with its smallest plant layout of approximately 20 MW. Alstom offers steam turbine and generators, condensers, hotwell pumps, instrumentation and control systems. In the medium size range of 25-35 MW, Alstom can provide a modular plant based around its well-proven single-flow turbine module. For larger steam fields with proven steam resources, Alstom offers plant sizes in the 35-60+ MW range based around a double-flow turbine configuration, which offers both excellent performance and economies of scale.

In addition, Alstom offers service contract to cover the day-to-day running and scheduled maintenance of the plant. As a leading global provider Alstom can tailor a package to exactly suit its customer's plant and business strategy.

### Solar Thermal

Solar Thermal (or Concentrated Solar Power – CSP) is becoming a key part of the renewable solutions for power generation.

Alstom has accumulated years of experience in steam turbines as it sold its first steam turbines for solar thermal power plants in the late eighties. Alstom's state of the art power blocks can be used for the three main technologies of Concentrated Solar Power: parabolic trough, linear fresnel and tower. Each concentration method, requiring direct radiation from the sun, is capable of producing high temperatures and correspondingly high thermodynamic efficiencies, but they vary in the way that they track the sun and focus light. Alstom offers both its geared reaction turbine (GRT) 5-60 MW and mid-size turbine (MT) 50-130+ MW for solar power generation.

Alstom provides a comprehensive range of flexible integrated solutions from complete turnkey CSP plants to individual components for solar power plant based on its in-house turbine and generator technology and its proven engineering, procurement and construction skills.

Alstom has invested in BrightSource Energy Inc., an American solar company. Commercial, technical and industrial partnership agreements have been signed along the three tranches of investment which were subscribed.

BrightSource's technology employs thousands of mirrors to reflect sunlight onto a central receiver atop a tower to produce high temperature steam at the highest levels of solar efficiency. The steam is then piped to a steam turbine and generator, which produce electricity. Alstom turnkey power plant solutions and steam turbine and boiler expertise, combined with BrightSource Energy's solar technology know-how complement each other perfectly, offering highly efficient solar thermal power plants. Alstom strongly believes in the high potential of this CSP Tower technology in the appropriate parts of the world (USA, North and South Africa, Middle East) both for producing power and boosting existing or new combined cycle or steam power plants.

### Biomass

As governments and stakeholders continue to drive environmental regulation levels upward, the need for cleaner sources of thermal energy becomes increasingly important. Biomass, the burning of wood and wood wastes, paper and cardboard, agricultural wastes and crops

produced for use as bio fuels, is becoming an increasingly popular way for customers to reduce their CO<sub>2</sub> emissions, whether it is a 100% biomass power plant or biomass co-firing plant.

Alstom provides fuel-tailored solutions for biomass plants with industrial turbines and customised generators adapted to the demand of biomass firing. It will leverage the long-date engineering, procurement and construction (EPC) experience built by its Steam Business and expertise of in-house key components, like steam turbine generator (STG), boiler, distributed control system (DCS), air quality control systems (AQCS) to provide the optimised integrated solution. In 2011, the Group secured two contracts in the USA on the 44 MW Plainfield and the 50 MW South Boston power plants. Both plants use the geared reaction turbine (GRT), which is optimised for efficient and flexible power production. The GRT range has a flexible modular concept and a plug-and-play package to reduce installation time.

In addition, Alstom specialises in dedicated biomass co-firing systems for large coal power plants. Alstom is also working with clients on 100% biomass conversion on utility class boilers. In 2008, Alstom secured the contract for the Drax Power Station in North Yorkshire (United Kingdom) to provide the main processing works associated with the 1.5 million tonnes per year biomass co-firing facility at the 4,000 MW plant. Drax employs co-fired renewable materials with coal and has set itself the target of producing 10% of its output from co-firing. This will reduce its CO<sub>2</sub> emissions by more than 2 million tonnes each year.

### Tidal stream energy

Tidal stream energy is one of the technologies under development in Alstom Renewable Power. It refers to extracting electrical energy from tidal currents, generated by the gravitational pulls of the Moon and the Sun.

Tidal stream turbines are governed by the same basic principles that apply to traditional wind turbines but take into account the fact that water is about 800 times denser than air. During its lifetime, a tidal turbine would generate electricity with zero greenhouse gas emissions, a modest footprint on the bottom of the ocean and negligible impact on marine life. Another major advantage is the complete predictability of this source of renewable energy.

In January 2013, Alstom completed the acquisition of Tidal Generation Limited (TGL) from Rolls Royce. TGL specialises in the design and manufacturing of tidal stream turbines.

A 1 MW tidal turbine was successfully installed on the same tripod support structure used to deploy the previously tested 500 kW device. This tidal turbine is now generating electricity to the grid, and will be tested in different operational conditions off Orkney (Scotland) over an 18-month period. Detailed environmental information and real life sea performance data will be generated in order to further improve tidal power technology and to reach a commercial scale. The next step is to install pilot arrays prior to full commercial production.

The turbine weighs 150 tonnes and consists of an 18-metre rotor diameter with three pitchable blades and a 22-metre long nacelle. Buoyancy enables the turbine nacelle to be easily towed to and from the point of operation. This minimises installation and maintenance costs by avoiding the need for specialist vessels and divers. The timeframe

to install or retrieve the turbine is also reduced. The unit operates, fully submerged in 40-80 metres deep, by rotating to face the incoming tide at an optimal angle, to extract the maximum energy potential.

### Wave energy

Amongst the marine renewable energies, wave has one of the greatest theoretical potential with between 200 and 300 GW available resources close to densely populated regions of Europe and North America. As tidal stream energy, it is a CO<sub>2</sub> free and predictable source of energy.

Complementing its existing ocean product portfolio, Alstom entered the wave market by acquiring a 40% equity share in the Scottish AWS Ocean

Energy company in June 2011. The technology developed by AWS is based on modular design, composed of flexible membrane absorbers which convert wave power to pneumatic power through compression of air within cells that are inter-connected. Turbine-generator sets are provided to convert the pneumatic power to electricity. The AWS-III system will be slack moored in water depths of 65 to 150 metres using standard mooring spreads.

Alstom is partnering with SSE Renewables in a joint venture to co-develop the Costa Head wave farm with a potential capacity of up to 200 MW.

## RESEARCH AND DEVELOPMENT

Alstom is continuously expanding its one-of-a-kind R&D network so as to preserve its technological edge in the field of hydroelectric power. On each site, Alstom's researchers and engineers work in collaboration with manufacturing partners and local universities with a view to devising effective solutions in terms of cost, technology and environment. Creating in-house Alstom Hydro product designs, Global Technology Centers contribute to breakthroughs in the fields of environmental solutions, variable speed technologies, and high efficiency turbine and generator designs adapted to the market's new requirements. A network of six entities located in Alstom's main markets is today in operation: Grenoble (France – lead centre), dedicated to turbine technology, Birr (Switzerland) focusing on generators, Vadodara (India) dedicated to Pelton turbines and sand erosion solutions, Sorel Tracy (Canada) focused on retrofit/modernisation, Taubaté (Brazil) – specialised in Kaplan turbines and Tianjin (China).

As part of its R&D plan, Renewable Power has also developed its wind offshore technology with the aim of entering, as a first step, the French, the German and the UK markets. Alstom Wind has a large 6 MW direct drive offshore wind turbine specially designed to meet these countries' requirements, the Haliade™ 150. The first offshore prototype turbine is currently being erected with a series production expected to start in 2014.

The Haliade™ 150 turbine incorporates dedicated offshore technology in collaboration with some of the industry's leading component suppliers.

- The Alstom PURE TORQUE™ design protects the generator and improves its performance by diverting unwanted stresses from the wind safely to the turbine's tower through the main frame.
- With no mechanical gearbox coupled to the generator, the turbine consists of fewer rotating parts, increasing reliability, maximising turbine availability and reducing maintenance costs. The use of a Permanent Magnet Generator leads to better generation efficiencies and even greater overall mechanical reliability. The innovative "Advanced High Density" direct drive PMG is a more compact and lightweight design compared to earlier generation direct drive systems.

- Using 73.5-metre turbine blades jointly developed with LM Wind Power, the 150-metre rotor diameter combined with 6 MW rated power maximises the capture of energy. The turbine generates up to 40% more electricity per kg of material used than today's offshore machines (source: Alstom).

Since its investment in BrightSource Energy in 2010, Alstom has actively pursued several R&D programmes pushing the boundaries of solar technology and using the experience Alstom has in traditional power generation technologies. With BrightSource Energy, Alstom is developing the largest solar receiver steam generator (boiler) 250 MWe for the next generation of solar plants and which is adaptable for other applications including thermal storage and integration with thermal plants. Alstom is actively working on enhancing its turbine and turbogenerator offering designed for the specific conditions of solar thermal power plants aligned with the latest advances in the solar receiver steam generator.

Always at the forefront of technological innovation, Alstom is investing in new renewable energies. Alstom has particularly increased its involvement in Tidal technology by acquiring Tidal Generation Ltd (TGL), the former Rolls Royce Plc's tidal business, which complements its fully dedicated team based in Nantes (France). TGL, based in Bristol (UK) has developed a cutting-edge tidal stream turbine with a first 1 MW full scale prototype already installed at the European Marine Energy Centre in Scotland since January 2013, for tests toward 2013 and 2014 as part of the ReDAPT programme.

To develop wave energy technology, Alstom has invested in AWS Ocean Energy, a Scottish company working towards developing Wave Energy Converter.

Alstom ensures the proper level of cross-fertilisation between the four various units of Renewable Power, and also with the Group's other Sectors (Thermal Power and Grid) to achieve the full leveraging of its unique technological platforms. Examples of cross-collaboration are numerous such as tidal technology using both hydro and wind competencies, wave technology using air turbine resources and knowledge within Thermal Power, CSP technology leveraging Steam turbines existing expertise.

## GRID SECTOR

Alstom Grid is a world-leading provider of engineered solutions and products for smart and conventional power grids, aimed at electrical utilities and industries. It provides integrated and customised turnkey solutions for Alternating Current (AC) and Direct Current (DC) substations up to Ultra High voltages (UHV). With more than 130 years of experience, Alstom has played a key role in the development of electrical transmission and distribution grids.

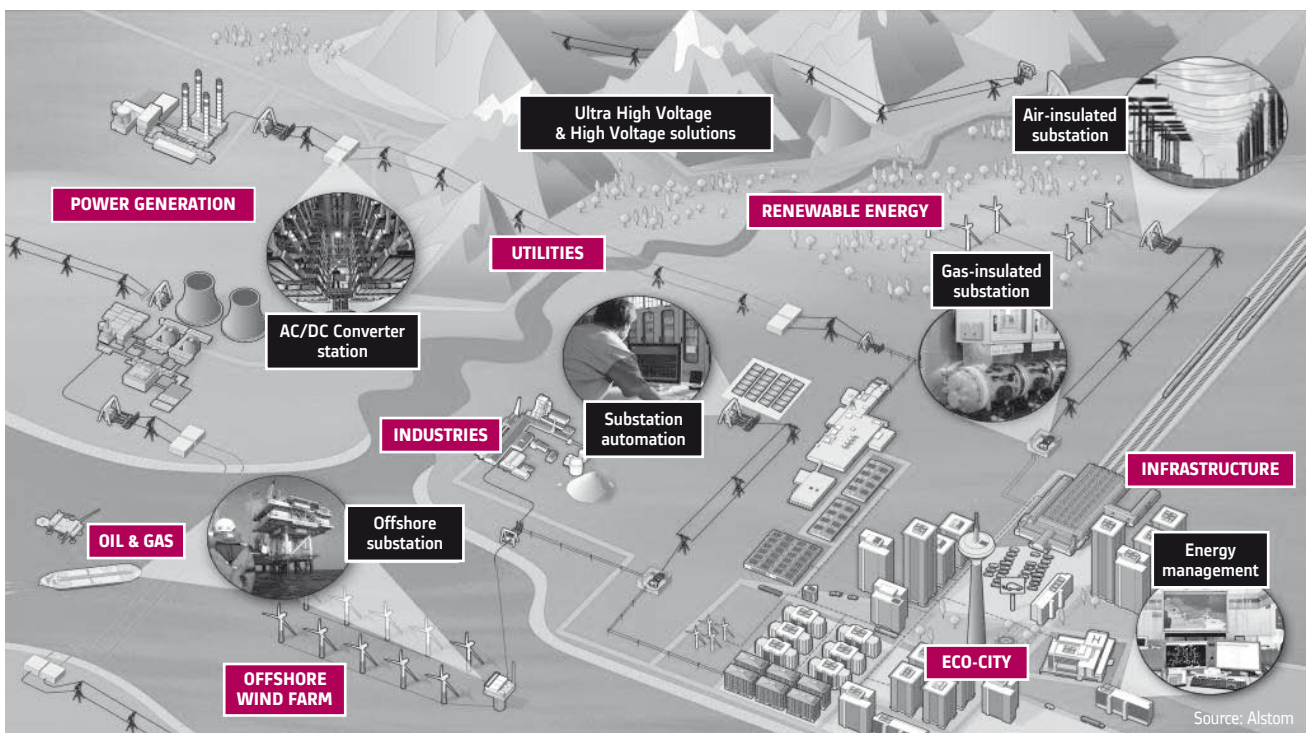
Alstom Grid is among the top three providers of high voltage and ultra-high voltage alternating current (HVAC and UHVAC) air- and gas-insulated electrical substations, both in turnkey projects and stand-alone products. Alstom Grid offers high quality services to optimise electrical infrastructure, increase return-on-investment, and prolong asset lifecycle, with solutions for both Alstom and third-party equipment.

Alstom Grid's customers range from large utilities and transmission system operators (TSO) to local power authorities and distribution system operators (DSO), together with a large array of specialised industrial and infrastructure partners. The power generation market has

greatly diversified recently with the introduction of renewable energy suppliers such as solar, wind or biomass. In addition, large and small industries and infrastructures have very specific energy requirements for their individual infrastructure or manufacturing plants. Alstom Grid has a wide range of solutions for various segments including oil and gas, mines and metal, rail, municipalities, infrastructures (such as medical centres and data centres), as well as for the power generation market itself.

Alstom Grid develops the systems that transform the electrical grid into a smarter grid. The Company delivers Smart Grid solutions for real-time bi-directional energy and information networks, improving the reliability and performance of the grid. Alstom Grid also plays a leading role in the development of Supergrids, the high-efficiency power grids that interconnect national networks across regions and continents. These "energy highways" allow the integration of new power sources (wind, solar, etc.) to supply clean energy to the final consumer.

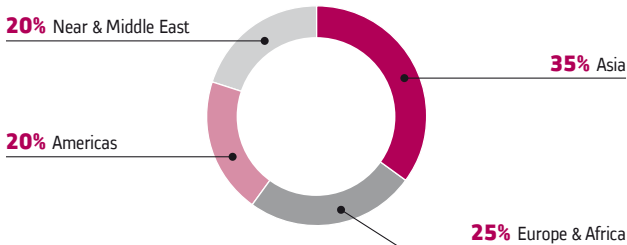
### A COMPLETE PORTFOLIO



## INDUSTRY CHARACTERISTICS

### Market evolution

#### Market by region (\*)



Source: Alstom

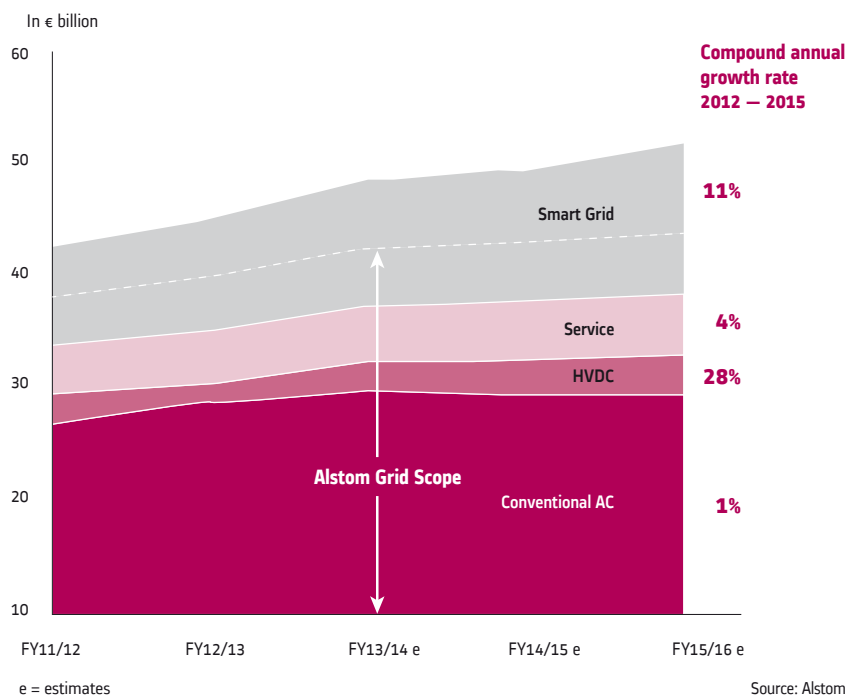
(\*) Excluding Service and adjacent Smart Grid markets.

In Europe, market growth is supported by significant investments in renewable energy (in particular offshore wind farms), the development of Supergrids and the implementation of the Smart Grid concept.

The European transmission infrastructure has evolved, mostly driven by the "20/20/20" commitment (-20% of greenhouse gas emissions; 20% of EU energy to come from renewable generation; 20% improvement in energy efficiency). Major renewable generation projects have been launched, creating the need for new transmission capabilities requiring the integration of power electronics solutions into the existing grid and/or the modernisation of traditional transmission equipment.

Political decisions can influence the energy mix, such as in Germany where the decision to move away from nuclear power drives large investment into the grid. This in turn leads to the development of power highways to transmit the offshore wind energy down to the South to reach consumers.

#### Market by segment



In Russia, major efforts are being provided to reinforce the traditional AC power grid, and at least one major HVDC interconnection is planned in the next few years to provide reliable electricity to meet growing industrial and urban demand.

In China, the transmission market is forecasted to be stable, with additional major HVDC projects in planning stages. The Chinese smart grid market is expected to undergo significant growth following the commitment of the Chinese government to further invest in smart grid technologies.

In India, there has been a specific focus on Ultra-High Voltage AC (765 kV) and HVDC (High Voltage Direct Current) as part of the need to reinforce the electrical network.

In the Asia Pacific region, the prospect of volume growth is largely driven by modernisation in Australia and electrification projects in the Eastern Asian countries, as well as the restructuring of the Japanese power grid following the 2011 tsunami.

Steady investment is expected in the Middle East region.

In North America, the traditional grid market is impacted by infrastructure renewal programmes which are taking off at a steady pace. Additionally, many renewable generation programmes, such as offshore wind production on the East Coast and connections to the hydro capacity available in Canada, are creating new opportunities for large HVDC projects.

In Latin America, the market is driven by very large infrastructure projects for hydropower, long-distance HVDC interconnections to stabilise the continental network or long-distance HVDC connections between large power sources and remote points of consumption.



The transmission market is expected to grow mainly in HVDC and Smart Grid over the coming years. The traditional AC transmission market should grow at a slower pace.

## Market drivers

Four main drivers for market growth have been identified in the medium term. The first two drive the general volume increase of the industry:

- economic growth, which brings the need for electrification in emerging countries;
- renewal and upgrading of existing networks in mature countries.

The second two drivers bring market growth and fuel significant technological changes, namely:

- integration of low carbon energies, driving the need for efficiency and stability to ultimately build smart grids and evolve towards broader, stronger Supergrids. The renewable energy market growth also impacts the digital substation and distribution substation markets;
- more stringent requirements for power supply reliability, security and efficiency.

Each of these factors will contribute to the medium-term and also long-term growth of the transmission grid market.

## Global economic growth and electrification in emerging countries

There is a strong link between electricity consumption per capita and Gross Domestic Product growth, largely demonstrated in emerging countries such as China, India and Brazil. There are several examples of massive investments in the extension of electrical grids to ever-broader parts of these countries, both to sustain industrial production and to improve access to electricity for the entire population. For example, in India, one important challenge is to bring electricity to an additional 40% of the population.

Increase in electricity production will directly impact growth of the transmission market and drive the development of ultra-high voltage AC and DC grids (so far up to 1,200 kV AC and 800 kV DC with an 1,100 kV DC prototype launched in China).

## Infrastructure renewal and modernisation in mature countries

In many mature economies, electrical grid infrastructure is coming to the end of its operational lifespan following strong investment in the 1970s. It is time to progressively renew the installed base and modernise the grids. Ageing equipment is incompatible with today's environmental and technical requirements; this market constraint necessitates investments in the grid infrastructures, creating business opportunities for equipment suppliers such as Alstom Grid. There is demand for even more efficient products, with less impact on the environment, and equally for more digital equipment using open communication protocols.

## Integration of low carbon energies driving the development of Smart Grid and Supergrid

Today, over 40% of power is generated from coal-fired plants and only 3% comes from wind or solar. But by 2035, these renewable energy sources should account for more than 15% of all power generation (Source: IEA).

Renewable energy sources have less impact on the environment, but their intermittent nature makes integrating their output into the network challenging. These energy resources, decentralised and small scale, are often associated with demand response and energy storage and make the distribution networks more complex.

### Smart Grid: the Information Technology era of the grid industry

Since the beginning of the 1990s, environmental policies have led to ambitious development plans for low carbon and renewable electricity sources. New smart technologies ensure the stability of the electrical grid when it receives an intermittent supply of electricity.

An increasing number of power generation companies and electrical utilities worldwide have recognised the value for smart grid systems – installing digital equipment on their existing infrastructures to interconnect all assets and optimise network control. The new technologies introduced by Smart Grids are creating more efficient ways of operating electricity flows.

Furthermore, end-user behaviour has changed as consumers devote more and more efforts to control their own electricity consumption and services. As distributed energy deployment gains pace, there are moves towards energy autonomy by consumers, who can now connect solar panels and wind turbines to their buildings, producing energy locally. The development and commercialisation of electric cars create a need to introduce entirely new ways to store and use electricity.

### Supergrid: evolving towards stronger networks

Since the early 1960s in Europe, there was a consensus that it was more efficient to “share” electricity supply by linking regions and ultimately country networks. This led to the development of what is called today “Supergrid” – networks which transcend regional, country and often continental boundaries.

Today, energy needs are higher than ever before as power is required for more electro-intensive consumer electronics, large data centres, electrical cars, etc. Additionally, higher fossil fuel costs and increasing demand for highly reliable power supplies make the Supergrid especially relevant. There are several ambitious collaborative projects at continental and multi-continental levels currently underway.

Many countries use different types of electrical current across the grid: AC, which is flexible, or DC, which is more efficient. “Meshing” – or combining the two – optimises the benefits of each system, as the meshed grid is a stronger, interconnected network.

Tomorrow, the Supergrid will need to be efficient, easy to maintain, and autonomous enough to integrate intermittent renewable energies.

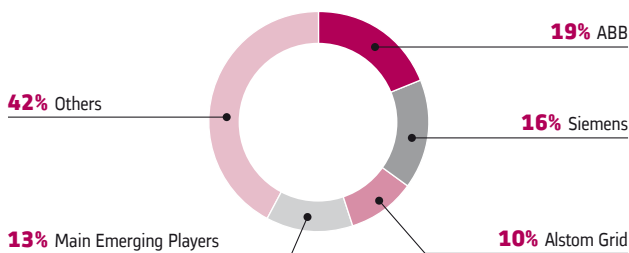
## More stringent requirements for power supply reliability, security and efficiency

Consumers' requirements for their energy supply are heterogeneous. Hospitals or air traffic control rooms need reliability; energy-intensive

industries, such as steel-making or aluminium smelting, need high power capacities to function. In all cases, the security of generation – guaranteeing a consistent, seamless energy supply – is critical, because all power outages cause production losses and may result in penalties.

## COMPETITIVE POSITION

### COMPETITIVE ENVIRONMENT



Source: Alstom

Alstom Grid, together with ABB and Siemens, is one of the three leading global players in the transmission market. These top players cover almost half of the transmission market, while emerging players from Korea, China and India are extending their offer coverage and geographical reach.

Alstom Grid has a number of fundamental advantages: high quality products, expertise in engineered solutions, an ambitious innovation policy and a global footprint – allowing deep market coverage.

## STRATEGY

Alstom Grid will continue its market penetration with electrical transmission utilities (Transmission System Operators or TSOs) all over the world, with special focus put on power generation companies and industrial customers, who require turnkey solutions and associated services in addition to products.

Profitable growth will be driven by Alstom Grid's improved market penetration in the traditional AC transmission segment and its strong position in the high growth segments such as Smart Grid, HVDC and services. Alstom Grid will increase its competitiveness through a strong focus on operational excellence.

### Be the Smart Grid reference for existing customers

Alstom views Smart Grid as a crucial business evolution with important market potential in the coming decade. The Group has a significant competitive advantage in this domain with industrial presence across the energy value chain, from power generation to transmission and distribution equipment, and down to eco-city projects. Alstom offers an integrated approach, based on combinations of products and software solutions, for the deployment of smart grid systems across energy transmission and distribution networks. Control room IT, smart power electronics and digital substation automation are the three main areas of development.

As part of its smart grid innovation strategy, Alstom Grid has developed an eco-system of partners involving technology suppliers, universities, energy system experts, as well as strategic customers. These partners bring complementary expertise and experience to Alstom's smart grid strategy in fields as varied as smart buildings, electrical vehicles, IT integration and energy storage.

Through its smart grid strategy, Alstom Grid supports its customers in the progressive deployment of smart grid systems on existing infrastructures, with a special emphasis on the North American, European and Asian markets. Wide-area stability plans, digital substations and micro-grids for eco-districts are progressively being implemented by electrical utilities at transmission and distribution levels, and Alstom Grid reinforces its position on this market.

### Become a supplier of choice for the Supergrid

The Supergrid of the 21<sup>st</sup> century involves complex challenges: variable renewable energy generation, increased stability and efficiency, lower cost of energy. It will harvest intermittent renewable energy by connecting it to the grid, whether the sources are located onshore or offshore. Energy highways will then move more energy over longer distances. It will improve and stabilise the interconnection of large regional grids, thus optimising available resources.

Alstom Grid has many Supergrid projects under execution, such as:

- UHVDC (Ultra-High Voltage Direct Current, 1,100 kV) and UHVAC (Ultra-High Voltage Alternative Current, 1,200 kV) programmes in China and India;
- the longest DC transmission line in the world connecting very large hydro generation sources in Brazil to major load centres on the coast;
- the development of DC interconnections in Sweden and North America based on the latest Voltage Source Converter (VSC) technology.

Alstom Grid is also a key stakeholder of Supergrid in IEED, an Institute created in France to develop technologies required for a European Supergrid.

## Develop the offering for power generation and industries

The Grid Sector's major customers also include power generation companies and electro-intensive industries. Cooperation agreements have been signed with major companies in oil and gas as well as mining and metals industries. Alstom will continue to expand and develop its presence and global offering based on its products and competencies in these fields. Alstom Grid will also develop strategic partnerships with selected engineering, procurement and construction suppliers.

## Deliver customer-valued services

For Alstom Grid, service solutions have become a highly differentiating factor for customers around the world. Alstom Grid's asset management experts provide innovative, reliable, high quality servicing solutions to support customers throughout their asset lifecycle. Alstom Grid's services cover spare parts supply, maintenance and repair, renovation, modernisation, extension and retrofit to increase customers' assets

lifetime, reliability and performance. Alstom Grid has global engineering and reverse-engineering capabilities to manage obsolescence and offers third-party equipment support.

Alstom Grid delivers responsive and consistent services worldwide. It also develops remote services to increase the asset performance and predictive services based on condition monitoring technology. Alstom Grid brings added value services, such as long term operations and maintenance on all equipment including third party; network consultancy; asset fleet management; renovation and modernisation of full substations; and customised training and competence management in partnership with its customers for any application including power utilities, infrastructures, electro-intensive and oil and gas industries.

## Reach operational excellence and contribute to a sustainable world

Operational excellence is a fundamental value for Alstom Grid. Cost control is of primary importance with a specific focus on sourcing and product cost improvements. Quality and reliability are also key across products, equipment and solutions and processes. Stringent procedures have been put in place to optimise processes all along the value chain; from Research & Development to manufacturing, delivery and project execution.

Alstom Grid also implements strict procedures to ensure the health and safety of all employees, as well as agency workers, contractors and site visitors.

Eco-design and sustainability are equally at the heart of the Group's processes, aimed at reducing the environmental impact of products and equipment, and provide customers with environmentally friendly solutions.

## OFFERING

Alstom Grid is one of the world's leading global providers of large engineered turnkey transmission and industrial power supply projects, such as high voltage alternative current (HVAC) substations, specialised power electronics-based energy supplies (high voltage direct current known as HVDC) and grid interconnection solutions.

Geographically, Alstom Grid is active on all continents, with close to 90 manufacturing or engineering sites worldwide. This international manufacturing base, located close to the customers, enables global competitiveness and solutions adapted to the customers' specific requirements and needs.

### MANUFACTURING AND ENGINEERING SITES WORLDWIDE



With 50 local service centres and 16 technical institutes in over 30 countries, Alstom Grid continues to expand its services activities in China, India, Indonesia, USA, Russia, Saudi Arabia, Morocco and Algeria.

## High voltage substations and products

### Turnkey systems

Alstom Grid provides complete turnkey engineered solutions for High Voltage (HV) substations for utilities, generation companies and industries in Alternating and Direct Current, bringing together the right mix of HV products through expert engineering and full project management. With bases of operation in 35 countries across the world and over 2,000 engineers, the Company's expertise and project management talents are strategically positioned where the customers need them most.

All turnkey projects are designed to the customer's exact specifications:

- turnkey systems and solutions for HVAC substations;
- power electronic systems such as High Voltage Direct Current (HVDC) transmission schemes, Flexible AC Transmission Schemes (FACTS) and static power supplies (for electrochemical industries and railways);

- turnkey HV/MV solutions including protection and control equipment, telecom and services for any specific distribution network for utilities, industries, rail and any infrastructure electrical systems;
- electrical-balance-of-plants for grid connection;
- onshore and offshore wind farm grid connections;
- Power Supply and SCADA solutions for the oil & gas and mines & metal industry.

Some of the turnkey systems booked in 2012/13 include: DolWin3 900 MW offshore HVDC connection for TenneT in Germany; Champa 800 kV 3GW HVDC "energy highway" with PGCIL in India; Madinah Al Salam 400 kV GIS substation for SEC in Saudi Arabia; a 400 kV GIS substation with TRANSCO in the UAE; PLAZMA project in Libya for 41 substations of 66/11 kV with GECOL; various 765 kV HVAC substations in India, and an important Static VAR Compensation (SVC) solution in Canada for Hydro-Québec.

For these projects, Alstom Grid provides strong guarantees to its customers through optimised sourcing, risk mitigation, guaranteed long-term presence and support, cumulated experience and strong engineering skills.

## Air-insulated Switchgear (AIS)

Air-insulated Switchgear (AIS) includes some of the main elements that make up an outdoor electrical substation. They connect the various parts of the substation, protect the equipment and people, and measure the energy flowing through them. Air-insulated switchgear covers the complete, compact and environmentally-friendly portfolio of high voltage primary equipment for air-insulated substations. It includes circuit breakers, instrument transformers, and disconnectors using air-insulation technology. It also includes solutions for controlling, metering and monitoring installations and special generator circuit breakers for power generation.

With an installed base of more than 170,000 products in service worldwide, Alstom Grid is recognised as leader in the air-insulated switchgear market for conventional and new solutions such as digital installation and compact modules.

With its ever-expanding and innovative product portfolio (from 72.5 up to 1,200 kV), Alstom Grid provides state-of-the-art High Voltage products and services to its customers worldwide, in order to secure the transmission of energy from the power station to the consumer, with both high safety and operational excellence.

## Gas-insulated Switchgear and Lines (GIS & GIL)

A gas-insulated substation is a complete and compact substation including circuit breakers, instrument transformers and disconnectors. Gas-insulated Switchgear and Lines (GIS & GIL) are similar equipment to Air-insulated Substation but the active parts are insulated in large aluminium chambers filled with SF<sub>6</sub><sup>(1)</sup> gas. The equipment is well known for its indoor, compact circuit breaker and connectors (lines). Alstom Grid has made a number of technical advances in the field of Gas-insulated Switchgear. Over the last forty years, the size of GIS has decreased fivefold, dramatically reducing the volume of SF<sub>6</sub> gas used and therefore reducing the environmental footprint. The reduction in size means that the GIS are small enough to be installed in underground urban substations or for offshore wind farm connections.

Alstom Grid has 20,000 GIS bays in over 2,500 substations up to 800 kV and over 150 km of single-phase gas-insulated lines in service in 99 countries.

Over four decades of operational experience with high voltage GIS, Alstom Grid has maintained a prominent position in the market, meeting the most demanding operational criteria.

## Power transformers

Power transformers connect electrical networks or systems of different voltages to allow power exchange between them. As a key player and pioneer in transformer technology, Alstom Grid designs and manufactures all types of power transformers and reactors for power generation, power transmission, electro-intensive industries and rail applications.

In 2012, Alstom Grid's power transformers business won many orders, reinforcing its expertise in this area. For example, in India, Alstom Grid was awarded an 800 kV DC project with the supply of 32 converter transformers rated 300 MVA/400 kV. In China, Alstom's Shanghai unit designed and produced 16 Electrical Arc Furnace transformers for the Qinghai project for the steel industry.

Through strong R&D efforts, Alstom Grid has developed and introduced a "green transformer" for environmentally delicate zones, and is pursuing its development on HVDC technology for converter transformers. It has also engaged in redesign-to-cost efforts for the majority of its products to increase competitiveness.

Bushings are devices that allow high voltage conductors to pass through the earthed walls of transformers, switchgear and substation structures. Alstom Grid manufactures and supplies bushings as well as the protection and connecting device required to connect a power transformer to the network.

For all applications (AC/DC), Alstom Grid bushings represent a cost-effective solution to facilitate the electric stress control of power transformers, including:

- epoxy resin bonded paper up to 36 kV for generators;
- oil-impregnated paper (OIP) for voltages up to 1,200 kV for power transformers and through-wall applications;
- SF<sub>6</sub>-insulated up to 800 kV for GIS, GIL and through-wall applications;
- resin-impregnated paper (RIP) bushings for power transformers.

In 2012, following the successful type tests on an 820 kV DC wall bushing prototype in 2011, Alstom Grid received its first order in China to supply UHVDC wall bushings for the Xiluodu-Zhexi ±800 kV DC project. Pollution and wet tests were also successfully carried out for the 600 kV DC wall bushings manufactured for the Rio Madeira project (Brazil).

## Digital substation solutions

The digital substation is a new generation of electrical substation (AIS or GIS) integrating new layers of optical primary equipment and automated functionalities. In August 2012, Alstom Grid launched at CIGRE its complete digital substation solution which extends Alstom's IEC61850-compliant solutions with new Ethernet-based data acquisition solution. It completes the great potential of Alstom's cutting-edge innovations: interoperability, IEC61850-9-2LE merging units, real-time condition monitoring and maximised reliability.

Offering a complete range of hardware and software components, Alstom's digital substation is being deployed in differential control and protection applications such as Denmark's utility operator Energinet's transmission system and for Russian utility operator FSK.

(1) A greenhouse gas with around 23,900 times the global warming potential of CO<sub>2</sub>.



## Smart solutions

### Smart Grid systems, control room solutions and grid automation solutions (for transmission and distribution grids)

Alstom Grid commercialises integrated Smart Grid systems – packaged solutions integrating digital equipment and software from Grid’s various product lines – combining them into customised systems for transmission and distribution operators.

Already deployed with some of Alstom Grid’s largest power utility customers (PJM Interconnection, Energinet.dk, Eskom, RTE...), these systems enhance the operational performance of existing grid infrastructures by adding a digital information technology layer to the power network.

This allows operators to integrate – in real-time – digital data on electrical power flows (quality, measurements, and oscillations) in all grid sections, substations and equipment. Furthermore large quantities of intermittent renewable energy sources (wind and solar farms) can be integrated into their energy portfolio, balancing traditional power generation with additional renewable power.

The two-way real-time interconnections between grid operators at control-room level and digital equipment in substations mean that Alstom Grid customers can instantly optimise energy dispatch on their network, through digital control systems and protection relays at substation level. This information is managed through Control Rooms:

- **Renewable management:** a “renewable” control room allows Energinet.dk in Denmark to integrate over 30% of renewable power sources (more than 5,000 wind farms) into its grid, analysing the wind forecast and balancing the thermal power load with the additional wind power each day.
- **Online stability management:** This system combines Phasor Measurement Units (PMUs), when deployed across a transmission grid and combined with online stability software, allows Grid customers such as Manitoba Hydro (Canada) or Eskom (South Africa) to instantly detect abnormal power oscillations on their power lines, in enough time to take action and reduce blackout risks.
- **Integrated Outage & Distribution management (IDMS):** This system allows utilities such as Duke Energy (USA) to pilot their entire distribution grid in real-time and to integrate “Distributed Energy Resources” such as electrical vehicles, smart buildings, or small-scale renewable sources. In 2013, Alstom Grid launched the industry’s first on-demand cloud-based IDMS and Demand Response solution for distribution utilities.
- **Demand-response management:** This solution opens a true communication bridge between consumers and distribution utilities. The operator can manage peaks in the overall electricity consumption for a city or region, working with residential or commercial customers to help them adjust their individual electricity use at specific times.

Alstom Grid’s Smart Grid solutions are based on two main technologies: the world-leading network management solutions and substation automation solutions.

## Network management solutions

Network Management Systems are software solutions and platforms for grid control rooms, in charge of piloting and controlling the power grid. Alstom Grid’s Network Management Solutions make the Grid Sector a world leader in energy management and energy market systems. The key technology, known as **e-terra™** global energy solutions, is used by utilities in their control centres to manage generation, transmission, distribution and trading of electric energy.

Alstom designs, develops, delivers and supports software solutions for transmission and distribution of electrical utilities, market systems operators and energy market participants. These solutions are delivered either as a software package, as an integrated information technology system or as a full-turnkey project depending on the customer needs.

These mission-critical systems are the “brains” behind the utility’s grid and ultimately keep the lights on for its customers. In 2012, Alstom Grid launched its latest version of control room solutions: **e-terra 3.0**. This new version represents the latest in energy IT technology for electric utilities and smart control rooms and uses a secure, scalable and adaptable design based on industry standards such as IEEE, IEC’s CIM and Multispeak.

In addition to its software solutions, Alstom Grid also offers a full suite of telecom solutions for utilities, integrating high bandwidth services into utilities telecom backbone and offering a high level of performance and reliability in a competitively-priced package that ensures low cost of ownership.

In 2011, Alstom Grid acquired **Psymetrix**, the developer of Phasorpoint, the leading WAMS (Wide-Area Monitoring Systems) and PMU (Phasor Measurement Unit) solution, to enhance online stability and grid defence plan solutions. The software has been integrated into the NMS product architecture and rebranded as **e-terraphasorpoint**.

Alstom Grid has also integrated **UISOL**, designers of the world-leading, demand response (DR) software application, **e-terraDRBiznet**. This technology helps consumers to reduce their energy consumption during peak hours. This software platform integrates load management, demand response and advanced metering infrastructure technologies and simplifies overall demand response management.

**EvolutionSCADA** was purchased in 2012 by Alstom Grid to expand its market-leading electric energy control system platform with a complementary solution for the oil and gas pipeline SCADA (Supervisory Control and Data Acquisition) market.

## Substation automation solutions

Substation automation solutions are automated devices and software solutions that protect, control and monitor electrical substations for utilities and electro-intensive industries. Alstom Grid offers the complete substation automation range, offering full IEC61850 compliance, ready for Smart Grid applications.

The **Alstom MiCOM IED** (Intelligent Electric Device) range of IEC61850 compliant protection relays and measurement devices monitors, controls and protects all of the equipment in the substation as well as feeding important information back to the control room.

In 2012, Alstom Grid launched the **MiCOM Agile** range of intelligent electronic devices (IEDs) that provide an integrated management solution – based on transmission technology – for distribution network protection, control and monitoring of incoming electrical power in the network.

In the same year, Alstom Grid also launched **DS Agile**, its latest Digital Control System (DCS) for AC and DC electrical utilities substations and industrial installations. This interoperable and IEC61850 compliant solution ensures full integration with the control room network monitoring and Smart Grid applications such as Stability, Wide Area Protection Plans, and Online Condition Monitoring.

In December 2012, Alstom Grid acquired the Canadian-based firm ASAT Solutions Inc. to complete its Substation Automation range, with Remote Terminal Unit-based control applications, for unmanned substations.

In 2013, Alstom Grid extended its Smart Grid excellence centre in Montpellier (France). The newly created Smart Grid showroom will strengthen Alstom's know-how in digital technology, supporting its strategy of developing the substations of the future. In addition, Alstom Grid invests in the expansion of its world-class MiCOM relays and panels manufacturing facility in Pallavaram (India), to support growth in India and develop export markets.

## The Supergrid, HVDC and power electronics

### High voltage direct current (HVDC) solutions up to 800 kV

Power electronics solutions are high-performance applications which manage the active and reactive power flow in a network. They are most commonly used for the conversion of AC to DC and vice-versa, but they are also used to improve power quality and control when integrated into a traditional AC transmission network.

#### HVDC technologies

The electricity industry has, on several continents, begun the development of what are now referred to as "Supergrids"; large, wide-area electricity grids. The advantage of Supergrids is to combine AC and DC networks as one very vast meshed grid giving all connected networks more stability, strength and reliability by sharing power. Alstom Grid has identified High Voltage Direct Current (HVDC) as a strategic priority in the development of these very large networks, and has focused on developing both existing technologies in this field: Line Commutated Converters (LCC), the classic HVDC technology that connects asynchronous networks but also has the capability to develop high power energy highways; and Voltage Source Converters (VSC), the newest HVDC technology which is more compact, uses less expensive cables and is ideally suited for offshore platform use (such as oil and gas and wind farm substations).

Alstom Grid continues to develop HVDC LCC, moving towards higher voltages up to 1,100 kV (including HVDC valves, converter transformers and bushings). Its HVDC Centre of Excellence in Stafford, United

Kingdom, which celebrated in 2012 its 50-year anniversary of expertise in this field, remains one of the world's most advanced sites for designing and producing HVDC and UHVDC equipment. In August 2012, Alstom Grid signed a contract with Power Grid Corporation of India (PGCIL) to install a new 3,000 MW HVDC "energy highway" between Kurukshetra and Champa in India, setting a new reference for 800 kV HVDC.

Alstom Grid's Voltage Source Converter (VSC), the HVDC MaxSine™, was launched in 2010. This technology is ideally suited for the connection of offshore wind farms to the grid and multi-terminal applications. Customers can observe the VSC technology in operation at 24 MW VSC Demonstrator and Simulator located at Alstom Grid's HVDC development centre in Stafford (UK). This is the same technology that is being deployed for the South-West Link project for customer Svenska-Kraftnät in Sweden, a point-to-point HVDC interconnection between two cities; this will provide a multi-terminal link for a future programme to interconnect the grid between Sweden and Norway. This same technology will be used for the DoIWin3 offshore wind farm for Germany's TenneT Offshore GmbH, along with Alstom's suppliers in the project, Nordic Yards for the platform and Prysmian for the DC submarine and land cables. The scope of this project is the delivery of an offshore to onshore connection of a +320 kV, 900 MW connection to the German network to be completed in 2017.

### Flexible Alternating Current Transmission Systems (FACTS)

FACTS are the power electronics-based solutions that support and improve long-distance AC transmission systems as well as certain AC industrial solutions. This technology, in which Alstom Grid is one of the global specialists, dramatically improves transmission reliability and realises a very quick return-on-investment for the customer.

Among Alstom's various FACTS solutions, the SVC MaxSine™ is a compact D-STATCOM system that ensures grid code compliance for onshore wind farms, or, when placed in an industrial production power supply, improves the balance of reactive power thus reducing disturbances in the AC power supply. Fixed Series Capacitors and Static VAR Compensators (SVC) are two key products for Alstom Grid as they dramatically improve and protect long-distance AC transmission networks.

#### Special power supplies

**Electro-intensive industries** such as electrolysis plants (aluminium, zinc, copper, chlorine, etc.) rely on Alstom Grid's special power supplies and power quality support. Alstom Grid's rectifier-based power solutions for aluminium electrolysis processes position it as a world leader. Trusted by the world's largest metal producers, its solid experience in coordinating multi-national projects means that its high quality systems keep production facilities running.

Another growing area of importance in modern grid structures is **battery storage solutions**. There are currently three types of large battery solutions with ratings up to 1 MW per block. Alstom's Special Power Supplies team has developed a turnkey connection package that

connects batteries to renewable generation sources such as wind and solar farms, but then also connects those batteries to the grid. This solution is capable of converting the various voltages and currents from and to the different generation sources and grids so that all resources are properly connected and protected.

## Services

Alstom Grid offers environmentally friendly and high quality services to optimise electrical infrastructures, improve equipment's return-on-investment and prolong asset lifecycle. Customers benefit from the Group's global transmission expertise with local field specialists providing customised transmission services:

- from network design to asset maintenance and evolution;
- from transactional services to long-term partnerships;
- from emergency support to predictive maintenance;
- from technical training to customised competence management programmes.

Alstom Grid's services cover the needs of all customers: transmission utilities, power generation, electro-intensive industries, and railways; as well as on- and offshore wind farms and oil and gas platforms. Alstom provides lifetime support on high voltage equipment whether initially delivered by Alstom Grid or not, or on entire networks from annual inspections to minor and major maintenance. This includes substation condition assessment and condition monitoring to support decision-making processes and solutions for the renovation, modernisation and extension of any equipment requiring improved performance or having obsolescence issues. In 2012, Alstom Grid further developed this Service offering with renovation, modernisation and extension offer for disconnectors' motorisation.

Alstom Grid's Technical Institute offers a comprehensive range of training courses in electrical grid safety, operations, maintenance, protection, control and management. This high value-added selection of training courses encompasses all aspects of electricity, with an offer ranging from fundamentals to competence management. Alstom Grid celebrated the ground-breaking launch of three new Technical Institutes to be opened in 2013, in Mexico, Russia and Germany, which will allow to better serve regional customers.

## RESEARCH AND DEVELOPMENT

Innovation is a cornerstone of Alstom Grid's strategy. Investment in research and development is an essential tool for keeping its product portfolio competitive and for differentiating from competitors.

Alstom Grid's five technology centres and their teams of technical experts are involved in long- and medium-term technology research programmes to prepare for the future needs of electrical networks. The technology centres are located in Stafford (United Kingdom), Redmond (USA), Villeurbanne and Massy (France) and Shanghai (China).

Alstom Grid has created a world-leading technology platform for improving the reliability and transfer capacity of transmission networks. An important part of this is diagnostics and measurement technology, known as synchrophasors. These are used to detect potential network stability problems in real time and, coupled with model-based analytical solutions embedded within the Energy Management Systems (EMS), are used to control the networks.

Other research and product development activities take place in more than 30 specialised competence centres located worldwide. Collaborative relationships are maintained with approximately 40 leading universities and research laboratories in Europe, Asia and North America.

### Innovation in High Voltage (HV) Switchgear

Extensive R&D has led to development in multiple product ranges throughout 2012, including:

- development of new circuit breakers solutions for High Voltage substations: launch of VL109 Vacuum circuit breaker (with pilot projects in France and New Zealand); redesign-to-cost of the live tank

circuit breaker range from 72.5 kV up to 420 kV; development of the FKGA2 generator circuit breakers rated at 100 kA, 14,000 A with a first contract in Saudi Arabia;

- development of new gas-insulated substation solutions: new 145 kV gas-insulated substation; new 420 kV gas-insulated substation with single-chamber circuit-breaker; new 550 kV gas-insulated substation with single-chamber circuit-breaker rated 63 kA; new 800 kV gas-insulated substation for the Indian market;
- development of dead tank solutions for Air-insulated substations: DT1-362 dead tank circuit breaker with single-chamber and spring operating mechanism; DT1-145 dead tank circuit breaker with a 63 kA breaking capacity; DT1-245 dead tank circuit breaker with a 80 kA breaking capacity;
- the extension of the HYpact range for Air-insulated substations with a 170 kV model and a model for railway application (16.7 Hz).

### Eco-design for environmentally friendly solutions

Alstom Grid has an eco-design policy to develop environmentally friendly solutions offering significant environmental benefits, including better product performance across all phases of the product lifecycle.

Eco-design implies the integration of specific criteria in the product's design process to minimise its environmental impact at every stage of its lifecycle. The Grid Sector's eco-design process relies on the IEC standard 62430, specifying the norms and procedures destined to integrate environmental factors into the conception process, and the development of products, as well as the materials and elements which make them up.

Eco-design uses the Life Cycle Assessment (LCA) approach: the evaluation of the environmental impacts of a given product or service at every stage of the cycle:

- manufacturing (the reduction of natural resources in the components);
- product operations (lower CO<sub>2</sub> emissions, limits on environmental risks, greater energy efficiency...);
- end-of-life (product recycling capabilities).

The LCA allows Alstom Grid's R&D teams to identify with ever greater precision the processes and phases that will have the greatest environmental impact on its equipment production, and thereby to highlight priority areas for design improvements. Alstom Grid uses the LCA methodology to measure and improve the environmental impacts of an increasing number of its products, which result in the creation of product environmental profiles (PEP) available on demand.

With this lifecycle analysis methodology, Alstom Grid's latest generation of products have a significantly lower environmental impact compared to the previous generation. For example, the 72.5 kV live tank circuit breaker (vacuum breaker), launched commercially in 2012, fully eliminates the use of SF<sub>6</sub> and reduces internal electrical resistance by 35%. Thanks to this new solution, CO<sub>2</sub> emissions dropped by 26% overall (including a 10% reduction due to SF<sub>6</sub> elimination).

New Alstom Grid solutions provide significant environmental improvements compared to the previous product versions, and respect international and local environmental regulations as well as Alstom's Environment, Health and Safety (EHS) rules.

## Ultra-High Voltage (UHV) AC & DC solutions

Since 2011, Alstom Grid has been working on a common development project for 1100 kV Direct Current transmission with State Grid China's CET subsidiary. Alstom Grid is also developing the dry bushing solutions needed to accompany the transformers certified for service in UHVDC applications.

Highlights in 2012:

- the development of an 800 kV HVDC voltage transformer with high accuracy characteristics;
- the development of a 1,100 kV HVDC converter transformer for DC application in 5,000 A;
- the development of a 1,100 kV HVDC transformer bushing and wall bushing;
- the launch of a 1,200 kV double knee type disconnecter;
- the launch of a 1,200 kV optical current transformer.

## Integrating renewable energy sources

The increasing weight of renewable energy resources requires solutions to ensure efficient connection and electricity transmission without putting the existing network at risk. Alstom's Voltage Source Converter – the HVDC MaxSine™ – is one of the most promising technologies for this purpose. It not only balances the inherently unstable power flow but can also connect wind farms far offshore. The HVDC MaxSine™ has "fault-blocking" capabilities meaning that it can detect and protect the offshore network from faults.

The same technology, reconfigured into a "STATCOM" can function the same way for onshore substations, by "smoothing" the power flow into the AC network.

The DC Breaker – a major project now underway for several years – is being jointly developed with the French utility, RTE. In February 2013, Alstom and RTE reached a significant achievement by obtaining the best performance ever seen in a High Voltage Direct Current (HVDC) circuit breaker while testing a prototype at Alstom's testing facility in Villeurbanne, France. This breakthrough and the continued development work will allow the design and development of DC grids or large scale energy highways to be built in the future.

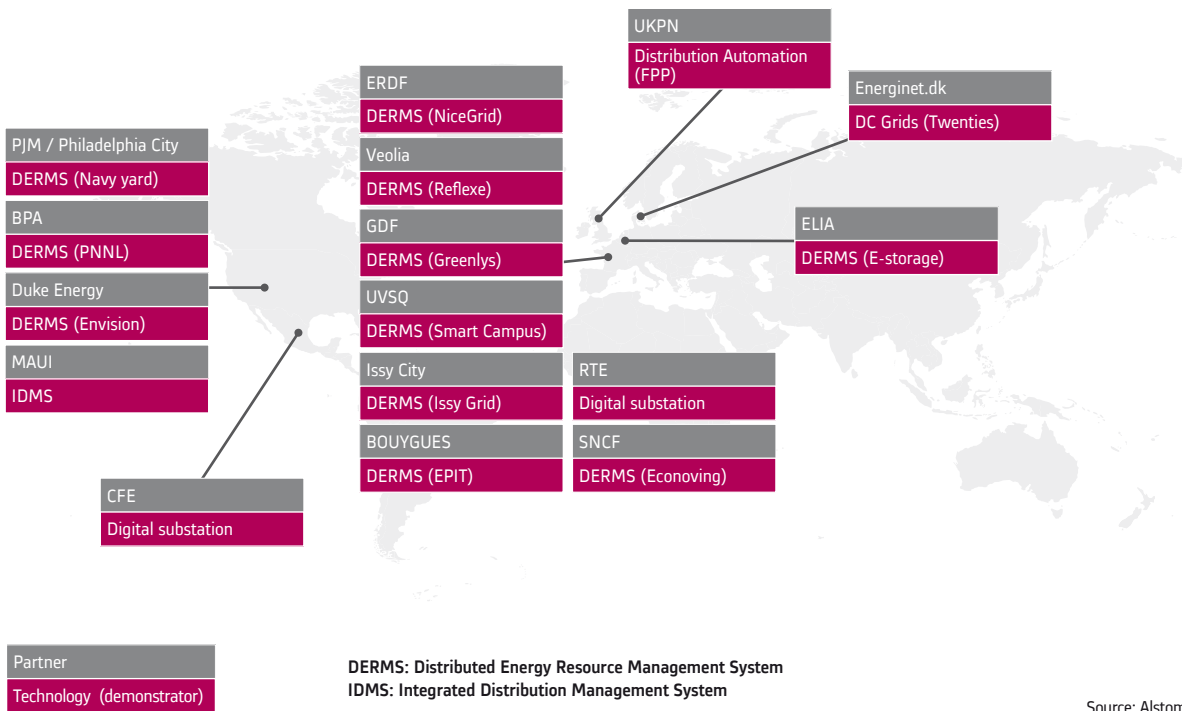
At the same time, control room solutions are also being developed to manage the high levels of renewable energy sources that will be integrated into the network as offshore wind farms and onshore solar farms.

## Smart Grid

Alstom develops and tests new smart grid systems and combinations of solutions through a number of demonstration projects worldwide, together with customers and public authorities. The Group is a worldwide leader in this particular domain, with 31 Smart Grid demonstration projects underway in 2012/13. Among the most visible are the two newest eco-city projects:

- *IssyGrid (France)*: currently under deployment in an existing business district in Issy-les-Moulineaux, in the Paris suburbs, the IssyGrid project is piloted with the Alstom/EMBIX™ smart grid platform for eco-cities, interconnecting and piloting a variety of energy resources in the district such as homes with smart meters, smart commercial buildings and electrical vehicles.
- *NiceGrid (France)*: set in the city of Nice in the French Riviera, the NiceGrid project uses the IDMS (Integrated Distribution Management System)/DERMS (Distributed Energy Resource Management System) smart grid platform which interconnects smart homes, smart buildings, energy storage and an important quantity of solar photovoltaic panels, gathering them into a single integrated microgrid. This project allows a better energy consumption management of the microgrid, and connects it to the main distribution network.

ALSTOM SMART GRID DEMONSTRATORS



Additionally, Alstom Grid’s R&D labs are working on the next generation of smart grid solutions, as follows:

- **Electric vehicle fast-charging:** the Grid Sector is working on future converters for faster charging electric cars, covering physical grid connection constraints and the integration of these chargers (and additional electrical loads) into the smart grid and smart city control rooms.

- **Grid-connected batteries:** Alstom Grid’s power conversion system demonstrator for battery storage (BESS) has moved into commercialisation this year. The system was developed in Massy, France, to demonstrate power conversion between a DC battery and an industrial AC network. Its successful testing was a major milestone in the development of DC conversion technologies for battery storage and confirms that Grid’s Power Conversion system efficiently performs while connected to any type of large battery. Battery storage is becoming increasingly important in the shift towards greater use of intermittent renewable energy sources.



# TRANSPORT SECTOR

The Transport Sector serves the urban transit, regional/intercity passenger travel markets and freight markets all over the world, providing rail transport products, systems and services. Alstom seamlessly develops, delivers and maintains sustainable and integrated railway systems that meet the new challenges of smarter mobility. The Company offers individual elements of a rail transport system either as stand-alone packages or combined within turnkey system solutions. Tailored to each operator, to public authorities as well as to the passengers they serve, these rail solutions are technically, economically and environmentally efficient.

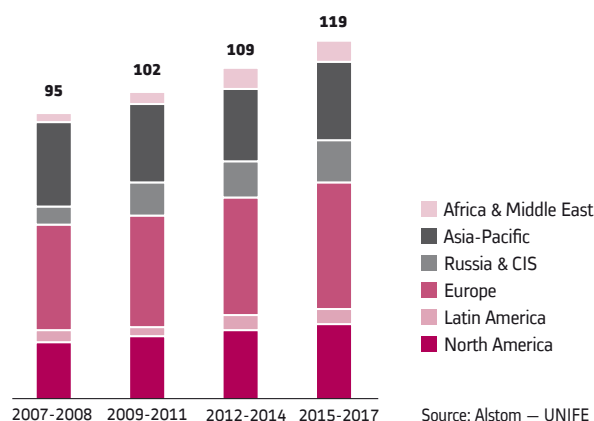
## INDUSTRY CHARACTERISTICS

### Market evolution

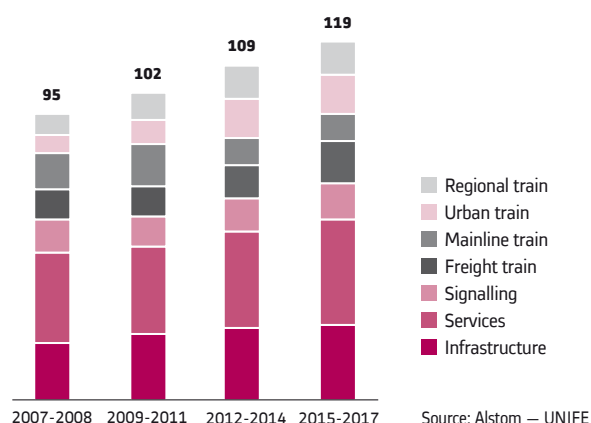
During the 2012-2014 period, the market has been estimated at €109 billion per annum. This market is expected to grow to an average of €119 billion per annum, in the upcoming 2015-2017 period (source: UNIFE).

- In Europe (the largest global market for rail) the overall market should grow modestly from €39 billion p.a. to €42 billion p.a., between the 2012-2014 and 2015-2017 periods. Markets in France and the UK are expected to grow through investments both in the urban and inter-urban segments, most notably with projects to improve urban transport and traffic infrastructures. In Southern Europe, the market is expected to be affected by budget constraints.
- The CIS market growth will mainly come from the significant long-term investments expected in Russia towards locomotives and urban transport. From the current period until 2015-2017, the average growth will be 4% p.a. with an average annual market value reaching €14 billion by then.
- Freight and urban segments will drive growth in North America, where the market should increase from €23 billion p.a. to €25 billion p.a. between the 2012-2014 and 2015-2017 periods. Construction of the initial phase of the California High-speed Rail project and subsequent phases would serve as an indicator of a step change in this market.
- By 2015-2017, the Asia-Pacific market is expected to remain more or less steady at €26 billion p.a. compared to the current period, largely affected by the slowdown in spending for very high-speed trains in China. Other countries in the Asia-Pacific region such as India, South Korea and Taiwan will experience significant growth, primarily in urban rail and mainline infrastructures.
- Latin America and the Africa & Middle East regions, though relatively smaller, should continue to grow and reach respectively €5 billion p.a. and €7 billion p.a. in 2015-17. Growth in Africa & Middle East should be mainly driven by South Africa's large EMU (Electric Multiple Unit) and locomotive orders, and the mainline and urban rail projects in Saudi Arabia, Qatar and the UAE. Moreover, Algeria, Morocco and Egypt are expected to make substantial investments in their rail networks.

**RAIL TRANSPORT MARKET GROWTH BY REGION**  
(Average annual value in € billion)



**RAIL TRANSPORT MARKET GROWTH BY PRODUCT LINE**  
(Average annual value in € billion)



## Market drivers

The main long-term drivers of the railway market are linked to economic and demographic growth in the emerging markets. In mature markets, they are related to the renewal and upgrading of existing infrastructures, as well as increased environmental and sustainability awareness. In spite of the recent global economic downturn with slower growth and mounting governments' deficits, the long-term outlook for the railway industry remains positive, with investments in rail and urban transport projects not being significantly impacted.

### Demographic growth and urbanisation

World population is expected to cross the 9 billion mark by 2050 according to United Nations projections. Close to half of that population will be residing in the countries of sub-Saharan Africa, Latin America and Asia where population growth will be more than threefold. In these growing nations, rail is a well-suited means of mass transportation of passengers and goods.

The combination of economic and on-going population growth will incite more than half of the world's population to live in cities and towns with the level of urbanisation by 2050 rising to 70% from its current 50%. Most of this growth will occur in China, India and in developing countries of Africa and Latin America.

On the other hand, in mature nations, private transport such as cars will be discouraged in favour of public transport like metros and tramways. This shift will be driven by economic criteria and the active promotion of environmentally-friendly and sustainable forms of mass transport. An efficient and comfortable urban transport system with seamless interchanges will be sought by urban planners and inhabitants. Rail provides the ideal solution for safe, comfortable and environmentally-friendly mass transport for intra and inter-urban mobility.

An agglomeration of suburban communities will also be part of this urban growth, calling for extended urban transportation solutions. Innovations to reduce environmental impacts, such as pollution and noise on the urban landscape, and improvements in energy efficiency for rail-based transportation modes will be increasingly sought for.

Urbanisation growth will also lead to an expansion in the transport networks connecting large cities, as well as the smaller cities located in between. High-speed rail has already proven to be a highly energy-efficient and safe form of transport compared to other modes. Expansion of high-speed rail links and the renewal of fleets should take place within mature and new markets; the creation of new networks will open up opportunities for this segment.

### Infrastructure saturation

Given increasing airport and road congestion, rail is the main feasible alternative to address infrastructure saturation within mature and emerging countries. Rail is a safer, cleaner option that offers a credible and competitive alternative to road and air transport. Numerous challenges remain, but geographical, financial and environmental factors currently work to the benefit of rail transport. Countries such as China and India, accounting for half the world's population, already largely rely on their railway networks for intercity transport between their growing cities. China has established the largest network of high-speed intercity railways and is also investing in rail networks for freight transport to support its economic growth. In mature countries, infrastructure saturation and the expansion of the high-speed national and international rail networks should bring about a shift towards rail as a preferred mode of transport.

### Environmental awareness

Emissions, climate change, recyclability, recovery, energy efficiency, noise and other environmental and sustainability factors are becoming major issues amongst public users and policy makers. Rail has a greater performance with respect to those factors as compared to other travel modes and this is likely to positively influence the direction in which the market for rail will evolve. It will also mean challenges for the industry to improve on those factors in order to meet the ambitious emission targets to be achieved within the set timeframe. While such concerns are of greater importance to mature markets at this time, they will gradually become relevant to emerging markets as well. In the field of environmental protection, a major focus of Alstom's R&D activities is the search for a more efficient use of energy. Alstom engineers have developed HESOP, a substation that absorbs the energy produced during the braking phase of a train and then injects it into the electrical power grid, yielding energy savings of up to 15%. Alstom's trains are recyclable up to 98% and 100% of its plants will be ISO 14001-certified by end 2013.

An outstanding example of Alstom's response to these challenges is the New Amsterdam Metro train, the commercial operations of which will start in 2013. Despite its large and comfortable dimensions, it is a lightweight metro with an axle weight of 12 tonnes, featuring 100% electrical braking providing higher energy recovery, full LED lighting, and using clean materials and processes in its manufacture.

## COMPETITIVE POSITION

Alstom Transport draws upon its wealth of accumulated experience to retain its leadership in several segments. It offers a comprehensive range of railway products and solutions through its global industrial, service and commercial footprint. Alstom is a leader in all key rail industry segments: urban transportation, mainline, signalling, services and turnkey systems. It has sold more than 1,170 high-speed trains worldwide, of which 1,028 are in commercial service. Its global reach has also been enhanced through partnerships and joint-ventures, giving Alstom Transport a competitive edge in new territories and segments.

Alstom Transport's main worldwide competitors are Bombardier and Siemens, which offer a similar range of products and services. On a secondary level are firms with a less diverse portfolio (Talgo, CAF, Stadler, Ansaldo, Thales, PESA, Skoda, and Rotem), competing with Alstom in specific segments such as trains or signalling. Japanese firms (Hitachi,

Kawasaki, Mitsubishi Electric, and Toshiba) also compete in certain markets to a lesser extent. In the recent past, riding on the back of the large Chinese domestic market and their predominant state ownership, CNR and CSR have emerged as train manufacturers with international ambitions.

With its range of leading technologies in products and solutions such as AGV™ in very high-speed trains, PENDOLINO™ in tilting high-speed trains, the URBALIS™ signalling Communication-Based Train Control (CBTC) system, the ATLAS signalling system, CITADIS DUALIS™ Light Rail Vehicles, APS catenary-free ground-power supply for tramways, and TRAINTRACER™ real-time maintenance support, Alstom maintains a competitive advantage. Those innovations, complemented with an organisation focused on delivering customer satisfaction, have strengthened Alstom's position in global markets.

## STRATEGY

Alstom Transport has three strategic priorities.

### **GROWTH: Expanding in new areas and maintaining leadership in traditional markets**

Alstom designs and delivers fluidity to cater, in a competitive manner, for its customers' widely varying requirements. The Group offers solutions that anticipate operators' needs and builds in fluidity at the earliest stages of each project to ensure effective fulfilment of customers' ambitions.

This concept enables Alstom to improve its cost effectiveness and responsiveness by mixing product standardisation with the adaptation of an optimal engineering and industrial footprint. The overriding aim is to put in place a delivery model that is flexible, while guaranteeing quality and on-time performance. The product portfolio is also managed actively to offer differentiation on standard platforms. This entails proximity to the customer and an understanding of their needs through a strong marketing organisation.

Maintaining leadership in urban and mainline signalling in specific markets is also a priority while seeking breakthroughs in other markets. Alstom aims at reinforcing its leadership in certain categories of its signalling business through increased sales of its standard products and solutions targeting mainline and urban markets. To improve its competitiveness, Alstom constantly seeks ways to lower its sourcing and engineering costs. Investments in R&D will be focused on increasing the

differentiation and competitiveness of key products and their adaptation to specific customer needs. Following the implementation of Asia-Pacific regional hubs for signalling, service and turnkey businesses, similar hubs will be replicated in other regions, further contributing to the geographic expansion of Alstom Transport's business.

While rolling stock constitutes a major share of Alstom Transport's business, the demand for Services is increasing in traditional and newer markets. Though private operators have been at the forefront of outsourcing the support business, legacy operators are looking to do the same. Alstom plans to position itself to capture these opportunities.

In France, its home market, Alstom intends to uphold its leadership in all segments by working closely with its customers to develop products meeting the forthcoming requirements for renewal of the mainline very high-speed fleet and for the "Grand Paris" urban network. In Germany and Italy, the Group intends to capitalise on the strengths of its regional train offer and the local manufacturing and service networks. In other European markets, Alstom will pursue opportunities for high-speed trains with its Pendolino range which is giving full satisfaction to various operators.

Simultaneously, Alstom Transport will reinforce the strategic investments and partnerships already made in countries such as China, Russia, Kazakhstan, Algeria and India. It is focusing on greater localisation and market-specific product development in order to capture further opportunities in these regions. Finally, Alstom will continue to expand into new territories such as South Africa and the Middle East, as well as into the Light Rail Vehicles market in North America.

## TECHNOLOGY: Investing in innovation and market-leading Research & Development

Alstom Transport will continue to invest in new and innovative technologies for the development of new-generation rolling stock, components and cutting-edge signalling products and solutions. In Services, R&D will focus on energy diagnostics and saving solutions, as well as innovative methods for turnkey systems delivery.

### Trains (rolling stock)

Alstom is reinforcing its R&D programme to further expand this business while developing its CITADIS™ product range to remain a key player in the full low-floor tram market, as illustrated by its recent entry in the North American Light Rail Vehicle market. Alstom Transport also aims to remain a leading player in the metro market. In the regional market, its focus is on improving its best-sellers in the CORADIA™ range, supported by the recent contracts in Germany, France and Italy. After its recent success in Poland, Alstom intends to further establish its PENDOLINO™ trains as a standard for high-speed trains in Europe and to sell its very high-speed AGV™ and EURODUPLIX™ on export markets. This year, serial production of the 2ES5 freight and EP20 passenger locomotives started in Russia, while the KZ4AT passenger and KZ8A freight locomotives were launched in Kazakhstan. Certification of the PRIMA™ II locomotive for the European market is progressing.

### Transport Information Systems

Transport Information Systems (TIS) is an essential part of any railway network for safe, secure and smooth operations. Expansion in traditional markets, entry into new ones through the certification of products, and extension of product portfolio represent a strategic priority for Alstom Transport. A significant amount of R&D is earmarked for the renewal of core technology platforms and for the enhancement of its current products and solutions. The considerable know-how and proven experience across several national and international standards that Alstom has accumulated over the years in this field where safety is paramount are valuable advantages. The in-house access to various elements of a complete railway system and their complex interfaces with train information systems places Alstom in a strong position to be at the forefront of the industry. A TIS transformation plan to make use of collaborative working efficiency through a network of global skills centres of excellence has also been set up.

### Services

Besides the investment in Trains and Transport Information Systems, specific R&D efforts are also aimed at services and infrastructure activities. Alstom is committed to contributing to the environmental performance of rail systems, focusing on lower energy consumption (motor efficiency, weight reduction, new materials or recovery of braking energy), reduced internal and external noise, and limited global impact throughout its product lifecycle.

In train life services, Alstom plans on further developments in the maintenance market with a new service offer for its own fleet and third-party fleets, improving integration with operators and maintenance providers. Furthermore, Alstom intends to grow its parts and repairs business through long-term frame agreements and modernisation, using pre-defined modernisation packages, proprietary techniques and energy savings solutions. The extension of local service centre networks is also planned in order to support business development.

### Infrastructure

Alstom offers a complete range of solutions for laying, electrifying and supplying electric power to tracks, supplying electromechanical equipment alongside tracks and in stations and depots. Alstom engineers use their excellent knowledge of rail systems to resolve problems arising from integration at optimised costs. On site, Alstom supplies the workshops and equipment required as well as a qualified workforce. Alstom intends to further develop its infrastructure and turnkey businesses, supported by new developments in the electrification and mainline track markets, as well as urban turnkey platforms.

## OPERATIONAL EXCELLENCE: Making Alstom Transport the supplier of choice

Delivering products efficiently and on time is at the core of Alstom Transport's operational performance. Excellence in this area is one of the highest priorities and results in increased customer satisfaction. The benchmarks for operational excellence are constantly progressing, set both by more challenging customer demands and internal initiatives to improve efficiency. To support its ambition for continuous improvement, these and other initiatives will focus on making Alstom Transport the standard of reference throughout the industry and the supplier of choice for the customer. Alstom Transport is committed to ensuring best-in-class safety, excellence in delivery, cost competitiveness, localisation and adaptation of the global footprint. Regional Hubs, starting with the Asia-Pacific region, have been set up by the Signalling, Infrastructure and Services business lines of Transport to effectively and competitively respond to the needs of markets which are located remotely from traditional European bases. Above all, investment in our people and values is at the heart of our pursuit of excellence.

Suppliers are also involved in this mission through close partnerships, keeping them abreast of changes in the Company's operations. Alstom supports suppliers who demonstrate over time that they supply quality products that are technically and economically efficient. In return for this commitment from its suppliers, Alstom offers them its support to develop components and products, guaranteeing a greater volume of potential business through access to new calls for tenders.

## OFFERING

The comprehensive transport systems designed by Alstom are as diverse as the cities, regions and countries they serve. The offering is structured around passenger mobility – in cities, in the suburbs, across regions, between cities; and in the movement of goods across national and

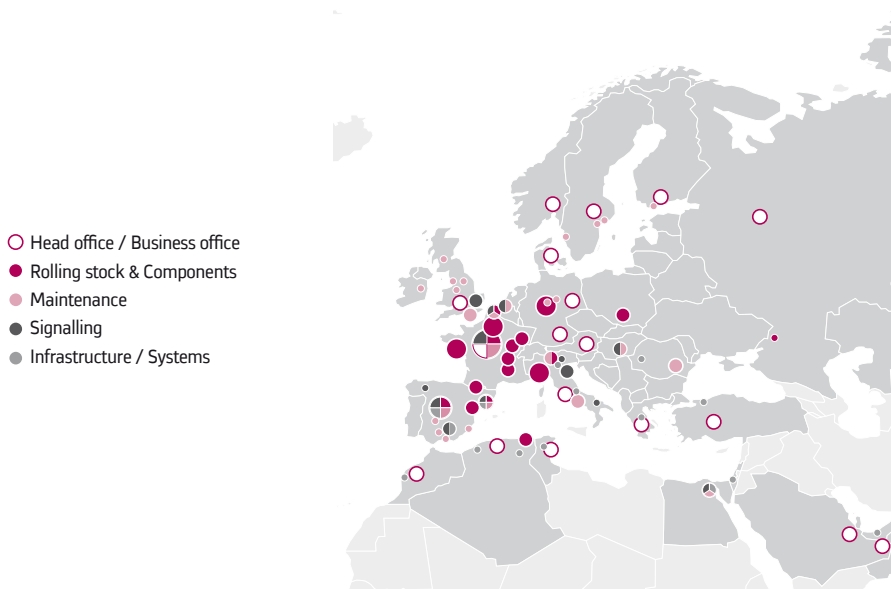
international freight networks. The smooth delivery of Alstom solutions is supported by an organisation spanning the world and including a network of offices, engineering and manufacturing facilities.

### MAIN BUSINESS AND INDUSTRIAL LOCATIONS



Source: Alstom

### MAIN BUSINESS AND INDUSTRIAL LOCATIONS – EUROPE, MIDDLE EAST/NORTH AFRICA, RUSSIA AND CIS



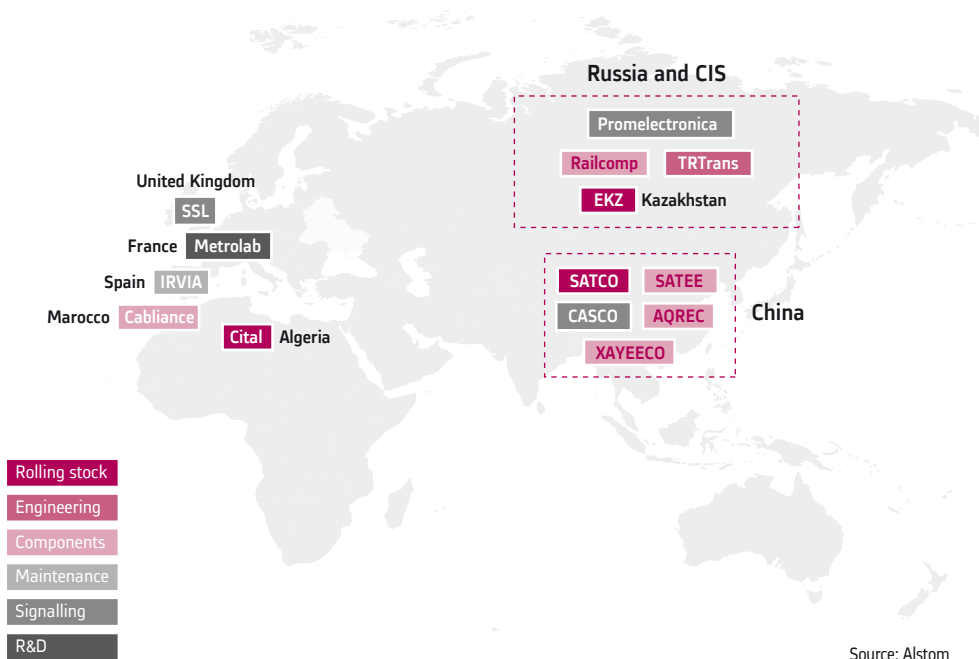
Source: Alstom

Besides its own offices and facilities network, Alstom Transport has expanded its presence through partnerships across Europe, Asia and the CIS. These partnerships cover a wide range of activities (trains, signalling, services and components). Alstom Transport has also developed its own global footprint, particularly in India with the commissioning of its metro trains factory in Chennai and its signalling

engineering centre in Bangalore. The global network enables Alstom Transport to competitively address the increasingly localised demands of its international customers. The proximity of Alstom's manufacturing sites to its customers ensures that it can closely monitor customers' needs and respond quickly.



## PARTNERSHIPS AND JOINT VENTURES



## Trains (rolling stock)

Alstom addresses all segments of passenger rail transport worldwide from tramways to very high-speed trains with customised solutions configured from standard platforms. Alstom also provides mainline locomotives and shunting locomotives catering to the needs of the freight-by-rail segment. Alstom designs and manufactures in house the key electric and electronic traction and power components for the trains.

The rolling stock product line includes:

- **Very High-Speed Trains (VHST)** that operate at speeds over 250 kph. This product line includes the TGV <sup>(1)</sup>. The two main platforms are the single-deck AGV™ very high-speed train and the double-decker trains. The latest generation of these very high-speed double-decker trains is EURODUPLIX™, built for international operations in France, Germany, Luxemburg and Switzerland. VHST engineering and manufacturing is based in La Rochelle, France;
- **Intercity High-Speed Trains (HST)** that operate at speeds ranging from 140 kph to 250 kph and comprise the PENDOLINO™ tilting train families. The design and engineering centre for HST is based in Savigliano, Italy;
- **regional trains** from the CORADIA™ family that operate at speeds ranging from 100 kph to 180 kph. The electrical and diesel multiple units, as well as the double-decker trains, come in several versions adapted for use in different markets. The design centre for these trains is based in Salzgitter, Germany;
- **urban trains** which include the new generation of CITADIS™ tramways, the CITADIS™ Dualis™ Light Rail Vehicle, as well as the METROPOLIS™ metros. Their design centre is based in Valenciennes, France;

- **locomotives** design and manufacturing centre which is based in Belfort, France. Locomotives designed by Alstom are also produced by its joint ventures in Russia and Kazakhstan. The latest generation of PRIMA™ locomotives include different versions for both freight and passenger train haulage under various weather conditions.

Beyond Europe, train manufacturing is spread across several locations in North America, Brazil and India, and through partnerships in China, Russia, Kazakhstan and Algeria.

## Railway infrastructure (track and electrification)

Alstom covers infrastructure needs across a wide range of standards for both urban and mainline railway systems. It offers the competencies and capabilities to design and construct new railway lines, extensions to existing networks, and the modernisation of existing railway infrastructures.

The Company applies its expertise and project management skills to:

- track work design and installation on concrete or ballast beds using proprietary technologies;
- the design and erection of line electrification and power supply, including substations and single-catenary free power supply for tramways;
- the design and installation of station utilities and complete electrical and mechanical equipment;
- the maintenance of railway infrastructures.

(1) TGV is a trademark of SNCF.

## Rail control systems (signalling and information solutions)

Alstom Transport offers control and information solutions to rail transport operators and infrastructure managers, supplying on-board and wayside equipment that allows for safe and efficient operation, as well as passenger information and comfort.

In the mainline railway segment, the Group provides customers with a comprehensive range of products. It is organised around the following engineering centres:

- mainline train control solutions in Charleroi (Belgium) and Rochester, NY (USA);
- freight railway control solutions in Charleroi (Belgium), Rochester, NY (USA) and São Paulo (Brazil);
- track products and interlocking systems in Bologna, (Italy) and Rochester, NY (USA);
- integrated control centre solutions in Bologna, (Italy) and Saint-Ouen (France);
- passenger information and security systems in Montreal (Canada);
- embedded train control, monitoring systems and electronic modules in Villeurbanne (France);
- software, product engineering & development in Bangalore (India).

Alstom markets these products either as single products or as integrated system solutions that meet either European standards such as ERTMS (European Railway Traffic Management System) with Alstom's ATLAS™ solution, or American standards such as PTC (Positive Train Control).

In the urban segment, including tram and metro lines, the offer ranges from basic train control and protection systems to fully automated driverless systems. These systems take advantage of telecommunication-centred architectures such as the mass transit train control systems (URBALIS™) implementing CBTC (Communication-Based Train Control) technology.

Signalling systems are complemented by other related information-based systems and services, such as:

- passenger information systems, both on board the trains and on platforms;
- security systems (CCTV – Closed Circuit TV, emergency telephony etc.);
- integrated control centres.

The offer also covers maintenance services, ranging from basic spare parts supply and repairs to availability-based maintenance contracts.

## Lifetime service support for trains and rail infrastructure

For trains, railways and rail control systems, Alstom assists operators' lifecycle support through:

- advanced logistic services for the supply of spare parts;
- comprehensive maintenance programmes;
- modernisation services;
- technical support and assistance with documentation management.

The trend of railway market liberalisation around the world, combined with the underlying momentum towards increased private funding in railway ventures, is triggering long-term growth rates in rail transport markets. Traditional operators are also increasingly restructuring and outsourcing their maintenance activities. Alstom continues to lead the industry by supporting operators in boosting their performance through faster supply chains, modernised rolling stock and optimised fleet reliability and availability.

## Fully-integrated system solutions

The Systems Business provides complete turnkey solutions. Alstom addresses these DBOM (Design Build Operate Maintain) or PPP (Public Private Partnership) opportunities as either a consortium leader or as a consortium partner in turnkey project management. Alstom Transport addresses urban transit (tramway or metro) as well as mainline railways (including very high-speed rail projects). Its core competency consists in developing and supplying an optimised and integrated rail transport system, comprising trains, information solutions and infrastructures, and their maintenance. The management of such projects includes design, building, commissioning, maintenance programmes and the coordination of financial, administrative and technical project domains.

## RESEARCH AND DEVELOPMENT

During 2012/13, Alstom Transport has continuously improved its products, sub-systems and technologies to fulfil current demand and anticipate future trends. These R&D efforts are directed towards two priority objectives: addressing the needs of the customers and product users, and taking into account the environmental and sustainability impact of its offers.

The various R&D programmes cover:

### Technology:

- **Capillary Pump Loop** – a cost-effective cooling system for traction systems using natural flows, thereby reducing noise and needs in maintenance;
- **SiC (Silicon Carbide)** – high-performance power semi-conductors from SiC crystal, allowing high-frequency operations and able to withstand very high temperatures. New power traction systems using SiC will be smaller in size and provide better energy efficiency;
- **Permanent Magnet Motor (PMM)** – a family of next-generation PMM with better energy efficiency, using magnets that do not use rare earths in their composition;
- **Flywheel Energy Storage** – a collaboration with Williams Hybrid Power to develop a solution for energy storage in tramway applications;
- **Eco-drive** – system solutions to optimise the use of energy in trains.


### Products:


- **URBALIS™ Fluence** – a new generation of signalling systems with a reduced equipment and material footprint;
- **Hybrid Shunting Locomotive** – a nickel cadmium (NiCd) battery pack for a diesel powered shunting locomotive, reducing diesel fuel consumption by about 40%;
- **CITADIS SPIRIT** – a light rail vehicle for the North American market;
- **METROPOLIS™** – aluminium-bodied metro trains for emerging markets;
- **CORADIA™** – new regional train versions for higher speed, and conforming to new standards;
- **APS™** – a ground-power supply;
- **Appitrac™** – an advanced version of a mechanised system for faster and less intrusive track laying.



# 2

# MANAGEMENT REPORT ON CONSOLIDATED FINANCIAL STATEMENTS – FISCAL YEAR 2012/13

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## MAIN EVENTS OF FISCAL YEAR 2012/13

### SOLID COMMERCIAL AND OPERATIONAL PERFORMANCE AND FREE CASH FLOW TURNING POSITIVE

With €23.8 billion of orders received in fiscal year 2012/13, 10% above last year on an actual basis and 8% on an organic basis, Alstom recorded a solid level of order intake in a challenging economic environment.

Thermal Power's order intake increased by 2%, at €9.6 billion. The Sector booked 12 gas turbines in Israel, United Kingdom, China and Thailand, where it sold its first two upgraded GT26™ gas turbines. In the Steam business, major contracts were awarded in Saudi Arabia, India and Egypt. Renewable Power delivered a sustained order inflow at €2 billion. The Sector was particularly dynamic on the wind turbine market, with onshore farms in Brazil, and booked large hydro projects in Ethiopia and Colombia. It was also selected for the equipment of three offshore wind farms in France which is expected to generate substantial orders in the coming years. Orders received by Grid rose by 26% at €5.1 billion, driven by High Voltage Direct Current (HVDC) market with two major contracts, one for offshore wind farms connection in Germany and a second for a HVDC link in India. Transport was awarded several large orders in Western Europe (France, Italy, Sweden and Germany) and South America (Peru and Venezuela), achieving a €7.1 billion order intake, its strongest commercial year over recent years.

With a Book-to-Bill reaching 1.17 for fiscal year 2012/13, Alstom's backlog came up to €52.9 billion, representing 31 months of sales.

Consolidated sales amounted to €20.3 billion, increasing by 2% compared to last year. Transport (+6%) and Thermal Power (+5%) drove the Group's progression in sales. Grid (-5%) was affected by customer related delays, mainly in India, and a lack of milestones recognition in South American hydro contracts during the period impacted Renewable Power (-11%).

After a low point in fiscal year 2011/12 at 7.1%, the operating margin started to recover at 7.2%. This evolution is the consequence of a globally good project execution and actions on costs.

Net profit (Group share) reached €802 million in fiscal year 2012/13, compared to €732 million last year, a 10% year-on-year increase.

Alstom generated a positive free cash flow for both semesters thanks to a strong level of orders received and a high focus on cash in project execution. Free cash flow amounted to €408 million for fiscal year 2012/13 versus €(573) million for 2011/12.

In October 2012, the Company completed a €350 million share capital increase through a private placement to institutional investors. Following the success of its capital increase and given the favourable financial market conditions, Alstom issued a new bond for an amount of €350 million under its Euro Medium Term Note Programme listed in Luxembourg. The issuance has attracted a strong demand. It bears an annual coupon of 2.25% and will mature in October 2017.

The €350 million capital increase and the €408 million free cash flow, together with the payment of the dividend for €236 million and financial investments, covering the remaining part of the price of 25% of Transmashholding's equity and the acquisition of small sized companies for a total amount of €333 million, resulted in a decrease of the Group's net financial debt from €2,492 million in 2011/12 to €2,342 million at the end of the fiscal year 2012/13.

At the end of March 2013, Alstom had a cash in hand and cash equivalent position of €2,195 million. In addition, Alstom benefits from a syndicated revolving credit facility of €1.35 billion with a 5-year maturity signed in fiscal year 2011/12. On 21 March 2013, Alstom signed with 18 international banks an amendment to extend the drawing maturity of its committed bonds and guarantees line until July 2016 and increase its amount from €8.275 billion up to €9 billion to reflect the growing activity of the Group.

### STRENGTHENED TECHNOLOGICAL LEADERSHIP

During fiscal year 2012/13, the Group invested €794 million in research and development to renew and enlarge its range of products and develop a technological competitive advantage.

#### Thermal Power

The continuous improvement of Alstom's range of gas turbines was a key focus during fiscal year 2012/13 with performance upgrade packages and combustion system improvements to reduce emissions and increase fuel flexibility.

In parallel, the Sector launched the world's longest nuclear steam turbine blade "LP75", allowing performance improvements with the same level of reliability. The new blade extends the ARABELLE™ nuclear steam turbine offer and ensures a greater flexibility in plant design.

R&D efforts were also dedicated to Carbon Capture and Storage as well as CO<sub>2</sub> utilisation for enhanced oil recovery (EOR). In November 2012, following a demonstration phase launched in May, Alstom was awarded a concept study for a full-scale CO<sub>2</sub> capture plant at Mongstad (Norway).

## Renewable Power

Regarding Wind power, major steps were achieved in the development of the Group's offer in the offshore market. The HALIADE™150 offshore turbine entered in its last testing phase at 6 MW in December 2012. While the first turbine is being tested onshore according to plan, a second turbine will be installed before Summer 2013 at the offshore Belwind wind farm, located off the Belgian coast. In addition, Alstom and its project partners began the initial engineering of an offshore wind demonstration project in Virginia, including the installation of two HALIADE™150.

As regards to onshore wind turbines, the Sector announced in February 2013 an upgrade of its ECO 110 and ECO 122 wind turbines, which are now suitable for a larger range of wind sites.

To better serve its markets, Renewable Power pursued the development of hydro Global Technology Centres around the world. In parallel, the Sector inaugurated the new headquarters of Alstom's global technology and hydropower centre in Grenoble, France.

## Grid

Grid kept on increasing its R&D efforts in the fields of Super Grid and Smart Grid through further development of High Voltage Direct Current (HVDC) and digital substation technologies.

- R&D projects in the conventional products segment were focused on redesign-to-cost with specific actions on transformers, air and gas insulated switchgears and on the extension of the product range with new breaking capacities up to 800 kV.
- The Super Grid market was addressed through the development of Voltage Source Convertors solutions (VSC). Alstom Grid unveiled the world's first 1,200 kV disconnecter, completing its integrated Super

Grid offer. In February 2013, the Sector achieved the best performance ever seen in a HVDC circuit breaker with the interruption of currents exceeding 3,000 amperes in less than 2.5 milliseconds.

- Regarding Smart Grid, the efforts were directed towards the development of fully comprehensive offers for digital substations (sensors, intelligent electronic devices, software, protection...) and for control room solutions, with the release of E-Terra 3.0 software platforms. The Sector will also further widen its product range with the launch of the DS Agile digital control system.
- Environmental issues were addressed through SF<sub>6</sub> free solutions for circuit breakers using vacuum technology.

## Transport

Research and development programmes in Transport focused on the adaptation to clients' needs of the product offering.

In the Czech Republic and in France, Transport began the certifications and approvals campaign with the dynamic testing phase for the CORADIA™ Polyvalent regional train in July 2012. The regional train will be capable to run in various operating conditions thanks to its different electrification versions and its high modularity.

In Russia, Alstom Transport and its partner Transmashholding (TMH) obtained the homologation for the EP20 electric passenger locomotive and delivered a first machine to the Russian Railways. Besides, TRTrans, a Joint Venture between the two partners, started both static and dynamic tests for a prototype of the 2ES5 freight locomotive. Transport also disclosed in February 2013 IPOMOS, an innovative bogie specifically developed for the tramway CIS market.

In Italy, Transport will develop one of its HESOP™ energy recovery systems for the metro network. The Sector will adapt its existing HESOP™ 750V to a 1,500V version and install it in a pilot site in Milan.

## REINFORCED FOOTPRINT IN GROWING MARKETS

During the fiscal year 2012/13, Alstom invested €505 million in capital expenditure (excluding capitalised development costs) to strengthen its footprint in growing markets and upgrade its existing production facilities. As part of this strategy, significant investments were made in BRIC countries.

Thermal Power increased its presence in Russia. Alstom-Atomenergomash (AAEM) selected the Volgodonsk site (Rostov oblast) to assemble and produce components for turbine islands of nuclear power plants. In China, Thermal Power opened a new mobile precision workshop in Tianjin to meet the increasing needs of customers across China by providing on-site and superior quality repair services in maintaining large steam turbines, generators and related equipment at customer premises on a very short notice.

Renewable Power announced the set-up of a factory dedicated to the production of towers for wind turbines in the state of Rio Grande do Sul, Brazil, with an installed capacity of 120 towers per year. In Russia,

Renewable Power partnered with RusHydro to launch the construction of a manufacturing plant in Ufa to produce equipment for hydropower plants.

Relying on its current strong position in India, Grid launched an investment programme to support the delivery of a contract for a Ultra High Voltage Direct Current (UHVDC) link between Champa and Kurukshetra won in August 2012. More generally, the Sector seeks to optimise its industrial base addressing segments such as HVDC transformers and Ultra High Voltage (UHV) breakers.

Transport reinforced its close relationship with its Russian partner Transmashholding (TMH) and with KTZ (Kazakh railways) with the inauguration of the joint new plant for the production of electric locomotives in Astana, Kazakhstan. The plant started the production in December 2012 to address the modernisation of the railway fleet of Kazakhstan with the ambition to expand its activities to the railway transport markets of neighbouring countries. In Brazil, following the

award of a contract for the supply of 80 METROPOLIS™ metro cars, Transport announced in December 2012 that it will set up a new plant near Rio de Janeiro with Supervia, the main railway operator of the Rio de Janeiro state. Starting mid-2013 the plant will complement Alstom Transport's current footprint in the country, as it will handle the final assembly and tests of the metro cars produced at the existing Alstom plant near São Paulo. In India, the new factory in Sri City started the production of Chennai metro cars with a capacity of 10 cars per month and got customer acceptance for the first cars produced locally in March 2013.

In other emerging countries, Thermal Power launched a new power services workshop in Saudi Arabia to reinforce its presence in the Middle East. The project has begun with the construction of a facility located in Rabigh which will handle reconditioning of gas turbine components as well as the inspection and repair services of a wide range of other power plant equipment. In Poland, Thermal Power commissioned a new turbine shaft welding shop at its Elblag steam turbine factory. The new welding shop will guarantee that state-of-the-art technology is applied to the turbine shaft welding processes. Transport pursued the extension of its Katowice body shells facility and started the construction of a maintenance workshop for high-speed trains near Warsaw. The workshop is expected to be commissioned for operational activity by the end of 2013.

In mature economies, Alstom upgraded existing facilities and also developed new production facilities.

Renewable Power launched the construction of the first two offshore wind turbine factories in Saint-Nazaire (France), following the award of three large wind offshore projects to the consortium led by EDF Energies Nouvelles, for which Alstom will supply 240 offshore wind turbines. The plants will be devoted to assembling nacelles and manufacturing generators, and are expected to be commissioned in 2014. The industrial scheme will also include two plants in Cherbourg (blades and towers) and an engineering and R&D centre.

Grid announced that it would build a new site in Italy for electrical grid bushings in Sesto San Giovanni, near Milan. The new plant will be Alstom Grid's bushings worldwide competence centre for the research, development and production of all HVDC and UHV bushings. Grid also inaugurated in November 2012 a new switchgear production and testing line for the Italian market in Noventa di Piave.

In Canada, Transport took control of a new manufacturing plant in Sorel-Tracy in February 2013. The plant is dedicated to the assembly and integration of the bogie trucks for Montreal's new metro cars. Transport pursued the upgrade of the Reichshoffen site to support the development of the CORADIA™ Polyvalent line launched last year.

## ACQUISITIONS AND PARTNERSHIPS

During the fiscal year 2012/13, Alstom developed its position in emerging markets and expanded its network with focused acquisitions and promising partnerships.

Reflecting Alstom's growth ambitions in Asia, Thermal Power announced in May 2012 a joint venture with Vietnam Electricity to establish a workshop dedicated to the reconditioning of gas turbine components. In July 2012, the Sector was awarded a contract for a boiler study from Waigaoqiao No. 3 Power Generation Co. Ltd, to develop double-reheat steam cycle optimisation in China, which is a new step towards 700°C ultra-supercritical boiler. Alstom Sizhou, an Alstom unit focusing on ash handling system design and manufacturing, was divested in March 2013.

To broaden its portfolio of tidal products and technologies, Renewable Power finalised in January 2013 the acquisition of Tidal Generation Ltd (TGL), a Rolls-Royce's wholly owned subsidiary. TGL is at the forefront in the design, development and manufacture of tidal stream turbines which capture and convert the energy of tidal streams to generate electrical power. TGL has successfully installed a 1 MW tidal turbine in its test site in Orkney, Scotland. In October 2012, Alstom invested USD40 million in the American company BrightSource Energy Inc. to reinforce its partnership with the solar power pioneering company. While BrightSource Energy announced that it had reached the halfway mark of construction of the world's largest solar thermal project in California, the two companies are also collaborating on several research and development projects. Since its initial investment in 2010, Alstom has progressively increased its participation and now holds above 20% of the leading concentrating solar thermal technology company.

In April 2012, Grid acquired EvolutionSCADA, an Oil and Gas pipeline control technology provider, to supply network management solutions. In August 2012, the Sector announced the signing of a commercial and technological agreement with Cisco to develop the next generation of digital substation solutions for electrical grids. In September 2012, Grid signed a memorandum of understanding with Toshiba Corporation to develop cooperation on systems supporting wide scale integration of renewable energy sources into the grid. In December 2012, the Sector closed the acquisition of ASAT Solutions Inc., a Canadian substation automation solutions provider. This acquisition enables Grid to broaden its smart grid offer and strengthen its presence on the North American market. In January 2013, Grid signed a global alliance agreement with Caggemini to pursue joint commercial opportunities for their combined smart grid solutions. Alstom and Caggemini will launch cloud-based services integrating both companies' technology and competences. Grid also extended its existing joint-venture with PLN in Indonesia for air insulated breakers.

Alstom completed in May 2012 the acquisition of Alstom Lokomotiven Service GmbH (Germany) by taking over the stake held in the joint venture since 2002 by Deutsche Bahn, where Alstom aims to develop new environmental friendly shunting locomotives. In May 2012, Transport signed a partnership agreement with Europorte, the rail freight subsidiary of the Eurotunnel Group, to support the maintenance of Alstom manufactured PRIMA™ locomotives operated by Europorte, and to develop the new generation of Alstom freight locomotives (PRIMA™ II).

In September 2012, Alstom and the French “Fonds Stratégique d’Investissement” (Strategic Investment Fund) finalised the acquisition of Translohr, the Lohr Industrie branch specialised in tyre-based tramway. This acquisition will allow the development of Translohr’s technology and business prospects whilst ensuring the execution of on-going projects. In January 2013, Transport entered an exclusive relationship with Williams

Hybrid Power to adapt its flywheel energy storage technology to Alstom CITADIS™ trams. This fuel-saving technology, originally developed for the Williams F1 cars, is expected to equip CITADIS™ trams by 2014. In March 2013, Transport announced an agreement with ADIF, the Spanish railway infrastructure manager, to develop a new third rail signalling system.

## CORPORATE RESPONSIBILITY

### Environment, Health and Safety (EHS)

In 2012/13, Alstom was in line with its environmental objectives for its operational footprint. Up to 97% of Alstom manufacturing sites over 200 employees are certified ISO 14001. Alstom is also on track in its plan to reduce Energy intensity and Greenhouse gas related emissions intensity, as well as water consumption, and to improve waste recovery.

About occupational safety, Alstom has fully deployed the Alstom Zero Deviation Plan (AZDP) throughout all Sectors and countries. This programme targets high-risk activities and the protection of employees

and contractors worldwide from the possible risks of working in an Alstom workshop, factory, test facility and/or construction site. The implementation of Alstom Safety Directives on high risks activities was supported by a large number of audits (over 160) and a full engagement of the management. As a consequence, severe accidents and fatalities have been drastically reduced and the injury frequency rate <sup>(1)</sup> has decreased from 1.8 to 1.4 in 12 months, in line with the objective of reaching 1.0 at the end of fiscal year 2015/16.

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## GENERAL COMMENTS ON ACTIVITY AND RESULTS

### CONSOLIDATED KEY FINANCIAL FIGURES

The following table sets out the Group’s key performance indicators for 2012/13.

<i>(in € million)</i>	Year ended 31 March 13	Year ended 31 March 12	% Variation March 2013/March 2012	
			Actual	Organic
Order backlog	52,875	49,269	7%	8%
Orders received	23,770	21,706	10%	8%
Sales	20,269	19,934	2%	1%
Income from operations	1,463	1,406	4%	1%
Operating margin	7,2%	7,1%		
EBIT	1,187	1,072	11%	
Net profit – Group share	802	732	10%	
Free cash flow	408	(573)		
Capital employed	7,651	7,035		
Net cash/(debt)	(2,342)	(2,492)		
Headcount	92,906	92,645	0%	

(1) Number of accidents with time lost to injury per million hours worked.

## KEY GEOGRAPHICAL FIGURES

Total Group	Year ended 31 March 2013						
	Western Europe	Eastern Europe	North America	South and Central America	Asia/Pacific	Middle East/Africa	Total
<b>Actual figures</b> <i>(in € million, except for headcount)</i>							
Orders received	8,512	973	3,271	2,550	4,474	3,990	23,770
% of contrib.	36%	4%	14%	10%	19%	17%	100%
Sales	6,571	1,953	2,583	1,561	4,478	3,123	20,269
% of contrib.	32%	10%	13%	8%	22%	15%	100%
Headcount	46,264	7,987	10,180	5,789	19,569	3,117	92,906
% of contrib.	50%	9%	11%	6%	21%	3%	100%

Total Group	Year ended 31 March 2012						
	Western Europe	Eastern Europe	North America	South and Central America	Asia/Pacific	Middle East/Africa	Total
<b>Actual figures</b> <i>(in € million, except for headcount)</i>							
Orders received	6,116	3,518	2,577	1,290	5,345	2,860	21,706
% of contrib.	28%	16%	12%	6%	25%	13%	100%
Sales	7,077	1,352	2,440	1,752	4,316	2,997	19,934
% of contrib.	35%	7%	12%	9%	22%	15%	100%
Headcount	46,318	7,214	10,232	5,618	20,315	2,948	92,645
% of contrib.	50%	8%	11%	6%	22%	3%	100%

## GUIDANCE

The markets on which the Group operates show unchanged solid long-term prospects, driven by attractive fundamentals for all end-markets and Alstom confirms its strategic targets based on profitable growth and operational excellence. However, over the last twelve months, economic conditions have further deteriorated whilst the competitive environment has remained challenging. These two headwinds should impact the future short-term performance, mitigated by action on costs through operational efficiency and footprint optimisation. In this context, sales are expected to grow at a low single digit on an organic basis, operating

margin to stay stable in 2013/14 and then gradually increase to around 8% over the next two to three years. Cash generation remains a key focus and free cash flow should be positive year after year over this period.

The foregoing outlook are “forward-looking statements” and as a result they are subject to uncertainties. The success of the Group’s strategy and action plan, its sales, operating margin and financial position could differ materially from the goals and targets expressed above if any of the risks described in the Risk section of the Registration Document for fiscal year 2012/13 or other unknown risks, materialise.

## SECTOR ANALYSIS

### THERMAL POWER

Thermal Power covers new plants and equipment, retrofit, automation & control and service activities globally for gas, steam and nuclear power generation applications.

The following table presents the key performance indicators for Thermal Power:

Thermal Power Actual figures (in € million)	Year ended 31 March 2013	Year ended 31 March 2012	% Variation March 2013/March 2012	
			Actual	Organic
Order backlog	19,151	18,741	2%	3%
Orders received	9,574	9,366	2%	0%
Sales	9,179	8,726	5%	4%
Income from operations	959	850	13%	9%
Operating margin	10.4%	9.7%		
EBIT	915	824	11%	
Capital employed	2,264	2,070	9%	

#### Orders received

Orders received by Thermal Power in 2012/13 increased by 2% at €9,574 million compared to 2011/12. In mature economies, market recovery was slower than expected. Over capacity in electricity generation, narrowed spreads and weak electricity consumption delayed investments in new thermal power plants. In emerging countries, GDP growth, though higher than in developed countries, slowed down and some investments in new capacity were postponed, but these countries represented 57% of Thermal Power's order intake.

During fiscal year 2012/13, the Sector signed three contracts for turnkey gas power plants and their associated maintenance contracts in Israel, Thailand and in the United Kingdom, as well as a project for the steam-tail of a gas-fired power station in Saudi Arabia. In total,

Thermal Power sold 12 gas turbines in fiscal year 2012/13, representing for both combined cycles and open cycles a total of 5 GW, compared to 2.8 GW sold in the previous year. In the Steam business, major contracts included the supply of equipment for a power and desalination plant in Saudi Arabia, steam turbines in India and Egypt, boilers in India and China and air quality control equipment in Taiwan and in the United States of America. In Nuclear, a contract to provide two turbo-generator packages for a nuclear plant in India was concluded in consortium with BHEL as well as a contract for the retrofit of control systems in nuclear power plants in France. In addition to the operation and maintenance contracts mentioned above, Thermal Service booked significant orders in Ireland, Russia, United States of America, Canada, South Africa and Libya.

Thermal Power Actual figures (in € million)	Year ended 31 March 2013	% Of contrib.	Year ended 31 March 2012	% Of contrib.	% Variation March 2013/March 2012	
					Actual	Organic
Western Europe	1,758	18%	1,374	15%	28%	26%
Eastern Europe	483	5%	1,587	17%	-70%	-70%
North America	2,179	23%	1,654	18%	32%	24%
South and Central America	106	1%	157	2%	-32%	-33%
Asia/Pacific	2,361	25%	3,036	32%	-22%	-24%
Middle East/Africa	2,687	28%	1,558	16%	72%	69%
<b>ORDERS BY DESTINATION</b>	<b>9,574</b>	<b>100%</b>	<b>9,366</b>	<b>100%</b>	<b>2%</b>	<b>0%</b>

In Western Europe, orders received by Thermal Power increased by 28% to €1,758 million thanks to a turnkey gas power plant with two GT26™ gas turbines and the associated long term service contract in the United

Kingdom, an operation and maintenance contract for a gas-fired power plant in Ireland and the retrofit of the control systems of nuclear power plants in France.



Thermal Power booked €483 million orders received in fiscal year 2012/13 in Eastern Europe, significantly down compared to last year when the Sector booked six gas turbines GT13™E2 in Russia. This year, among the major orders, an operating and maintenance contract for a combined heat and power plant was booked in Russia.

Orders received in North America pursued their growth reaching €2,179 million in fiscal year 2012/13 compared to €1,654 million last year. Thermal Service was particularly active in the region with major contracts for three large air quality control equipment, a steam turbine retrofit service for a nuclear power plant and a long term service agreement for a combined-cycle power plant in the United States of America as well as a boiler rehabilitation and the refurbishment of a nuclear power plant in Canada. North America accounted for 23% of the Sector's orders received during this fiscal year.

In South and Central America, Thermal Power's orders received amounted to €106 million, which mainly included service contracts.

Thermal Power registered €2,361 million orders received in Asia/Pacific impacted by the market slowdown in the region. Main orders included the

supply of components and services for five 660 MW supercritical boilers and two turbo-generator packages for nuclear plants in consortium with BHEL in India, a gas-fired combined-cycle power plant in Thailand equipped with two of the latest upgrade of the GT26™ gas turbine as well as air quality control systems in Taiwan. In China, the Sector was awarded a total of five GT13™E2 gas turbines and retrofit projects for steam turbines originally manufactured by Chinese competitors.

Middle East/Africa became the first commercial region for Thermal Power with 28% of the Sector's orders received at €2,687 million which included a contract for a turnkey combined cycle power plant equipped with two GT26™ gas turbines and the associated long term service contract in Israel, the supply of spare parts for 11 gas turbine units in Libya, a contract for a steam tail and the supply of one GT13™E2 in Jordan, a retrofit contract for low pressure steam turbines in South Africa, a contract including steam turbines and heat recovery steam generators for a gas-fired power plant and a contract to supply supercritical boilers, steam turbines and generators and the associated environmental control system for a power and desalination plant in Saudi Arabia.

Thermal Power Sector received the following major orders during 2012/13:

Country	Description
Canada	Boiler rehabilitation
Canada	Refurbishment of a nuclear power plant
India	Turbine generators for 2x700 MW nuclear power plants
India	Five units of 660 MW supercritical coal "turbine islands"
Ireland	Long term service agreement for a gas-fired power plant
Israel	Turnkey combined cycle power plant including two GT26™ gas turbines and a long term service agreement
Libya	Supply of spare parts for 11 GT13™ gas turbines
Russia	Long term service agreement for a gas-fired power plant
Saudi Arabia	Steam tail for a gas-fired power plant including two steam turbines and 8 Heat Recovery Steam Generators (HRSGs)
Saudi Arabia	Equipment for a power and desalination plant including five heavy-fuel-oil supercritical boilers, five steam turbines and generators and the associated environmental system
South Africa	Large retrofit of low pressure steam turbines
Taiwan	Seawater Flue Gas Desulphurisation system and Particulate Removal System with Fabric Filter solution for 5x370 MW coal-fired power plant
Thailand	Turnkey combined cycle power plant including two upgraded GT26™ gas turbines
United Kingdom	Turnkey combined cycle power plant including two GT26™ gas turbines and a long term service agreement
United States of America	Large air quality control systems
United States of America	Steam turbine retrofit services for a nuclear power plant
United States of America	Long term service agreement for a combined-cycle power plant

## Sales

During fiscal year 2012/13, sales reached €9,179 million, rising by 5% compared to last year as orders received since September 2010 started to trade.

Thermal Power Actual figures (in € million)	Year ended 31 March 2013	% Of contrib.	Year ended 31 March 2012	% Of contrib.	% Variation March 2013/March 2012	
					Actual	Organic
Western Europe	2,114	23%	2,384	27%	-11%	-13%
Eastern Europe	1,180	13%	798	9%	48%	47%
North America	1,467	16%	1,482	17%	-1%	-7%
South and Central America	179	2%	254	3%	-30%	-28%
Asia/Pacific	2,444	27%	2,105	24%	16%	13%
Middle East/Africa	1,795	19%	1,703	20%	5%	8%
<b>SALES BY DESTINATION</b>	<b>9,179</b>	<b>100%</b>	<b>8,726</b>	<b>100%</b>	<b>5%</b>	<b>4%</b>

As a consequence of the geographical shift of orders towards emerging markets over the recent years, sales of Thermal Power in Western Europe decreased by 11% in fiscal year 2012/13, at €2,114 million. Sales resulted from the combination of service activities and the execution of coal-fired power plants in Germany and in the Netherlands and of a turbine island for a nuclear power plant in France.

Eastern Europe represented 13% of Thermal Power's sales in fiscal year 2012/13 at €1,180 million versus €798 million last fiscal year. Main projects traded during the period included the execution of contracts for a turnkey coal-fired power plant in Slovenia and an oil-shale fired power plant in Estonia as well as a gas-fired power plant in Russia.

Sales in North America remained stable at €1,467 million. Service and retrofit activities represented a large part of Thermal Power business in North America.

In South and Central America, Thermal Power sales amounted to €179 million in fiscal year 2012/13 compared to €254 million last year.

Sales in Asia/Pacific reached €2,444 million in 2012/13, up 16% versus the previous year, representing 27% of the Sector's total sales. The region benefited from progress on contracts booked last year, notably coal-fired power plants in Malaysia and from execution on turnkey gas-fired power plants in Singapore and supercritical boilers in India.

In Middle East/Africa, sales increased by 5% compared to last year, reaching €1,795 million. This growth was fuelled by the execution of contracts for coal-fired power plants in South Africa as well as gas projects in Iraq, Israel and Kuwait. The region accounted for 19% of Thermal Power's sales.

## Income from operations and operating margin

Increased activity combined with actions on execution and costs allowed Thermal Power's income from operations to reach €959 million compared to €850 million last year. The operating margin rose from 9.7% to 10.4%.

## RENEWABLE POWER

Renewable Power covers Hydro, Wind and New Energies businesses.

The following table presents the key performance indicators for Renewable Power:

Renewable Power Actual figures (in € million)	Year ended 31 March 2013	Year ended 31 March 2012	% Variation March 2013/March 2012	
			Actual	Organic
Order backlog	4,569	4,302	6%	7%
Orders received	2,029	2,026	0%	2%
Sales	1,803	2,027	-11%	-11%
Income from operations	88	150	-41%	-40%
Operating margin	4.9%	7.4%		
EBIT	(10)	149	N/A	
Capital employed	1,200	1,044	15%	

## Orders received

Renewable power long term growth perspectives remained driven by a sustained demand in CO<sub>2</sub> free power generation associated to growing environmental concerns and corresponding regulatory measures. However, on the short term, sluggish economic perspectives, uncertainties on incentive schemes in some countries and slower pace of

hydro market recovery impacted the renewable market. In this context, Renewable Power posted a robust performance with stable orders received at €2,029 million. While delayed investment decision impacted the Hydro business, the Sector achieved this level of orders thanks to a strong growth in onshore wind turbines notably with key wind orders in Brazil.

Renewable Power Actual figures (in € million)	Year ended 31 March 2013	% Of contrib.	Year ended 31 March 2012	% Of contrib.	% Variation March 2013/March 2012	
					Actual	Organic
Western Europe	159	8%	222	11%	-28%	-29%
Eastern Europe	30	2%	257	13%	-88%	-88%
North America	131	6%	198	10%	-34%	-37%
South and Central America	1,283	63%	741	36%	73%	85%
Asia/Pacific	128	6%	242	12%	-47%	-46%
Middle East/Africa	298	15%	366	18%	-19%	-19%
<b>ORDERS BY DESTINATION</b>	<b>2,029</b>	<b>100%</b>	<b>2,026</b>	<b>100%</b>	<b>0%</b>	<b>2%</b>

Orders received in Western Europe reached €159 million, decreasing by 28% compared to last year. Main orders received included the Sector's first contract in Finland to supply wind turbines.

In Eastern Europe, the Sector booked €30 million of orders in 2012/13 versus €257 million in 2011/12, when it was awarded hydro contracts in Turkey and the rehabilitation of a hydropower complex in Russia.

North America represented 6% of the Sector's orders received at €131 million in 2012/13. The Sector was mainly awarded small-sized hydro retrofit contracts in the United States of America and Canada.

Renewable Power consolidated its position in South and Central America with €1,283 million which amounted to 63% of the Sector's orders received in 2012/13. Renewable Power booked two contracts for the supply of ECO 122 wind turbines in Brazil and recorded its first order (513 MW) based on the 1,200 MW frame agreement signed with

Renova to supply, operate and maintain onshore wind turbines. The Sector will also provide Francis turbines and generators to Colombia's largest hydroelectric plant as well as bulb turbines to hydro projects in Brazil.

In Asia/Pacific, Renewable Power booked €128 million of orders, 47% below the level of last year, when the Sector registered three hydroelectric dams in India. Hydro projects in Vietnam and two wind farms in Japan were awarded this year.

In 2012/13 Renewable Power booked €298 million of orders in Middle East/Africa, compared to €366 million last year when it was awarded important wind contracts in Ethiopia and Morocco. Orders received in 2012/13 included the supply of eight turbines and generators for the first phase of the largest hydro project in Africa located on the Blue Nile in Ethiopia.

The Renewable Power Sector received the following major orders during 2012/13:

Country	Description
Brazil	Manufacturing, delivery, installation and commissioning of ECO 122 wind turbines for two wind farms
Brazil	Supply, operation and maintenance of ECO 122 wind turbines
Brazil	Supply, operation and maintenance of ECO 100, ECO 110 and ECO 122 wind turbines
Colombia	Supply of eight 300 MW Francis turbines and eight generators
Ethiopia	Supply of eight 375 MW hydro turbines and eight generators

## Sales

The low level of orders received in the first semester and the lack of significant milestones recognition in large hydro projects under execution in Latin America impacted sales which stood at €1,803 million, 11% below the level of last fiscal year.

Renewable Power Actual figures (in € million)	Year ended 31 March 2013	% Of contrib.	Year ended 31 March 2012	% Of contrib.	% Variation March 2013/March 2012	
					Actual	Organic
Western Europe	264	15%	394	19%	-33%	-34%
Eastern Europe	124	7%	66	3%	88%	88%
North America	288	16%	242	12%	19%	12%
South and Central America	575	32%	754	37%	-24%	-18%
Asia/Pacific	362	20%	399	20%	-9%	-13%
Middle East/Africa	190	10%	172	9%	10%	10%
<b>SALES BY DESTINATION</b>	<b>1,803</b>	<b>100%</b>	<b>2,027</b>	<b>100%</b>	<b>-11%</b>	<b>-11%</b>

Sales in Western Europe amounted to €264 million, versus €394 million last year when the Sector executed important wind farm projects in the United Kingdom.

Sales in Eastern Europe increased twofold compared to last year at €124 million thanks to the execution in Russia of a large hydro contract and a biomass small steam turbine contract.

In North America, sales reached €288 million, 19% over the level of last fiscal year with the delivery of hydropower equipment in Canada.

South and Central America remained the first region for Renewable Power in terms of sales with €575 million, or 32% of the Sector's revenues. Large hydro projects as well as the supply of wind turbines were executed in Brazil.

Sales traded in Asia/Pacific represented 20% of total sales at €362 million. Hydro projects were mainly executed in China, India and Malaysia.

Renewable Power continued its development in Middle East/Africa with a 10% increase in sales thanks to the execution of wind contracts in Morocco and Ethiopia. The region, with €190 million, accounted for 10% of total sales.

## Income from operations and operating margin

Impacted by the lower level of sales in 2012/13 and difficult market conditions in Wind, Renewable Power's income from operations decreased by 41% to €88 million, leading to a 4.9% operating margin compared to 7.4% last year.

## GRID

The following table presents the key performance indicators of Grid Sector for the fiscal year 2012/13:

Grid Actual figures (in € million)	Year ended 31 March 2013	Year ended 31 March 2012	% Variation March 2013/March 2012	
			Actual	Organic
Order backlog	6,190	5,013	23%	24%
Orders received	5,058	4,003	26%	27%
Sales	3,829	4,013	-5%	-3%
Income from operations	238	248	-4%	-6%
Operating margin	6.2%	6.2%		
EBIT	140	83	69%	
Capital employed	2,182	2,139	2%	

## Orders received

During fiscal year 2012/13 the Grid market confirmed its growth thanks to Smart Grid, Super Grid and Service segments.

On the transmission market (High Voltage Alternating Current), the increased competition due to the emergence of new players and the delay in some projects in BRIC countries impacted adversely the profitability of most of the actors. In the same time, High Voltage Direct Current (HVDC) and Smart Grid segments kept on developing at a faster

pace and accounted for the major part of the growth of the Grid market in almost all regions. Differentiation of products and R&D efforts were clear success factors on these segments.

During 2012/13, Grid recorded orders received for a total value of €5,058 million, showing significant increase compared to last year. This performance was achieved with the booking of two major HVDC contracts (Dolwin 3 in Germany and Champa in India), and significant medium-sized orders in Western Europe, Middle East and Asia (especially India).

Grid Actual figures (in € million)	Year ended 31 March 2013		Year ended 31 March 2012		% Variation March 2013/March 2012	
		% Of contrib.		% Of contrib.	Actual	Organic
Western Europe	1,652	33%	952	24%	74%	69%
Eastern Europe	311	6%	343	9%	-9%	-10%
North America	418	8%	466	12%	-10%	-15%
South and Central America	332	7%	341	8%	-3%	3%
Asia/Pacific	1,584	31%	1,158	29%	37%	39%
Middle East/Africa	761	15%	743	18%	2%	2%
<b>ORDERS BY DESTINATION</b>	<b>5,058</b>	<b>100%</b>	<b>4,003</b>	<b>100%</b>	<b>26%</b>	<b>27%</b>

In Western Europe, orders reached €1,652 million, 33% of the Sector's orders received in 2012/13 and 74% above last year's figures. This includes the booking for more than €1 billion of the large HVDC project Dolwin 3, which will allow the connection of offshore wind farms to the continent. In addition, France and the United Kingdom remained strong contributors.

In Eastern Europe orders reached €311 million (6% of the total). Market was mainly fuelled by product business in Russia and Turkey.

North America accounted for €418 million, or 8% of the total order intake, significantly lower compared to last year. Order intake in 2011/12 was driven by major projects in network management solutions in the United States of America, power transformers in Canada and turnkey substations in Mexico.

South and Central America, with orders received amounting to €332 million, only represented 7% of the Sector's orders received since few large orders were booked during past months.

The Asia/Pacific region showed strong order intake at €1,584 million, 31% of Grid orders received. Performance in India was boosted by the award of Champa-Kurukshetra HVDC project, a 800 kV direct current connection that will transfer power through a 1,365 km transmission line. This order came together with several mid-size projects. East Asia also showed good performance in turnkey orders in Indonesia, Taiwan, Macau and Singapore.

In Middle East/Africa, Grid booked orders for €761 million (15% of yearly order intake). Continuous investment in infrastructure kept on fuelling the market with large turnkeys such as a significant 400 kV turnkey substation awarded in United Arab Emirates. Saudi market was also dynamic with several large and mid-size turnkey projects awarded.

The Grid Sector received the following major orders during fiscal year 2012/13:

Country	Description
Algeria	Turnkey 400 kV Substation
Brazil	Turnkey 500 kV Substation
Canada	315 kV Static VAR Compensator
Germany	Offshore HVDC turnkey 320 kV VSC in North Sea
India	Champa – Kurukshetra 800 kV Substation HVDC Interconnection
India	GIS Products package
India	Network management system installation
India	Turnkey 765 kV Ultra high voltage Substation
Indonesia	Turnkeys 275 kV AIS Substations & four 500 kV substations extensions
Iraq	Five turnkeys 132 kV Substations Air insulated & Gas insulated
Libya	16 turnkeys 66 kV Substation Air insulated & Gas insulated
Macau	Turnkey for new metro railway
Qatar	10 Air Insulated Substations
Saudi Arabia	Turnkey 400 kV Substation
Saudi Arabia	Turnkey 400 kV Substation for a new power plant
Taiwan	Turnkey 400 kV Substation for a new power plant
United Arab Emirates	Turnkey 400 kV Substation

## Sales

Grid sales reached €3,829 million during fiscal year 2012/13, 5% below the level of last year. Delays in projects delivery in India, in Middle East for large turnkeys and in Western Europe for offshore wind platforms and complex transformers have impacted sales volume.

Grid Actual figures (in € million)	Year ended		Year ended		% Variation March 2013/March 2012	
	31 March 2013	% Of contrib.	31 March 2012	% Of contrib.	Actual	Organic
Western Europe	657	17%	718	18%	-8%	-10%
Eastern Europe	388	10%	381	9%	2%	1%
North America	470	12%	396	10%	19%	12%
South and Central America	408	11%	480	12%	-15%	-12%
Asia/Pacific	1,150	30%	1,214	30%	-5%	-4%
Middle East/Africa	756	20%	824	21%	-8%	-8%
<b>SALES BY DESTINATION</b>	<b>3,829</b>	<b>100%</b>	<b>4,013</b>	<b>100%</b>	<b>-5%</b>	<b>-3%</b>

In Western Europe, sales reached €657 million (17% of the total) driven by turnkey projects in the United Kingdom, loose product supply for French and British utilities and offshore substations for wind power generation in Germany.

In Eastern Europe, sales reached €388 million, 10% of orders received in 2012/13 and remained steady compared to last year. Turkey and Russia accounted for the main part.

Sales in North America remained strong thanks to execution of turnkey projects in Canada and deliveries of circuit breaker products together with network management solutions in the United States of America and amounted to €470 million (12% of Grid's sales in 2012/13).

Sales in South and Central America reached €408 million (11% of the total), below the level of last year because of Rio Madeira and Melo HVDC projects phasing.

Sales in Asia/Pacific amounted to €1,150 million (30% of Grid total), 5% below the level of last year due to execution difficulties in India (land availability, customer funding issues, civil work delays) and to delay in orders in China.

In Middle East/Africa, sales dropped by 8% mainly because of phasing issues in Libya (political situation and difficult access to some sites), while Saudi Arabia backlog and execution pace remained strong. A significant slowdown in the United Arab Emirates offset the overall good performance of the region. With €756 million traded, this region represented 20% of Grid total sales.



## Income from operations and operating margin

Grid's income from operations reached €238 million versus €248 million last year. Strong execution and cost optimization allowed the operating margin to remain stable at 6.2% in spite of the adverse impact of the lower level of sales.

## TRANSPORT SECTOR

The following table presents key performance indicators for Transport:

Transport Actual figures (in € million)	Year ended 31 March 2013	Year ended 31 March 2012	% Variation March 2013/March 2012	
			Actual	Organic
Order backlog	22,965	21,213	8%	8%
Orders received	7,109	6,311	13%	11%
Sales	5,458	5,168	6%	4%
Income from operations	297	264	13%	9%
Operating margin	5.4%	5.1%		
EBIT	287	222	29%	
Capital employed	1,924	1,403	37%	

### Orders received

During fiscal year 2012/13, Transport recorded €7,109 million of orders received, a 13% increase compared to 2011/12, largely supported by commercial successes in Western Europe. The Sector recorded major contracts for metros and suburban trainsets in France, regional trains

in Sweden, in Italy and in Germany, for signalling in the Netherlands and in Belgium and for very high speed trains maintenance in Italy. The Sector also confirmed its commercial presence in emerging countries with metro trainsets in Venezuela and in Peru and succeeded in selling in North America a new type of light rail vehicle for the city of Ottawa (Canada).

Transport Actual figures (in € million)	Year ended 31 March 2013	% Of contrib.	Year ended 31 March 2012	% Of contrib.	% Variation March 2013/March 2012	
					Actual	Organic
Western Europe	4,943	70%	3,568	57%	39%	41%
Eastern Europe	149	2%	1,331	21%	-89%	-89%
North America	543	7%	259	4%	110%	98%
South and Central America	829	12%	51	1%	1,525%	1,627%
Asia/Pacific	401	6%	909	14%	-56%	-57%
Middle East/Africa	244	3%	193	3%	26%	-40%
<b>ORDERS BY DESTINATION</b>	<b>7,109</b>	<b>100%</b>	<b>6,311</b>	<b>100%</b>	<b>13%</b>	<b>11%</b>

Western Europe represented 70% of Transport's order intake during fiscal year 2012/13 with orders at €4,943 million, 39% above the level of last year. In France, the Sector was awarded the supply of 70 duplex trainsets for Paris suburban network, 14 automatic rubber-tyred metro trainsets for Paris metro network and an integrated system for Lille metro, including an automatic driver system and 27 rubber-tyred metro trainsets. In Germany, the Sector confirmed the commercial successes of last year with contracts for 169 CORADIA™ regional trains. In Italy, Transport booked the extension of a service contract for very high speed AGV™ trains and the supply of 70 CORADIA™ Meridian regional trains. Other major contracts included 46 CORADIA™ Nordic regional trains

in Sweden, 8 PENDOLINO™ high speed trains in Switzerland, the extension of a maintenance contract in Spain as well as the supply of signalling systems for Amsterdam metro network in the Netherlands and for the Belgian railway network.

Transport recorded €149 million of orders received in Eastern Europe in fiscal year 2012/13, compared to €1,331 million in 2011/12, when the Sector booked major contracts in Poland for PENDOLINO™ intercity trains with the associated maintenance, as well as a contract in partnership with TMH to deliver 200 electric freight locomotives in Russia. This year, the Sector booked contracts for the maintenance of locomotives in Kazakhstan.

In North America, Transport booked €543 million of orders including a contract for 34 light rail vehicles for Ottawa and two contracts with the Massachusetts Bay Transportation Authority for the overhaul of train cars and light-rail vehicles.

South and Central America represented 12% of the Sector's order intake in fiscal year 2012/13 with €829 million. It was awarded contracts for 19 METROPOLIS™ trainsets for Lima metro network in Peru and for 22 metro trains for Los Teques metro Line 2 in Venezuela. In Brazil, Transport will supply 80 METROPOLIS™ trainsets in Rio de Janeiro state and 15 metro trainsets for Porto Alegre Metro Line 1.

In Asia/Pacific, Transport booked €401 million of orders in 2012/13, down 56% compared to last year when the Sector was awarded a major contract in Singapore. During this fiscal year, the Sector booked several small and mid-sized contracts including the supply of the trackwork for the extension of the East-West metro line in Singapore and the supply of traction systems for Shanghai metro Lines 3 and 4.

In Middle East/Africa, Transport recorded orders of €244 million during fiscal year 2012/13, including contracts for the maintenance of tramways for the city of Casablanca in Morocco and additional tramways for Oran and Constantine in Algeria.

The Transport Sector received the following major orders during 2012/13:

Country	Description
Belgium	Signalling contract for the Belgian railway network
Canada	34 CITADIS™ Spirit light rail vehicles for Ottawa
France	70 duplex trainsets for the RER A line of Paris suburban network
France	Modernisation of Lille's automatic metro line
France	14 automatic rubber-tyred metro trainsets for Paris metro network
Germany	121 Diesel CORADIA™ Lint™ regional trains
Germany	48 CORADIA™ Continental regional trains
Italy	70 CORADIA™ Meridian regional trains
Italy	Extension to a service contract for very high-speed AGV™ trains
Netherlands	Supply of signalling system for Amsterdam metro network
Peru	19 METROPOLIS™ trainsets for Lima metro network
Spain	Maintenance contract
Sweden	46 CORADIA™ Nordic regional trains for the greater Stockholm area
Switzerland	8 PENDOLINO™ high speed trains for Milan – Geneva and Milan – Zurich network
Venezuela	Supply of Los Teques metro Line 2 including 22 metro trains

## Sales

As orders received since the second half of 2010/11 started to be executed, Transport sales increased by 6% during fiscal year 2012/13 to reach €5,458 million, compared to €5,168 million last year.

Transport Actual figures (in € million)	Year ended		Year ended		% Variation March 2013/March 2012	
	31 March 2013	% Of contrib.	31 March 2012	% Of contrib.	Actual	Organic
Western Europe	3,536	65%	3,581	69%	-1%	-2%
Eastern Europe	261	5%	107	2%	144%	149%
North America	358	6%	320	6%	12%	6%
South and Central America	399	7%	264	5%	51%	59%
Asia/Pacific	522	10%	598	12%	-13%	-16%
Middle East/Africa	382	7%	298	6%	28%	28%
<b>SALES BY DESTINATION</b>	<b>5,458</b>	<b>100%</b>	<b>5,168</b>	<b>100%</b>	<b>6%</b>	<b>4%</b>

Western Europe represented 65% of Transport sales at €3,536 million in 2012/13, stable compared to last fiscal year. Contracts for high speed trains, suburban trains and metros were traded in France. Very high speed trains AGV™ were delivered in Italy and high speed trains PENDOLINO™ were executed and maintained in the United Kingdom.

Eastern Europe sales increased more than twofold at €261 million, with the beginning of delivery of locomotives in Russia and Kazakhstan.

In North America, Transport recorded €358 million of sales during fiscal year 2012/13, 12% higher than the level of last year thanks to the execution of contracts in Canada for metro trainsets in Montreal and regional trains for the city of Ottawa.

South and Central America accounted for 7% of the Sector's sales in fiscal year 2012/13 at €399 million, representing a 51% increase compared to 2011/12. Transport benefited from the delivery of metro trainsets in Peru, Brazil and in the Dominican Republic and from the progress of turnkey projects in Mexico and Panama.

Transport sales in Asia/Pacific amounted to €522 million over 2012/13, 13% lower than the level of last fiscal year, the X'TRAPOLIS™ regional train contract for Melbourne in Australia coming to an end.

Transport sales in Middle East/Africa increased by 28% at €382 million. The supply of turnkey tramway lines in Morocco (Casablanca) and in the United Arab Emirates (Dubai) drove the performance in the region.

## Income from operations and operating margin

Transport's income from operations was €297 million for fiscal year 2012/13, up compared to €264 million last year. After a low point at 5.1% in fiscal year 2011/12, the operating margin started to recover at 5.4%. Transport's operational performance benefitted from higher sales volume and actions on costs.

## CORPORATE AND OTHERS

Corporate and Others comprise all units accounting for corporate costs as well as the International Network.

The following table presents the key figures for Corporate and Others:

Corporate & Others (in € million)	Year ended 31 March 2013	Year ended 31 March 2012
Income from operations	(119)	(106)
EBIT	(145)	(206)
Capital Employed	81	379

Non-operating expenses, mostly related to Grid acquisition costs and past litigation costs, decreased significantly between 2011/12 and 2012/13. The decrease of capital employed mainly resulted from the transfer of associates to Sectors.

## OPERATING AND FINANCIAL REVIEW

### INCOME STATEMENT

Total Group (in € million)	Year ended 31 March 2013	Year ended 31 March 2012	% Variation March 2013/March 2012	
			Actual	Organic
Sales	20,269	19,934	2%	1%
Cost of sales	(16,324)	(16,144)	1%	1%
R&D expenses	(737)	(682)	8%	7%
Selling expenses	(952)	(900)	6%	5%
Administrative expenses	(793)	(802)	-1%	-2%
<b>INCOME FROM OPERATIONS</b>	<b>1,463</b>	<b>1,406</b>	<b>4%</b>	<b>1%</b>
Operating margin	7.2%	7.1%		

## Sales

In fiscal year 2012/13, consolidated sales stood at €20.3 billion, increasing by 2% compared to last year. Orders booked since the second half of 2011/12 started to be executed, particularly for Transport and Thermal Power while Grid and Renewable Power have been facing delays in their main markets.

## Research and development expenses

During fiscal year 2012/13, Alstom increased its level of research and development expenses by 8% at €737 million compared to €682 million last year. Excluding the impact of capitalisation and amortisation of

development costs, research and development expenditures (gross costs) went up from €780 million to €794 million. Capitalisation of development costs decreased from €293 million last year to €233 million in fiscal year 2012/13.

## Selling and administrative expenses

Thanks to a strict control of costs, administrative expenses decreased compared to last year both in volume (-2% on a comparable basis) and as percentage of sales (from 4.0% to 3.9%). On the other hand, selling expenses increased by 5% on a comparable basis, at 4.7% of sales, to support an intense commercial and tendering activity.

## Income from operations

Thanks to good execution in contracts, action on costs and the moderate positive impact of the sales growth, the Group's income from operations reached €1,463 million, an increase of 4% in 2012/13 versus last fiscal year. Operating margin rose from 7.1% in 2011/12 to 7.2% in 2012/13.

Total Group (in € million)	Year ended 31 March 2013	Year ended 31 March 2012	% Variation March 2013/March 2012
Income from operations	1,463	1,406	4%
Restructuring costs	(137)	(83)	65%
Other income (expense)	(139)	(251)	-45%
<b>EARNINGS BEFORE INTEREST AND TAXES</b>	<b>1,187</b>	<b>1,072</b>	<b>11%</b>
Financial income (expense)	(223)	(177)	26%
Income tax charge	(193)	(179)	8%
Share in net income of equity investments	47	28	68%
Discontinued operations	-	-	N/A
Non-controlling interests	(16)	(12)	33%
<b>NET INCOME – GROUP SHARE</b>	<b>802</b>	<b>732</b>	<b>10%</b>

## Earnings before interest and taxes (EBIT)

EBIT amounted to €1,187 million for fiscal year 2012/13, compared to €1,072 million in 2011/12. This 11% year-to-year increase stemmed from the increase in income from operations as well as a significant drop in non-recurring costs, among which Grid purchase price allocation effects (amortisation of the margin in backlog) and Grid acquisition and separation costs decreasing from €156 million in 2011/12 to €45 million. In the same time, restructuring costs increased at €137 million in 2012/13 versus €83 million in 2011/12, due to capacity adjustment and cost optimisation initiated in Renewable Power and Grid to adapt to the demand on the markets.

## Net financial income

Net financial income was negative at €(223) million during fiscal year 2012/13 compared to €(177) million for the previous year. Net interest expenses reached €(165) million during 2012/13 compared to €(142) million last year, due to bond issuances in February, March and October 2012.

## Income tax charge

The income tax charge increased to €(193) million for fiscal year 2012/13, compared to €(179) million last year. It included a €(266) million current income tax charge versus €(273) million last year and a €73 million deferred income tax credit versus €94 million in 2011/12.

The effective tax rate was at 20% for 2012/13, stable compared to last year.

## Net income – Group share

Thanks to the increase in EBIT, net income (Group share) amounted to €802 million, up 10% compared to last year, the increase in share in net income of equity investments partly offsetting the increase in financial expenses and income tax charge.

## BALANCE SHEET

Total Group Actual figures (in € million)	At 31 March 2013	At 31 March 2012	Variation March 2013/March 2012
Goodwill	5,536	5,483	53
Intangible assets	1,982	1,921	61
Property, plant and equipment	3,024	2,852	172
Associates and non-consolidated investments	698	531	167
Other non-current assets	515	545	(30)
Deferred taxes	1,711	1,472	239
<b>Non-current assets</b>	<b>13,466</b>	<b>12,804</b>	<b>662</b>
Working capital assets	15,915	16,139	(224)
Marketable securities and other current financial assets	36	13	23
Cash and cash equivalents	2,195	2,091	104
<b>Current assets</b>	<b>18,146</b>	<b>18,243</b>	<b>(97)</b>
<b>ASSETS</b>	<b>31,612</b>	<b>31,047</b>	<b>565</b>

Total Group Actual figures (in € million)	At 31 March 2013	At 31 March 2012	Variation March 2013/March 2012
Equity (Group share and minorities)	5,104	4,434	670
Provisions (non-current and current)	1,989	2,218	(229)
Accrued pension and other employee benefits	1,642	1,417	225
Financial debt (current and non-current)	4,955	5,022	(67)
Deferred taxes	284	176	108
Working capital liabilities (excl. provisions)	17,638	17,780	(142)
<b>LIABILITIES</b>	<b>31,612</b>	<b>31,047</b>	<b>565</b>

### Goodwill and intangible assets

At the end of March 2013, goodwill amounted to €5,536 million against €5,483 million at the end of March 2012.

Intangible assets include acquired intangible assets and capitalised development costs. They increased slightly to €1,982 million on 31 March 2013 (compared to €1,921 million on 31 March 2012) due to capitalisation of development costs.

### Tangible assets

Tangible assets increased to €3,024 million on 31 March 2013, compared to €2,852 million on 31 March 2012.

The Group supported its industrial presence in fast growing markets and improved its production capacities through €505 million of capital expenditures (excluding capitalised development expenses) compared to €521 million last year. In Saudi Arabia, Thermal Power is building a new power services workshop to handle gas turbine reconditioning. Renewable Power launched the construction of the first two offshore wind turbine factories in France. For Transport, the metro factory in India was inaugurated and began its production to serve the local market and to the modernisation of its current manufacturing facilities. For Grid, investments mainly aimed at supporting its HVDC segment notably in India.

### Associates and non-consolidated investments

Associates and non-consolidated investments accounted for €698 million on 31 March 2013, compared to €531 million on 31 March 2012. This evolution is mainly due to the final adjustment of the acquisition price of 25% of TMH's equity and the Group's share of TMH's net income as well as the increase of investment in BrightSource Energy Inc.

### Other non-current assets

Other non-current assets amounted to €515 million at the end of March 2013, compared to €545 million at the end of March 2012. Financial non-current assets directly associated to a long-term lease of trains and associated equipment for a London Underground Operator in the United Kingdom decreased from €426 million at the end of March 2012 to €382 million at the end of March 2013.

### Working capital

Working capital (defined as current assets excluding cash and cash equivalents, as well as marketable securities, less current liabilities excluding current financial liabilities and including non-current provisions) on 31 March 2013 was €(3,712) million compared to €(3,859) million on 31 March 2012. As new activities ramped-up, working capital tended to stabilize.

## Deferred tax

Net deferred tax assets increased to €1,427 million at the end of March 2013, from €1,296 million a year before.

## Current and non-current provisions

The current and non-current provisions decreased from €2,218 million on 31 March 2012 to €1,989 million on 31 March 2013.

## Equity attributable to the equity holders of the parent and minority interests

Equity on 31 March 2013 reached €5,104 million (including minority interests) compared to €4,434 million on 31 March 2012. It was mostly impacted by:

- capital increase in October 2012 of €343 million;

- net income from the fiscal year 2012/13 of €802 million (Group share);
- distribution of dividends (Group share) of €(236) million in 2012/13;
- pension actuarial losses of €(240) million during fiscal year 2012/13.

## Financial debt

The gross financial debt amounted €4,955 million at the end of March 2013 compared to €5,022 million at the end of March 2012. This reduction mainly resulted from the payment of the remaining part of the price of 25% of TMH's equity and the decrease of commercial paper, obligations under financial leases and debt in subsidiaries. This movement was partly offset by the issue of a new €350 million bond in October 2012.

See Note 24 to the consolidated financial statements for further details regarding the financial debt.

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## LIQUIDITY AND CAPITAL RESOURCES

The following table presents selected figures concerning the consolidated statement of cash flows:

Total Group (in € million)	Year ended 31 March 2013	Year ended 31 March 2012
Net cash provided by operating activities – before changes in net working capital	1,239	1,184
Changes in net working capital resulting from operating activities	(150)	(968)
<b>Net cash provided by/(used in) operating activities</b>	<b>1,089</b>	<b>216</b>
Net cash used in investing activities	(1,118)	(912)
Net cash provided by/(used in) financing activities	180	87
<b>Net increase/(decrease) in cash and cash equivalents</b>	<b>151</b>	<b>(609)</b>
Cash and cash equivalents at the beginning of the period	2,091	2,701
Net effect of exchange rate variations	(49)	-
Other changes	2	(1)
<b>Cash and cash equivalents at the end of the period</b>	<b>2,195</b>	<b>2,091</b>

## Net cash provided by operating activities

Net cash provided by operating activities was €1,089 million for fiscal year 2012/13, compared to €216 million for the year before thanks to a better management of working capital including a focus on cash in project execution.

Net cash provided by operating activities before changes in net working capital was €1,239 million in 2012/13. It represents the cash generated by the Group's net income after elimination of non-cash items (given that provisions are included in the definition of the working capital, they are not part of the elimination of non-cash items) and before working capital movements.

The Group's net working capital change resulting from operating activities was negative at €(150) million in 2012/13, showing a significant improvement compared to last fiscal year when it amounted to €(968) million.

## Net cash used in investing activities

Net cash used in investing activities was €(1,118) million for fiscal year 2012/13, versus €(912) million for the previous year. In 2012/13, capital expenditures (excluding capitalised development expenses) amounted to €505 million and capitalised research and development costs to €233 million.

## Net cash provided by financing activities

Net cash provided by financing activities was €180 million for fiscal year 2012/13, compared to €87 million the previous year, mainly due to the capital increase of €343 million in October 2012, partly offset by the issuance of a new €350 million bond (compared to €560 million bond issue last year).



## Net cash position

On 31 March 2013, the Group recorded a net debt level of €2,342 million, compared to the net debt position of €2,492 million at 31 March 2012.

<b>Total Group (in € million)</b>	<b>Year ended 31 March 2013</b>	<b>Year ended 31 March 2012</b>
<b>Net cash/(debt) at the beginning of the period</b>	<b>(2,492)</b>	<b>(1,286)</b>
Change in cash and cash equivalents	151	(609)
Change in marketable securities and other current financial assets	11	237
Change in bonds and notes	(350)	(560)
Change in current and non-current borrowings	174	(13)
Change in obligations under finance leases	45	42
Net debt of acquired entities at acquisition date and other variations	119	(303)
<b>Net cash/(debt) at the end of the period</b>	<b>(2,342)</b>	<b>(2,492)</b>

Notes 23, 24, 25, 28 and 29 to the consolidated financial statements provide further details, respectively on:

- the analysis of pensions and other employee benefits;
- the nature and the maturity of the financial debt;
- the Group's policy regarding financial risk management, including currency, interest, credit and liquidity risks;
- off-balance sheet commitments and lease obligations.

## USE OF NON-GAAP FINANCIAL INDICATORS

This section presents financial indicators used by the Group that are not defined by accounting standard setters.

### Orders received

A new order is recognised as order received only when the contract creates enforceable obligations between the Group and its customer.

When this condition is met, the order is recognised at the contract value.

If the contract is denominated in a currency other than the functional currency of the reporting unit, the Group requires to immediately eliminate the currency exposure through the use of forward currency sales. Orders are then measured using the spot rate at inception of hedging instruments.

### Free cash flow

Free cash flow is defined as net cash provided by operating activities less capital expenditures including capitalised development costs, net of proceeds from disposals of tangible and intangible assets. In particular, free cash flow does not include the proceeds from disposals of activity.

The most directly comparable financial measure to free cash flow calculated and presented in accordance with IFRS is net cash provided by operating activities, and a reconciliation of free cash flow and net cash provided by operating activities is presented below:

<b>Total Group (in € million)</b>	<b>Year ended 31 March 2013</b>	<b>Year ended 31 March 2012</b>
<b>Net cash provided by/(used in) operating activities</b>	<b>1,089</b>	<b>216</b>
Capital expenditure (including capitalized development costs)	(738)	(813)
Proceeds from disposals of tangible and intangible assets	57	24
<b>Free cash flow</b>	<b>408</b>	<b>(573)</b>

### Order backlog

Order backlog represents sales not yet recognised on orders already received.

Order backlog at the end of a financial year is computed as follows:

- order backlog at the beginning of the year;
- plus new orders received during the year;
- less cancellations of orders recorded during the year;
- less sales recognised during the year.

The order backlog is also subject to changes in the scope of consolidation and to foreign currency translation effects.

Alstom uses the free cash flow both for internal analysis purposes as well as for external communication as the Group believes it provides accurate insight regarding the actual amount of cash generated or used by operations.

## Capital employed

Capital employed is defined as the closing position of goodwill, intangible assets, property, plant and equipment, associates and available-for-sale financial assets, other non-current assets (excluding prepaid pension benefits and financial non-current assets directly associated to financial debt) and current assets (excluding marketable securities and other current financial assets, and cash and cash equivalents) minus non-current provisions and current liabilities (excluding current financial debt).

Capital employed by Sector and at Group level is presented in Note 4 to the consolidated financial statements as of 31 March 2013.

Capital employed is used both for internal analysis purposes and for external communication as it provides insight regarding the amount of financial resources employed by a Sector or the Group as a whole and the profitability of a Sector or the Group as a whole in regard to resources employed.

End of March 2013, capital employed reached €7,651 million, compared to €7,035 million at the end of March 2012, mainly due to capital expenditures and associates.

Total Group (in € million)	Year ended 31 March 2013	Year ended 31 March 2012
Non-current assets	13,466	12,804
less deferred tax assets	(1,711)	(1,472)
less non-current assets directly associated to financial debt	(382)	(426)
less prepaid pension benefits	(10)	(12)
<b>Capital employed – non-current assets (A)</b>	<b>11,363</b>	<b>10,894</b>
Current assets	18,146	18,243
less cash & cash equivalents	(2,195)	(2,091)
less marketable securities and other current financial assets	(36)	(13)
<b>Capital employed – current assets (B)</b>	<b>15,915</b>	<b>16,139</b>
Current liabilities	19,272	19,876
less current financial debt	(325)	(682)
plus non-current provisions	680	804
<b>Capital employed – liabilities (C)</b>	<b>19,627</b>	<b>19,998</b>
<b>CAPITAL EMPLOYED (A)+(B)-(C)</b>	<b>7,651</b>	<b>7,035</b>

## Net cash

Net cash is defined as cash and cash equivalents, marketable securities and other current financial assets and financial non-current assets directly associated to financial debt, less current and non-current financial debt.

Total Group (in € million)	Year ended 31 March 2013	Year ended 31 March 2012
Cash and cash equivalents	2,195	2,091
Marketable securities and other current financial assets	36	13
Financial non-current assets directly associated to financial debt	382	426
less:		
Current financial debt	325	682
Non-current financial debt	4,630	4,340
<b>Net cash/(debt)</b>	<b>(2,342)</b>	<b>(2,492)</b>

## Organic basis

Figures disclosed in this section include performance indicators presented on an actual basis and on an organic basis. Figures have been given on an organic basis in order to eliminate the impact of changes in business composition and of variation of exchange rates between the

Euro and the foreign currencies. The Group uses figures prepared on an organic basis both for internal analysis and for external communication, as it believes they provide means to analyse and explain variations from one period to another. However these figures, provided on an organic basis, are not measurements of performance under IFRS.

To prepare figures on an organic basis, the figures presented on an actual basis are adjusted as follows:

- the actual figures for 2011/12 (order backlog, orders received, sales and income from operations) are restated taking into account the exchange rates used for 2012/13, as used for preparing the Consolidated Financial Statements;

- in order to reflect the same scope of activity, actual figures for 2011/12 are restated from disposals made during fiscal year 2012/13 and 2012/13 actual figures are restated from acquisitions made in fiscal year 2012/13.

Figures on an organic basis are presented in the table below.

ALSTOM – ORGANIC FIGURES 2012/13

	Year ended 31 March 2012				Year ended 31 March 2013				
	Actual figures	Exchange rate	Scope impact	Comparable Figures	Actual figures	Scope impact	Organic figures	% Var. act. March 2013/ March 2012	% Var. org. March 2013/ March 2012
<i>(in € million)</i>									
Thermal Power	18,741	(145)	(14)	18,582	19,151	-	19,151	2%	3%
Renewable Power	4,302	(40)	-	4,262	4,569	-	4,569	6%	7%
Grid	5,013	(8)	(17)	4,988	6,190	-	6,190	23%	24%
Transport	21,213	36	-	21,249	22,965	-	22,965	8%	8%
Corporate & Others	-	-	-	-	-	-	-	N/A	N/A
<b>ORDERS BACKLOG</b>	<b>49,269</b>	<b>(157)</b>	<b>(31)</b>	<b>49,081</b>	<b>52,875</b>	<b>-</b>	<b>52,875</b>	<b>7%</b>	<b>8%</b>
Thermal Power	9,366	249	(4)	9,611	9,574	-	9,574	2%	0%
Renewable Power	2,026	(35)	-	1,991	2,029	-	2,029	0%	2%
Grid	4,003	34	(69)	3,968	5,058	-	5,058	26%	27%
Transport	6,311	80	-	6,391	7,109	-	7,109	13%	11%
Corporate & Others	-	-	-	-	-	-	-	N/A	N/A
<b>ORDERS RECEIVED</b>	<b>21,706</b>	<b>328</b>	<b>(73)</b>	<b>21,961</b>	<b>23,770</b>	<b>-</b>	<b>23,770</b>	<b>10%</b>	<b>8%</b>
Thermal Power	8,726	150	(9)	8,867	9,179	-	9,179	5%	4%
Renewable Power	2,027	(10)	-	2,017	1,803	-	1,803	-11%	-11%
Grid	4,013	33	(79)	3,967	3,829	-	3,829	-5%	-3%
Transport	5,168	57	-	5,225	5,458	-	5,458	6%	4%
Corporate & Others	-	-	-	-	-	-	-	N/A	N/A
<b>SALES</b>	<b>19,934</b>	<b>230</b>	<b>(88)</b>	<b>20,076</b>	<b>20,269</b>	<b>-</b>	<b>20,269</b>	<b>2%</b>	<b>1%</b>
Thermal Power	850	22	6	878	959	-	959	13%	9%
Renewable Power	150	(3)	-	147	88	-	88	-41%	-40%
Grid	248	1	3	252	238	-	238	-4%	-6%
Transport	264	9	-	273	297	-	297	13%	9%
Corporate & Others	(106)	(1)	-	(107)	(119)	-	(119)	N/A	N/A
<b>INCOME FROM OPERATIONS</b>	<b>1,406</b>	<b>28</b>	<b>9</b>	<b>1,443</b>	<b>1,463</b>	<b>-</b>	<b>1,463</b>	<b>4%</b>	<b>1%</b>
Thermal Power	9.7%			9.9%	10.4%		10.4%		
Renewable Power	7.4%			7.3%	4.9%		4.9%		
Grid	6.2%			6.4%	6.2%		6.2%		
Transport	5.1%			5.2%	5.4%		5.4%		
Corporate & Others	N/A			N/A	N/A		N/A		
<b>OPERATING MARGIN</b>	<b>7.1%</b>			<b>7.2%</b>	<b>7.2%</b>		<b>7.2%</b>		
Sales	19,934	230	(88)	20,076	20,269	-	20,269	2%	1%
Cost of sales	(16,144)	(176)	89	(16,231)	(16,324)	-	(16,324)	1%	1%
R&D expenses	(682)	(7)	1	(688)	(737)	-	(737)	8%	7%
Selling expenses	(900)	(11)	3	(908)	(952)	-	(952)	6%	5%
Administrative expenses	(802)	(8)	4	(806)	(793)	-	(793)	-1%	-2%
<b>INCOME FROM OPERATIONS</b>	<b>1,406</b>	<b>28</b>	<b>9</b>	<b>1,443</b>	<b>1,463</b>	<b>-</b>	<b>1,463</b>	<b>4%</b>	<b>1%</b>

## STATUTORY AUDITORS' REPORT ON PROFIT FORECASTS

*This is a free translation into English of the Statutory Auditors' report issued in French and is provided solely for the convenience of English speaking readers. This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.*

### To the Chairman of the Board of Directors,

In our capacity as Statutory Auditors of Alstom ("the Company") and in accordance with EU Regulation No. 809/2004, we hereby report to you on the Company's operating margin forecasts as at 31 March 2013, which are included in Chapter 2 of its Registration Document dated 29 May 2013.

In accordance with the requirements of EU Regulation No. 809/2004 and relevant ESMA guidance, management is responsible for the preparation of these forecasts, as well as the material assumptions on which they are based.

It is our responsibility to express an opinion, on the basis of our work, in accordance with Appendix 1, paragraph 13.2 of EU Regulation No. 809/2004, stating that these forecasts have been properly compiled.

We performed the procedures we deemed necessary in accordance with professional standards applicable in France to such engagements. These procedures consisted in assessing the procedures implemented by management for the preparation of the profit forecasts and ensuring that the basis of accounting is consistent with the accounting policies used for the preparation of the Company's consolidated financial statements for the year ended 31 March 2013. Our work also consisted in collecting information and making the necessary enquiries in order to obtain reasonable assurance that the profit forecasts have been properly compiled on the basis stated.

It should be noted that actual profits are likely to differ from profit forecasts since anticipated events do not always occur as expected, sometimes leading to material variations. Consequently, we do not express an opinion on the possibility that such events will occur.

In our opinion:

- the profit forecasts have been properly compiled on the basis stated;
- the basis of accounting used for these profit forecasts is consistent with the accounting policies used by the Company for the preparation of the consolidated financial statements for the year ended 31 March 2013.

This report is intended for the sole purpose of filing the 2013 Registration Document with the French Stock Market Regulator (*Autorité des marchés financiers* – AMF) and, where applicable, for public offerings in France and in other countries of the European Union for which a prospectus, including this Registration Document, approved by AMF, is required.

Neuilly-sur-Seine and Courbevoie, 28 May 2013

The Statutory Auditors

**PricewaterhouseCoopers Audit**

Olivier Lotz







**Mazars**


Thierry Colin



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# CONSOLIDATED FINANCIAL STATEMENTS

Year ended 31 March 2013

## CONSOLIDATED INCOME STATEMENT

<i>(in € million)</i>	Note	Year ended	
		31 March 2013	31 March 2012
<b>Sales</b>	(4)	20,269	19,934
Cost of sales		(16,324)	(16,144)
Research and development expenses	(5)	(737)	(682)
Selling expenses		(952)	(900)
Administrative expenses		(793)	(802)
<b>Income from operations</b>	<b>(4)</b>	<b>1,463</b>	<b>1,406</b>
Other income	(6)	6	3
Other expense	(6)	(282)	(337)
<b>Earnings before interest and taxes</b>	<b>(4)</b>	<b>1,187</b>	<b>1,072</b>
Financial income	(7)	36	55
Financial expense	(7)	(259)	(232)
<b>Pre-tax income</b>		<b>964</b>	<b>895</b>
Income tax charge	(8)	(193)	(179)
Share in net income of equity investments	(12)	47	28
<b>NET PROFIT</b>		<b>818</b>	<b>744</b>
Attributable to:			
• Equity holders of the parent		802	732
• Non controlling interests		16	12
<b>Earnings per share <i>(in €)</i></b>	<b>(9)</b>		
• Basic earnings per share		2.66	2.49
• Diluted earnings per share		2.64	2.46

## CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

<i>(in € million)</i>	Note	Year ended	
		31 March 2013	31 March 2012
<b>Net profit recognised in income statement</b>		<b>818</b>	<b>744</b>
Actuarial gains and losses on post-employment benefits	(23)	(295)	(317)
Income tax relating to items that will not be reclassified to profit or loss	(8)	55	31
<b>Items that will not be reclassified to profit or loss</b>		<b>(240)</b>	<b>(286)</b>
Fair value adjustments on available-for-sale assets		(1)	(13)
Fair value adjustments on cash flow hedge derivatives		15	(29)
Currency translation adjustments		36	60
Income tax relating to items that may be reclassified to profit or loss	(8)	(2)	4
<b>Items that may be reclassified to profit or loss</b>		<b>48</b>	<b>22</b>
<b>Other comprehensive income</b>		<b>(192)</b>	<b>(264)</b>
<b>TOTAL COMPREHENSIVE INCOME FOR THE PERIOD</b>		<b>626</b>	<b>480</b>
Attributable to:			
• Equity holders of the parent		611	473
• Non controlling interests		15	7

The accompanying notes are an integral part of the consolidated financial statements.

## CONSOLIDATED BALANCE SHEET

### Assets

<i>(in € million)</i>	Note	At 31 March 2013	At 31 March 2012
Goodwill	(10)	5,536	5,483
Intangible assets	(10)	1,982	1,921
Property, plant and equipment	(11)	3,024	2,852
Associates and non consolidated investments	(12)	698	531
Other non-current assets	(13)	515	545
Deferred taxes	(8)	1,711	1,472
<b>Total non-current assets</b>		<b>13,466</b>	<b>12,804</b>
Inventories	(14)	3,144	3,138
Construction contracts in progress, assets	(15)	4,158	3,752
Trade receivables	(16)	5,285	5,692
Other current operating assets	(17)	3,328	3,557
Marketable securities and other current financial assets	(18)	36	13
Cash and cash equivalents	(25)	2,195	2,091
<b>Total current assets</b>		<b>18,146</b>	<b>18,243</b>
<b>TOTAL ASSETS</b>		<b>31,612</b>	<b>31,047</b>

### Equity and liabilities

<i>(in € million)</i>	Note	At 31 March 2013	At 31 March 2012
Equity attributable to the equity holders of the parent	(20)	5,011	4,327
Non controlling interests		93	107
<b>Total equity</b>		<b>5,104</b>	<b>4,434</b>
Non-current provisions	(22)	680	804
Accrued pension and other employee benefits	(23)	1,642	1,417
Non-current borrowings	(24)	4,197	3,863
Non-current obligations under finance leases	(24)	433	477
Deferred taxes	(8)	284	176
<b>Total non-current liabilities</b>		<b>7,236</b>	<b>6,737</b>
Current provisions	(22)	1,309	1,414
Current borrowings	(24)	283	634
Current obligations under finance leases	(24)	42	48
Construction contracts in progress, liabilities	(15)	9,909	9,508
Trade payables		4,041	4,080
Other current operating liabilities	(26)	3,688	4,192
<b>Total current liabilities</b>		<b>19,272</b>	<b>19,876</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>31,612</b>	<b>31,047</b>

The accompanying notes are an integral part of the consolidated financial statements.

## CONSOLIDATED STATEMENT OF CASH FLOWS

<i>(in € million)</i>	Note	Year ended	
		31 March 2013	31 March 2012
<b>Net profit</b>		<b>818</b>	<b>744</b>
Depreciation, amortisation and expense arising from share-based payments		543	621
Post-employment and other long-term defined employee benefits		(65)	(61)
Net (gains)/losses on disposals of assets		34	1
Share in net income of associates (net of dividends received)		(18)	(27)
Deferred taxes charged to income statement		(73)	(94)
<b>Net cash provided by operating activities – before changes in working capital</b>		<b>1,239</b>	<b>1,184</b>
<b>Changes in working capital resulting from operating activities</b>	<b>(19)</b>	<b>(150)</b>	<b>(968)</b>
<b>Net cash provided by/(used in) operating activities</b>		<b>1,089</b>	<b>216</b>
Proceeds from disposals of tangible and intangible assets		57	24
Capital expenditure (including capitalised R&D costs)	(4)	(738)	(813)
Increase/(Decrease) in other non-current assets		37	15
Acquisitions of businesses, net of cash acquired		(472)	(65)
Disposals of businesses, net of net cash sold		(2)	(73)
<b>Net cash provided by/(used in) investing activities</b>		<b>(1,118)</b>	<b>(912)</b>
Capital increase/(decrease) including non controlling interests		351	(1)
Dividends paid including payments to non controlling interests		(243)	(206)
Changes in ownership interests with no gain/loss of control		(48)	-
Issuance of bonds & notes	(24)	350	560
Changes in current and non-current borrowings		(174)	13
Changes in obligations under finance leases		(45)	(42)
Changes in marketable securities and other current financial assets and liabilities		(11)	(237)
<b>Net cash provided by/(used in) financing activities</b>		<b>180</b>	<b>87</b>
<b>Net increase/(decrease) in cash and cash equivalents</b>		<b>151</b>	<b>(609)</b>
Cash and cash equivalents at the beginning of the period		2,091	2,701
Net effect of exchange rate variations		(49)	-
Other changes		2	(1)
<b>Cash and cash equivalents at the end of the period</b>		<b>2,195</b>	<b>2,091</b>
<i>Income tax paid</i>		<i>(240)</i>	<i>(264)</i>
<i>Net of interests paid &amp; received</i>		<i>(186)</i>	<i>(170)</i>

<i>(in € million)</i>	Note	Year ended	
		31 March 2013	31 March 2012
<b>Net cash/(debt) variation analysis (*)</b>			
Changes in cash and cash equivalents		151	(609)
Changes in marketable securities and other current financial assets & liabilities		11	237
Changes in bonds and notes		(350)	(560)
Changes in current and non-current borrowings		174	(13)
Changes in obligations under finance leases		45	42
Net debt of acquired entities at acquisition date and other variations		119	(303)
<i>Decrease/(Increase) in net debt</i>		<i>150</i>	<i>(1,206)</i>
<b>Net cash/(debt) at the beginning of the period</b>		<b>(2,492)</b>	<b>(1,286)</b>
<b>Net cash/(debt) at the end of the period</b>		<b>(2,342)</b>	<b>(2,492)</b>

(\*) The net cash/(debt) is defined as cash and cash equivalents, marketable securities and other current financial assets and non-current financial assets directly associated to liabilities included in financial debt (see Note 13), less financial debt (see Note 24).

The accompanying notes are an integral part of the consolidated financial statements.

## CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

<i>(in € million, except for number of shares)</i>	Number of outstanding shares	Capital	Additional paid-in capital	Retained earnings	Other comprehensive income	Equity attributable to the equity holders of the parent	Non controlling interests	Total equity
<b>AT 31 MARCH 2011</b>	<b>294,419,304</b>	<b>2,061</b>	<b>624</b>	<b>2,699</b>	<b>(1,324)</b>	<b>4,060</b>	<b>92</b>	<b>4,152</b>
Movements in other comprehensive income	-	-	-	-	(259)	(259)	(5)	(264)
Net income for the period	-	-	-	732	-	732	12	744
<b>Total comprehensive income</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>732</b>	<b>(259)</b>	<b>473</b>	<b>7</b>	<b>480</b>
Change in scope and other	3,799	-	-	(32)	-	(32)	21	(11)
Dividends paid	-	-	-	(183)	-	(183)	(13)	(196)
Capital reduction	(200,000)	(1)	(4)	-	-	(5)	-	(5)
Issue of ordinary shares under long term incentive plans	310,577	2	2	(1)	-	3	-	3
Recognition of equity settled share-based payments	-	-	-	11	-	11	-	11
<b>AT 31 MARCH 2012</b>	<b>294,533,680</b>	<b>2,062</b>	<b>622</b>	<b>3,226</b>	<b>(1,583)</b>	<b>4,327</b>	<b>107</b>	<b>4,434</b>
Movements in other comprehensive income	-	-	-	-	(191)	(191)	(1)	(192)
Net income for the period	-	-	-	802	-	802	16	818
<b>Total comprehensive income</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>802</b>	<b>(191)</b>	<b>611</b>	<b>15</b>	<b>626</b>
Change in scope and other	8	-	-	(54)	-	(54)	(19)	(73)
Dividends paid	-	-	-	(236)	-	(236)	(10)	(246)
Capital increase	13,133,208	92	251	-	-	343	-	343
Issue of ordinary shares under long term incentive plans	491,230	3	2	-	-	5	-	5
Recognition of equity settled share-based payments	-	-	-	15	-	15	-	15
<b>AT 31 MARCH 2013</b>	<b>308,158,126</b>	<b>2,157</b>	<b>875</b>	<b>3,753</b>	<b>(1,774)</b>	<b>5,011</b>	<b>93</b>	<b>5,104</b>

The accompanying notes are an integral part of the consolidated financial statements.

# NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

## DETAILED SUMMARY

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## NOTE 1 • PRESENTATION OF THE GROUP

Alstom ("the Group") serves the power generation and transmission markets through its Thermal Power, Renewable Power and Grid Sectors, and the rail transport market through its Transport Sector. The Group designs, supplies, and services a complete range of technologically-advanced products and systems for its customers, and possesses a unique expertise in systems integration and through life maintenance and services.

The operational activities of the Group are organised in four Sectors:

### Thermal Power

Thermal Power offers a comprehensive range of power generation solutions using gas or coal from integrated power plants and all types of turbines, generators, boilers, emission control systems to a full range of services including plant modernisation, maintenance and operational support. The Sector also supplies conventional islands for nuclear power plants.

### Renewable Power

Renewable Power offers EPC solutions, turbines and generators, control equipment and maintenance for Hydro power and Wind power activities. The Sector includes geothermal and solar thermal businesses.

### Grid

The Grid Sector designs and manufactures equipment and engineered turnkey solutions to manage power grids and transmit electricity from the power plant to the large end-user, be it a distribution utility or an industrial process or production facility.

### Transport

The Transport Sector serves the urban transit, regional/intercity passenger travel markets and freight markets all over the world with rail transport products, systems and services.

The consolidated financial statements are presented in euro and have been authorised for issue by the Board of Directors held on 6 May 2013. In accordance with French legislation, they will be final once approved by the shareholders of Alstom at the Annual General Meeting convened for 2 July 2013.

## NOTE 2 • ACCOUNTING POLICIES

### 2.1. Basis of preparation of the consolidated financial statements

Alstom consolidated financial statements for the year ended 31 March 2013 have been prepared:

- in accordance with the International Financial Reporting Standards (IFRS) and interpretations published by the International Accounting Standards Board (IASB) and endorsed by the European Union and whose application was mandatory as of 1 April 2012;
- using the same accounting policies and measurement methods as at 31 March 2012, with the exceptions of changes required by the enforcement of new standards and interpretations as described below.

The information relating to consolidated financial statements for the fiscal year ended 31 March 2011, presented in the 2011/12 Registration Document D.12-0548 filed with the AMF on 25 May 2012 is included by reference.

The full set of standards endorsed by the European Union can be consulted on the website of the European Commission at:

[http://ec.europa.eu/internal\\_market/accounting/ias/index\\_en.htm](http://ec.europa.eu/internal_market/accounting/ias/index_en.htm)

#### 2.1.1. Changes in accounting policies due to new, revised or amended standards and interpretations mandatorily applicable for financial periods beginning on 1 April 2012

The Group's consolidated financial statements are not significantly affected by the enforcement of the new, revised, or amended standards and interpretations becoming effective in the European Union starting from 1 April 2012:

- Amendments to IFRS 7, Disclosures – Transfers of financial assets: the amendments introduce new disclosure requirements about transfers of financial assets such as transactions involving securitisation of financial assets or factoring of trade receivables.

## 2.1.2. New standards and interpretations not yet mandatorily applicable

### 2.1.2.1. New standards and interpretations endorsed by the European Union not yet mandatorily applicable

#### Amendment to IAS 1, Presentation of items of other comprehensive income

Since 1 April 2011, the Group applies the amendment to IAS 1, Presentation of items of other comprehensive income by anticipation. This amendment requests the distinction between comprehensive income elements that will be reclassified in profit or loss and elements that will not. This amendment does not have a material impact on the presentation of the Group's published consolidated statement of comprehensive income.

#### Amendment to IAS 19, Employee benefits

The Group has not opted for an early application of the amendment to IAS 19, Employee benefits, which effective date is 1 April 2013 for Alstom.

This amendment eliminates the option of applying the corridor approach for post-employment benefits, as a result, all actuarial gains and losses will be recognized immediately in liabilities and will be recorded for each period systematically in "other comprehensive income". Furthermore, past service costs will be also recognized immediately in liabilities but will be recorded in the income statement. The amendment also specifies the calculation of the expected return on plan assets on the basis of the discount rate used to value the defined benefit obligation rather than on the basis of market expectations for returns.

The Group does not apply the corridor approach and already records all actuarial gains and losses in other comprehensive income. The retrospective application of this amendment will have an impact in equity estimated to €(25) million in order to take into account any change of plans.

The calculation of the expected return on plan assets on the basis of the discount rate used to value the underlying obligation will increase the net financial expense. The Group is currently considering the impact of applying this amendment which is estimated to around €(40) million on financial expenses and €(30) million on net profit for the year 2012/13.

#### Standards on consolidation (IFRS 10, Consolidated Financial statements; IFRS 11, Joint arrangements; IFRS 12, Disclosure of interests in other entities; IAS 28 revised, Investments in associates and joint ventures)

The Group has not opted for an early application of the consolidation standards (IFRS 10, IFRS 11, IFRS 12 and IAS 28 revised) endorsed by the European Union and which effective date is 1 April 2014 for Alstom.

The Group is carrying on the assessment of the impact of applying these new standards for the first time, in particular IFRS 10, Consolidated financial statements and IFRS 11, Joint arrangements.

#### IFRS 10, Consolidated financial statements

This standard defines control as being exercised when an investor is exposed, or has rights, to variable returns from his involvement with the investee and has the ability to affect those returns through his power over the investee. The impact of applying this new standard on the consolidated financial statements is not expected to be significant.

#### IFRS 11, Joint arrangements

The new standard mainly prescribes two different accounting treatments:

- Joint arrangements qualifying as joint operations will be recognised based on the proportion of assets, liabilities, revenue and expenses controlled by the Group. A joint operation may be conducted under a separate vehicle or not.
- Joint arrangements that are qualified as joint ventures will be accounted for using the equity method, because the parties have rights to the net assets of the arrangement.

The Group is currently analysing its jointly controlled entities in light of IFRS 11, Joint arrangements so as to determine if they shall be classified as joint operations or joint ventures. Entities over which the Group exercises joint control consolidated until now according to the proportionate consolidation method and which should be classified as joint ventures according to the new rules should mainly concern Transport Sector.

The Group is assessing the impact of applying this new standard. However, as the contribution of the jointly controlled entities to the Group's main financial indicators is currently not material, the impact on the consolidated financial statements is not expected to be significant.

#### IFRS 13, Fair value

The Group has not opted for an early application of IFRS 13, Fair value which effective date is 1 April 2013 for Alstom.

IFRS 13 applies to IFRSs that require or permit fair value measurements or disclosures and provides a single IFRS framework for measuring fair value and requires disclosures about fair value measurement. The standard defines fair value on the basis of an 'exit price' notion and uses a 'fair value hierarchy' which results in a market based, rather than entity specific, measurement.

The impact of applying this new standard on the consolidated statement is not expected to be significant.

#### Amendments to IAS 32 and IFRS 7, Offsetting financial assets and financial liabilities

The Group has not opted for an early application of these amendments endorsed by the European Union and which effective date is 1 April 2014 for Alstom.

These amendments provide clarification on the application of the offsetting rules and on the relative disclosures.

#### Improvements to IFRS' s 2009-2011

### 2.1.2.2. New standards and interpretations not yet approved by the European Union and not yet mandatorily applicable

- Financial instruments:
  - classification and measurement of financial assets (IFRS 9);
  - Mandatory effective date and transition guidance (amendments to IFRS 9 and IFRS 7).
- Transition guidance (amendments to IFRS 10, IFRS 11 and IFRS 12).
- Investments entities (amendments to IFRS 10, IFRS 12 and IAS 27).

The Group is currently considering the impact of applying these new standards for the first time.

## 2.2. Use of estimates

The preparation of the consolidated financial statements in conformity with IFRS requires management to make various estimates and to use assumptions regarded as realistic and reasonable. These estimates or assumptions could affect the value of the Group's assets, liabilities, equity, net income and contingent assets and liabilities at the closing date. Management reviews estimates on an on-going basis using information currently available. Actual results may differ from those estimates, due to changes in facts and circumstances.

The accounting policies most affected by the use of estimates are the following:

### Revenue and margin recognition on construction and long-term service contracts and related provisions

The Group recognises revenue and gross margin on construction and long-term service contracts using the percentage of completion method based on milestones; in addition, when a project review indicates a negative gross margin, the estimated loss at completion is immediately recognised.

Recognised revenue and margin are based on estimates of total expected contract revenue and cost, which are subject to revisions as the contract progresses. Total expected revenue and cost on a contract reflect management's current best estimate of the probable future benefits and obligations associated with the contract. Assumptions to calculate present and future obligations take into account current technology as well as the commercial and contractual positions, assessed on a contract-by-contract basis. The introduction of technologically-advanced products exposes the Group to risks of product failure significantly beyond the terms of standard contractual warranties applicable to suppliers of equipment only.

Obligations on contracts may result in penalties due to late completion of contractual milestones, or unanticipated costs due to project modifications, suppliers or subcontractors' failure to perform or delays caused by unexpected conditions or events. Warranty obligations are affected by product failure rates, material usage and service delivery costs incurred in correcting failures.

Although the Group makes individual assessments on contracts on a regular basis, there is a risk that actual costs related to those obligations may exceed initial estimates. Estimates of contract costs and revenues at completion in case of contracts in progress and estimates of provisions in case of completed contracts may then have to be re-assessed.

### Estimate of provisions relating to litigations

The Group identifies and analyses on a regular basis current litigations and measures, when necessary, provisions on the basis of its best estimate of the expenditure required to settle the obligation at the balance sheet date. These estimates take into account information available and different possible outcomes.

## Valuation of deferred tax assets

Management judgment is required to determine the extent to which deferred tax assets can be recognised. Future sources of taxable income and the effects of the Group global income tax strategies are taken into account in making this determination. This assessment is conducted through a detailed review of deferred tax assets by jurisdiction and takes into account past, current and future performance deriving from the existing contracts in the order book, the budget and the three-year plan, and the length of carry back, carry forwards and expiry periods of net operating losses.

## Measurement of post-employment and other long-term defined employee benefits

The measurement of obligations and assets related to defined benefit plans makes it necessary to use several statistical and other factors that attempt to anticipate future events. These factors include assumptions about the discount rate, the expected return on plan assets, the rate of future compensation increases as well as withdrawal and mortality rates. If actuarial assumptions materially differ from actual results, it could result in a significant change in the employee benefit expense recognised in the income statement, actuarial gains and losses recognised in other comprehensive income and prepaid and accrued benefits.

## Valuation of assets

The discounted cash flow model used to determine the recoverable value of the groups of cash generating units to which goodwill is allocated includes a number of inputs including estimates of future cash flows, discount rates and other variables, and then requires significant judgment.

Impairment tests performed on intangible and tangible assets are also based on assumptions. Future adverse changes in market conditions or poor operating results from underlying assets could result in an inability to recover their current carrying value.

## Inventories

Inventories, including work in progress, are measured at the lower of cost and net realisable value. Write-down of inventories are calculated based on an analysis of foreseeable changes in demand, technology or market conditions in order to determine obsolete or excess inventories. If actual market conditions are less favourable than those projected, additional inventory write-downs may be required.

## 2.3. Significant accounting policies

### 2.3.1. Consolidation methods

#### Subsidiaries

Entities over which the Group exercises exclusive control are fully consolidated. Exclusive control exists when the Group has the power, directly or indirectly, to govern the financial and operating policies of a company so as to obtain benefits from its activities, whether it holds shares or not.

Inter-company balances and transactions are eliminated.

Results of operations of subsidiaries acquired or disposed of during the year are recognised in the consolidated income statement as from the date of acquisition or up to the date of disposal, respectively.

Non-controlling interests in the net assets of consolidated subsidiaries are identified separately from the equity attributable to the equity holders of the parent. Non-controlling interests consist of the amount of those interests at the date of the original business combination and their share of changes in equity since the date of the combination. In the absence of explicit agreements to the contrary, subsidiaries' losses are systematically allocated between equity holders of the parent and non-controlling interests based on their respective ownership interests even if this results in the non-controlling interests having a deficit balance.

### Interests in joint ventures

Entities over which the Group exercises joint control are consolidated according to the proportionate consolidation method whereby the Group's share of the joint ventures' results, assets and liabilities is recorded in the consolidated financial statements. Accounting policies of joint ventures have been changed where necessary to ensure consistency with the policies adopted by the Group.

### Investments in associates

Entities in which the Group exercises significant influence but not control, are accounted for under the equity method. Accounting policies of associates have been changed where necessary to ensure consistency with the policies adopted by the Group.

Under the equity method, investments in associates are carried in the consolidated balance sheet at cost, including any goodwill arising and transaction costs. Earn-outs are initially recorded at fair value and adjustments recorded through cost of investment when their payments are probable and can be measured with sufficient reliability.

The Group's share of its associates' profits or losses is recognised in the income statement and its share of post-acquisition movements in reserves is recognised in reserves. The impairment expense of investments in associates is recorded in the line "Share in net income of equity investments" of the income statement. Losses of an associate in excess of the Group's interest in that associate are not recognised, except if the Group has a legal or implicit obligation. The cumulative post-acquisition movements are adjusted against the carrying amount of the investment.

Any excess of the cost of acquisition over the Group's share of the net fair value of the identifiable assets, liabilities and contingent liabilities of the associate recognised at the date of acquisition is recognised as goodwill. The goodwill is included within the carrying amount of the investment and is assessed for impairment as part of the investment.

In case of associates purchased by stage, the Group uses the cost method to account for changes from available for sales (AFS) category to associates.

### 2.3.2. Translation of financial statements denominated in currencies other than euro

Functional currency is the currency of the primary economic environment in which a reporting entity operates, which in most cases, corresponds to the local currency. However, some reporting entities may have a functional currency different from local currency when that other currency is used for the entity's main transactions and faithfully reflects its economic environment.

Assets and liabilities of entities whose functional currency is other than the euro are translated into euro at closing exchange rate at the end of each reporting period while their income and cash flow statements are translated at the average exchange rate for the period. The currency translation adjustments resulting from the use of different currency rates for opening balance sheet positions, transactions of the period and closing balance sheet positions are recorded in other comprehensive income. Translation adjustments are transferred to the consolidated income statement at the time of the disposal of the related entity.

Goodwill and fair value adjustments arising from the acquisition of entities whose functional currency is not euro are designated as assets and liabilities of those entities and therefore denominated in their functional currencies and translated at the closing rate at the end of each reporting period.

### 2.3.3. Business combinations

Business combinations completed between 1 January 2004 and 31 March 2010 have been recognised applying the provisions of the previous version of IFRS 3.

Business combinations completed from 1 April 2010 onwards are recognised in accordance with IFRS 3 Revised.

The Group applies the acquisition method to account for business combinations. The consideration transferred for the acquisition of a subsidiary is the sum of fair values of the assets transferred and the liabilities incurred by the acquirer at the acquisition date and the equity-interest issued by the acquirer. The consideration transferred includes contingent consideration, measured and recognized at fair value, at the acquisition date.

For each business combination, any non-controlling interest in the acquiree may be measured either at the acquisition-date fair value, leading to the recognition of the non-controlling interest's share of goodwill (full goodwill method) or at the non-controlling interest's proportionate share of the acquiree's identifiable net assets, resulting in recognition of only the share of goodwill attributable to equity holders of the parent (partial goodwill method).

Acquisition-related costs are recorded as an expense as incurred.

Goodwill arising from a business combination is measured as the difference between:

- the fair value of the consideration transferred for an acquiree plus the amount of any non-controlling interests of the acquiree; and
- the net fair value of the identifiable assets acquired and liabilities assumed at the acquisition date.

Initial estimates of consideration transferred and fair values of assets acquired and liabilities assumed are finalised within twelve months after the date of acquisition and any adjustments are accounted for as retroactive adjustments to goodwill. Beyond this twelve-month period, any adjustment is directly recognised in the income statement.

Earn-outs are initially recorded at fair value and adjustments made beyond the 12-month measurement period following the acquisition are systematically recognised through profit or loss.

Goodwill is not amortised but tested for impairment annually at closing date or more frequently if events or changes in circumstances indicate a potential impairment.

In case of a step-acquisition that leads to the Group acquiring control of the acquiree, the equity interest previously held by the Group is remeasured at its acquisition-date fair value and any resulting gain or loss is recognised in profit or loss.

#### 2.3.4. Segment information

Operating segments used to present segment information are identified on the basis of internal reports used by the Chief Executive Officer (CEO) to allocate resources to the segments and assess their performance. There is no segment aggregation.

The Chief Executive Officer is the Group's "chief operating decisions maker" within the meaning of IFRS 8.

The methods used to measure the key performance indicators of the segments for internal reporting purposes are the same as those used to prepare the consolidated financial statements.

#### 2.3.5. Sales and costs generated by operating activities

##### Measurement of sales and costs

The amount of revenue arising from a transaction is usually determined by the contractual agreement with the customer.

In the case of construction contracts, claims are considered in the determination of contract revenue only when it is highly probable that the claim will result in additional revenue and the amount can be reliably estimated.

Penalties are taken into account in reduction of contract revenue as soon as they are probable.

Production costs include direct costs (such as material, labour and warranty costs) and indirect costs. On the basis of funding required for the execution of contracts, borrowing costs may be attributed to construction contracts whose execution period exceeds one year. Warranty costs are estimated on the basis of contractual agreement, available statistical data and weighting of all possible outcomes against their associated probabilities. Warranty periods may extend up to five years. Selling and administrative expenses are excluded from production costs.

##### Recognition of sales and costs

Revenue on sale of manufactured products is recognised according IAS 18, *i.e.* essentially when the significant risks and rewards of

ownership are transferred to the customer, which generally occurs on delivery. Revenue on short-term service contracts is recognised on performance of the related service. All production costs incurred or to be incurred in respect of the sale are charged to cost of sales at the date of recognition of sales.

Revenue on construction contracts and long-term service agreements is recognised based on the percentage of completion method: the stage of completion is assessed by milestones which ascertain the completion of a physical proportion of the contract work or the performance of services provided for in the agreement. The revenue for the period is the excess of revenue measured according to the percentage of completion over the revenue recognised in prior periods.

Cost of sales on construction contracts and long-term service agreements is computed on the same basis. The cost of sales for the period is the excess of cost measured according to the percentage of completion over the cost of sales recognised in prior periods. As a consequence, adjustments to contract estimates resulting from work conditions and performance are recognised in cost of sales as soon as they occur, prorated to the stage of completion.

When the outcome of a contract cannot be estimated reliably but the contract overall is expected to be profitable, revenue is still recognised based on milestones, but margin at completion is adjusted to nil.

When it is probable that contract costs at completion will exceed total contract revenue, the expected loss at completion is recognised immediately as an expense.

Bid costs are directly recorded as expenses when a contract is not secured.

With respect to construction contracts and long-term service agreements, the aggregate amount of costs incurred to date plus recognised margin less progress billings is determined on a contract-by-contract basis. If the amount is positive, it is included as an asset designated as "Construction contracts in progress, assets". If the amount is negative, it is included as a liability designated as "Construction contracts in progress, liabilities".

The caption "Construction contracts in progress, liabilities" also includes down payments received from customers.

##### Recognition of overhead expenses

Research expenditure is expensed as incurred. Development costs are expensed as incurred unless the project they relate to meets the criteria for capitalisation (see Note 2.3.10). Selling and administrative expenses are expensed as incurred.

#### 2.3.6. Income from operations

Income from operations is the indicator used by the Group to present the level of operational performance that can be used as part of an approach to forecast recurring performance. This complies with the recommendation 2009-R03 of the ANC, the French standard setter, on the format of financial statements of entities applying IFRS.

Income from operations includes gross margin, research and development expenditure, selling and administrative expenses. It includes in particular the service cost of employee defined benefits,

the cost of share-based payments and employee profit sharing, foreign exchange gains or losses associated with operating transactions and capital gains (losses) on disposal of intangible and tangible assets arising from ordinary activities.

### 2.3.7. Other income and other expense

Other income and other expense are representative of items which are inherently difficult to predict due to their unusual, irregular or non-recurring nature.

Other income may include capital gains on disposal of investments or activities and capital gains on disposal of tangible and intangible assets arising from activities disposed of or facing restructuring plans as well as any income associated to past disposals.

Other expense include capital losses on disposal of investments or activities and capital losses on disposal of tangible and intangible assets arising from activities disposed of or facing restructuring plans as well as any costs associated to past disposals, restructuring costs, costs incurred to effect business combinations and amortisation expense of assets exclusively acquired in the context of business combinations (margin in backlog, customer relationship, margin on inventory), significant impairment losses on assets, litigation costs that have arisen outside the ordinary course of business and a portion of post-employment and other long-term defined benefit expense (amortisation of unrecognised prior service cost, impacts of curtailments and settlements and amortisation of actuarial gains and losses referring to long-term benefits other than post-employment benefits).

### 2.3.8. Financial income and expense

Financial income and expense include:

- Interest income representing the remuneration of the cash position;
- Interest expense related to the financial debt (financial debt consists of bonds, the debt component of compound instruments, other borrowings and lease-financing liabilities);
- Other expenses paid to financial institutions for financing operations;
- The financial component of the cost of employee defined benefits (interest cost and expected return on assets);
- Foreign exchange gains and losses associated to financing transactions;
- Other income or expense from cash and cash equivalents and marketable securities.

### 2.3.9. Foreign currency transactions

Foreign currency transactions are initially recognised by applying to the foreign currency amount the spot exchange rate between the functional currency of the reporting unit and the foreign currency at the date of the transaction. Currency units held, assets to be received and liabilities to be paid resulting from those transactions are re-measured at closing exchange rates at the end of each reporting period. Realised exchange gains or losses at date of payment as well as unrealised gains or losses deriving from re-measurement are recorded within income from operations when they relate to operating activities or within financial income or expense when they relate to financing activities.

Since the Group is exposed to foreign currency volatility, the Group puts in place a significant volume of hedges to cover this exposure. These derivatives are recognised on the balance sheet at their fair value at the closing date. Providing that the relationships between the foreign currency exposure and the related derivatives are qualifying relationships, the Group uses the specific accounting treatments designated as hedge accounting. A relationship qualifies for hedge accounting if, at the inception of the hedge, it is formally designated and documented and if it proves to be highly effective throughout the financial reporting periods for which the hedge was designated.

Hedging relationships may be of two types:

- Cash flow hedge in case of hedge of the exposure to variability of cash flows attributable to highly probable forecast transactions;
- Fair value hedge in case of hedge of the exposure attributable to recognised assets, liabilities or firm commitments.

#### Cash flow hedge

When cash flow hedge accounting applies, the portion of the gain or loss on the hedging instrument that is determined to be an effective hedge is recognised in other comprehensive income. When the forecast transaction results in the recognition of a financial asset or liability, the amounts previously recognised directly in other comprehensive income are recycled into the income statement. When the forecast transaction results in the recognition of a non financial asset or liability (for instance, inventories or construction contracts in progress), the gain or loss that was directly recognised in other comprehensive income is included in the carrying amount of the asset or liability.

#### Fair value hedge

When fair value hedge accounting applies, changes in the fair value of derivatives and changes in the fair value of hedged items are both recognised in the income statement and offset each other up to the gain or loss on the effective portion on the hedging instrument.

Whatever the type of hedge, the ineffective portion on the hedging instrument is recognised in the income statement. Realised and unrealised exchange gains and losses on hedged items and hedging instruments are recorded within income from operations when they relate to operating activities or within financial income or expense when they relate to financing activities.

As the effective portion on the hedging instrument offsets the difference between the spot rate at inception of the hedge and the effective spot rate at the outcome of the hedge, sales and costs resulting from commercial contracts are recognised at the spot rate at inception of the hedge throughout the life of the related commercial contracts, provided that the corresponding hedging relationships keep on qualifying for hedge accounting.

The Group uses export insurance policies to hedge its currency exposure on certain contracts during the open bid period. When commercial contracts are awarded, insurance instruments are settled and forward contracts are put in place and recorded according the fair value hedge accounting as described above.



### 2.3.10. Intangible assets

Intangible assets include acquired intangible assets (such as technology and licensing agreements) and internally generated intangible assets (mainly development costs).

#### Acquired intangible assets

Acquired intangible assets are initially measured at cost and amortised on a straight-line basis over their estimated useful lives. Useful lives can extend to twenty years due to the long-term nature of the underlying contracts and activities. The amortisation expense of assets acquired through ordinary transactions is recorded in cost of sales, research and development expenditure, selling expenses or administrative expenses, based on the function of the underlying assets. The amortisation expense of assets exclusively acquired in the context of a business combination (margin in backlog, customer relationship) is recognised as other expense.

#### Internally generated intangible assets

Development costs are capitalised if and only if the project they relate to meets the following criteria:

- The project is clearly defined and its related costs are separately identified and reliably measured.
- The technical feasibility of the project is demonstrated.
- The intention exists to complete the project and to use or sell it.
- Adequate technical and financial resources are available to complete the project.
- It is probable that the future economic benefits attributable to the project will flow to the Group.

Capitalised development costs are costs incurred directly attributable to the project (materials, services, fees...), including an appropriate portion of relevant overheads.

Capitalised development costs are amortised on a straight-line basis over the estimated useful life of the asset. The amortisation charge is reported in research and development expenses.

### 2.3.11. Property, plant and equipment

Property, plant and equipment are stated at cost less accumulated depreciation and any accumulated impairment loss. When an item of property, plant and equipment is made up of components with different useful lives, the total cost is allocated between the various components. Components are then separately depreciated.

Depreciation is computed using the straight-line method over the estimated useful lives of each component. The useful lives most commonly used are the following:

<i>(in years)</i>	Estimated useful life
Buildings	7-40
Machinery and equipment	3-25
Tools, furniture, fixtures and others	1-10

Useful lives are reviewed on a regular basis and changes in estimates, when relevant, are accounted for on a prospective basis. The depreciation expense is recorded in cost of sales, selling expenses or administrative expenses, based on the function of the underlying assets.

Borrowing costs that are attributable to an asset whose construction period exceeds one year are capitalised as part of the costs of the asset until the asset is substantially ready for use or sale.

Property, plant and equipment acquired through finance lease arrangements or long-term rental arrangements that transfer substantially all the risks and rewards incidental to ownership are capitalised. They are recognised at their fair value at the inception of the lease, or, if lower, at the present value of the minimum lease payments. The corresponding liability to the lessor is included in the balance sheet as a financing obligation. Lease payments are apportioned between finance charges and repayment of the lease obligation so as to achieve a constant rate of interest on the remaining balance of the liability.

Assets held under finance leases are depreciated over their expected useful lives on the same basis as owned assets or the term of the relevant lease, when shorter.

Leases that do not transfer substantially all risks and rewards incidental to ownership are classified as operating leases. Rentals payable are charged to profit or loss on a straight-line basis over the term of the relevant lease. Benefits received and receivable as an incentive to enter into an operating lease are recognised on a straight-line basis over the lease term.

### 2.3.12. Impairment of goodwill, tangible and intangible assets

Assets that have an indefinite useful life – mainly goodwill and intangible assets not yet ready to use – are not amortized but tested for impairment at least annually or when there are indicators that they may be impaired. Other intangible and tangible assets subject to amortization are tested for impairment only if there are indicators of impairment.

The impairment test methodology is based on a comparison between the recoverable amount of an asset and its net carrying value. If the recoverable amount of an asset or a cash-generating unit is estimated to be less than its carrying amount, the carrying amount is reduced to its recoverable amount and the impairment loss is recognised immediately in the income statement. In the case of goodwill allocated to a group of CGUs, the impairment loss is allocated first to reduce the carrying amount of goodwill and then to the other assets on a pro-rata basis of the carrying amount of each asset.

A cash-generating unit (CGU) is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other groups of assets. If an asset does not generate cash inflows that are largely independent of other assets or groups of assets, the recoverable amount is determined for a cash-generating unit.

For internal management purposes, goodwill acquired in a business combination is monitored at the level of the Sectors as defined in Note 1: therefore goodwill is tested for impairment at the level of the group of cash-generating units constituting each Sector.

The recoverable amount is the higher of fair value less costs to sell and value in use. The value in use is elected as representative of the recoverable value. The valuation performed is based upon the Group's internal three-year business plan. Cash flows beyond this period are estimated using a perpetual long-term growth rate for the subsequent years. The recoverable amount is the sum of the discounted cash flows and the discounted terminal residual value. Discount rates are determined using the weighted-average cost of capital of each Sector.

Impairment losses recognised in respect of goodwill cannot be reversed. The impairment losses recognized in respect of other assets than goodwill may be reversed in a later period and recognized immediately in the income statement. The carrying amount is increased to the revised estimate of recoverable amount, so that the increased carrying amount does not exceed the carrying amount that would have been determined, had no impairment loss been recognized in prior years.

### 2.3.13. Financial assets

#### Loans and deposits

Loans are initially measured at their fair value, plus directly attributable transaction costs and are subsequently measured at amortised cost using the effective interest rate method. Deposits are reported as financial assets when their initial maturity is more than three months and as cash and cash equivalents in case of demand deposits or when the initial maturity is less than three months.

If there is any indication that those assets may be impaired, they are reviewed for impairment. Any difference between the carrying value and the impaired value (net realisable value) is recorded as a financial expense. The impairment loss can be reversed if the value is recovered in the future. In that case, the reversal of the impairment loss is reported as a financial income.

#### Investments and debt securities

Investments in non-consolidated companies are designated as available-for-sale financial assets. They are initially measured at their fair value, plus directly attributable transaction costs and subsequently re-measured at fair value.

The fair value of listed securities is the market value at the closing date. A valuation model is used in case of unlisted securities. Changes in fair value are directly recognised in other comprehensive income until the security is disposed of or is determined to be impaired. On disposal or in case of significant or prolonged decline in the fair value, the cumulative gain or loss previously recognised in other comprehensive income is included in the profit or loss for the period. Unlike impairment losses recognised in respect of investments in a debt instrument, impairment losses recognised in respect of investments in equity instruments cannot be reversed through profit and loss.

When the fair value cannot be determined reliably, investments in non-consolidated companies are measured at cost. Any impairment loss recognised for such investment is not reversed in a subsequent period, except when disposed of.

All debt securities that the Group has the expressed intention and ability to hold to maturity are designated as held-to-maturity financial assets. They are measured at amortised cost using the effective interest rate method, less any impairment loss recognised to reflect amounts

expected not to be recoverable. An impairment loss is recognised in profit or loss when there is objective evidence that the asset is impaired and is measured as the difference between the investment's carrying value and the present value of the estimated future cash flows discounted at the effective interest rate computed at initial recognition. Impairment losses may be reversed through profit and loss in subsequent periods.

Marketable securities are securities held for trading which cannot be considered as cash and cash equivalents. They are designated as financial asset at fair value through profit or loss. Changes in fair value are reported as financial income or expense.

#### Derivative financial instruments

Derivative financial instruments are recognised and re-measured at fair value (see Note 2.3.9 for foreign currency hedging instruments and Note 2.3.19 for interest rate derivatives).

#### Receivables

Receivables are initially recognised at fair value, which in most cases approximates the nominal value. If there is any subsequent indication that those assets may be impaired, they are reviewed for impairment. Any difference between the carrying value and the impaired value (net realisable value) is recorded within income from operations. The impairment loss can be reversed if the value is recovered in the future. In that case, the reversal of the impairment loss is reported within income from operations.

### 2.3.14. Inventories

Raw materials and supplies, work in progress and finished products are stated at the lower of cost, using the weighted average cost method, or net realisable value. Inventory cost includes direct material and, where applicable, direct labour costs and those overheads that have been incurred in bringing the inventories to their existing location and condition. Net realisable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses.

### 2.3.15. Cash and cash equivalents

Cash and cash equivalents consist of cash and short-term highly liquid investments with original maturities of three months or less that are readily convertible to known amounts of cash, which are subject to an insignificant risk of change in value.

Bank overdrafts are shown within borrowings in current liabilities on the balance sheet.

### 2.3.16. Taxation

The Group computes taxes in accordance with prevailing tax legislation in the countries where income is taxable.

The current income tax charge is calculated on the basis of the tax laws enacted or substantively enacted at the balance sheet date in the countries where the Company's subsidiaries and associates operate and generate taxable income. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. It establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

Temporary differences arising between the carrying amount and the tax base of assets and liabilities, unused tax losses and unused tax credits are identified for each taxable entity (or each tax group when applicable). Corresponding deferred taxes are calculated at the enacted or substantively enacted tax rates that are expected to apply in the period when the asset is realised or the liability settled.

Deferred tax assets are recognised for all deductible temporary differences, unused tax losses and unused tax credits to the extent that it is probable that taxable profits will be available in the future against which the deductible differences, unused tax losses and unused tax credits can be utilised. The carrying amount of deferred tax assets is reviewed at each balance sheet date.

Deferred tax liabilities are recognised for all taxable temporary differences, with the exception of certain taxable temporary differences between the Group's share in the net assets in subsidiaries, joint ventures and associates and their tax bases. The most common situation when such exception applies relates to undistributed profits of subsidiaries where distribution to the shareholders would trigger a tax liability: when the Group has determined that profits retained by the subsidiary will not be distributed in the foreseeable future, no deferred tax liability is recognised.

Deferred tax assets and liabilities are offset when both of the following conditions are met:

- the Group has a legally enforceable right to set off current tax assets against current tax liabilities; and
- the deferred tax assets and liabilities relate to income taxes levied by the same taxation authority.

Deferred tax is charged or credited to net income, except when it relates to items charged or credited directly to other comprehensive income, in which case the deferred tax is classified in other comprehensive income.

### 2.3.17. Provisions

As long as a construction contract or a long-term service agreement is in progress, obligations attributable to such a contract are taken into account in the assessment of the margin to be recognised and are therefore reported within the accounts "Construction contracts in progress, assets" or "Construction contracts in progress, liabilities".

Upon completion of the contract, such obligations are recognised as distinct liabilities when they satisfy the following criteria:

- the Group has a present legal or constructive obligation as a result of a past event;
- it is probable that an outflow of economic resources will be required to settle the obligation; and
- such outflow can be reliably estimated.

These liabilities are presented as provisions when they are of uncertain timing or amount. When this uncertainty is dispelled, they are presented as trade payables or other current liabilities.

Obligations resulting from transactions other than construction contracts and long-term service agreements are directly recognised as provisions as soon as the above-mentioned criteria are met.

Where the effect of the time value of money is material, provisions are measured at their present value.

Restructuring provisions are made when plans to reduce or close facilities, or to reduce the workforce have been finalised and approved by the Group management and have been announced before the balance sheet date, resulting in an obligation of the Group to third parties. Restructuring costs include employees' severance and termination benefits and estimated facility closing costs. In addition to such provisions, restructuring costs may include asset write-off relating to the restructured activities.

### 2.3.18. Financial liabilities

#### Bonds and borrowings

Bonds and interest-bearing bank loans are initially recognised at fair value, less any transaction costs directly attributable to the issuance of the liability. These financial liabilities are subsequently measured at amortised cost, using the effective interest rate method.

#### Derivative financial instruments

Derivative financial instruments are recognised and re-measured at fair value (see Note 2.3.9 for foreign currency hedging instruments and Note 2.3.19 for interest rate hedging instruments).

#### Payables

Payables are initially recognised at fair value, which in most cases approximates the nominal value. They are subsequently re-measured at amortised cost.

### 2.3.19. Interest rate derivatives

The Group may enter into hedges for the purpose of managing its exposure to movements in interest rates. Derivatives are recognised on the balance sheet at fair value at the closing date. Providing that the relationships between the interest rate exposure and the related derivatives are qualifying relationships, the Group uses the specific accounting treatments designated as hedge accounting. Fair value hedge accounting and cash flow hedge accounting are applied to fixed and floating rate borrowings, respectively.

In the case of fair value hedge relationships, the re-measurement of the fixed rate borrowing is offset in the income statement by the movement in the fair value of the derivative up to the effective part of hedged risk. In the case of cash flow hedge relationships, the change in fair value of the derivative is recognised directly in other comprehensive income. When the forecast transaction results in the recognition of a monetary item, the amounts previously recognised directly in other comprehensive income are reclassified to the income statement.

### 2.3.20. Share-based payments

The Group issues equity-settled and cash-settled share-based payments to certain employees.

#### Equity-settled share-based payments

Equity-settled share-based payments are measured at fair value at the grant date (excluding the effect of non-market-based conditions) using the binomial pricing model or the Black & Scholes model for plans issued

from 2009. The cumulative recognised expense is based on the fair value at grant date and on the estimated number of shares that will eventually vest (including the effect of non-market-based vesting conditions). It is recorded in income from operations throughout the vesting period with a counterpart in equity.

At the end of each reporting period, the entity revises its estimates of the number of options that are expected to vest based on the non-market vesting conditions. It recognises the impact of the revision to original estimates, if any, in the income statement, with a corresponding adjustment to equity.

### Cash-settled share-based payments

For cash-settled share-based payments, a liability equal to the portion of the goods or services rendered is recognised at the current fair value. The fair value is remeasured at each balance-sheet date and at the date of settlement, with any changes recognised in the income statement.

The Group may also provide employees with the ability to purchase the Group's ordinary shares at a discounted price compared to that of the current market value. In that case, the Group records an expense based on the discount given and its estimate of the shares expected to vest.

### 2.3.21. Post-employment and other long-term defined employee benefits

The Group provides its employees with various types of post-employment benefits, such as pensions, retirement bonuses and medical care, and other long-term benefits, such as jubilee awards and deferred compensation schemes. The type of benefits offered to individual employees is related to local legal requirements as well as practices of the specific subsidiaries.

The Group's health care plans are generally contributory with participants' contributions adjusted annually.

### Post-employment defined benefit plans

For single employer defined benefit plans, the Group uses the Projected Unit Credit Method to determine the present value of its obligations and the related current and past service costs/profits. This method considers the actuarial assumptions' best estimates (for example, the expected turnover, the expected future salary increase and the expected mortality).

Most defined benefit pension liabilities are funded through pension funds legally distinct from the entities constituting the Group. Plan assets related to funded plans are invested mainly in equity and debt securities. Other supplemental pension plans sponsored by the Group for certain employees are directly paid by the employer as they become due. Post-employment medical benefit plans are predominantly unfunded.

The Group periodically reviews plan assets and obligations. The effects of any change in actuarial assumptions together with the differences between forecast and actual experience are assessed. The Group recognises in other comprehensive income the full amount of any actuarial gains and losses as well as the effect of any asset ceiling.

The estimated cost of providing defined benefits to employees is accrued during the years in which the employees render services. In the income statement, the service cost is included in the income from operations. The amortisation of unrecognised prior service cost/profit and specific events impacts (e.g. curtailments) are recognised in other expense. Interest cost and expected return on assets are included in financial income (expenses).

The Group also participates in multi-employer defined benefit plans, mainly in the United States and Canada. As corresponding funds are not able to provide sufficient information to use defined benefit accounting, these plans are accounted for as defined contribution plans (see below).

### Post-employment defined contribution plans

For defined contribution plans, the Group pays contributions to independently administered funds at a fixed percentage of employees' pay. These contributions are recorded as operating expenses.

### Other long-term employee benefits

The accounting method used when recognising obligations arising from other long-term employee benefits is similar to the method used for post-employment defined benefits, except that prior service cost and actuarial gains/losses are immediately recognised in full in "other income/expense" in the income statement.

### 2.3.22. Off balance sheet commitments

#### Commitments arising from execution of operations controlled by the Group

In the ordinary course of business, the Group is committed to fulfil various types of obligations arising from customer contracts (among which full performance and warranty obligations). Obligations may also arise from leases and regulations in respect of tax, custom duties, environment, health and safety. These obligations may or may not be guaranteed by bonds issued by banks or insurance companies.

As the Group is in a position to control the execution of these obligations, a liability only arises if an obligating event (such as a dispute or a late completion) has occurred and makes it likely that an outflow of resources will occur.

When the liability is considered as only possible but not probable or, when probable, cannot be reliably measured, it is disclosed as a contingent liability.

When the liability is considered as probable and can be reliably measured, the impact on the financial statements is the following:

- if the additional liability is directly related to the execution of a customer contract in progress, the estimated gross margin at completion of the contract is reassessed; the cumulated margin recognised to date based on the percentage of completion and the accrual for future contract loss, if any, are adjusted accordingly;
- if the additional liability is not directly related to a contract in progress, a liability is immediately recognised on the balance sheet.

The contractual obligations of subcontractors towards the Group are of the same nature as those of the Group towards its customers. They may be secured by the same type of guarantees as those provided to the Group's customers.

No contingent asset is disclosed when the likelihood of the obligation of the third party remains remote or possible. A contingent asset is disclosed only when the obligation becomes probable. Any additional income resulting from a third party obligation is taken into account only when it becomes virtually certain.

#### **Commitments arising from execution of operations not wholly within the control of the Group**

Obligations towards third parties may arise from on-going legal proceedings, credit guarantees covering the financial obligations of third parties in cases where the Group is the vendor, and indemnification guarantees issued in connection with disposals of business entities.

In case of legal proceedings, a contingent liability is disclosed when the liability is considered as only possible but not probable, or, when probable, cannot be reliably measured. In case of commitments arising from guarantees issued, contingent liabilities are disclosed as soon as guarantees have been delivered and as long as they have not matured.

A provision is recorded if the obligation is considered as probable and can be reliably measured.

Contingent assets arising from legal proceedings or guarantees delivered by third parties are only disclosed when they become probable.

#### **2.3.23. Earnings per share**

Basic earnings per share are computed by dividing the period net profit (loss) before the financial cost (net of tax) of bonds reimbursable with shares, by the weighted average number of outstanding shares during the period increased by the weighted average number of shares to be issued on reimbursement of bonds reimbursable with shares ("ORA").

Diluted earnings per share are computed by dividing the period net profit (loss) before the financial cost (net of tax) of bonds reimbursable with shares, by the weighted average number of outstanding shares during the period adjusted in order to take into consideration all dilutive instruments (ORA, stock options, free shares).

## **NOTE 3 · SCOPE OF CONSOLIDATION**

### **3.1. Transmashholding**

On 27 May 2011, Alstom finalised its partnership agreement with Transmashholding ("TMH"), the leading Russian rail manufacturer, by acquiring a 25% stake (plus one share) of the Breakers Investments B.V., which holds 100% of Transmashholding. The deal was closed after Alstom received all approvals of the appropriate Russian authorities.

Alstom share in the Breakers Investments B.V. group is an investment in associates and is therefore accounted in accordance with the equity method.

Pursuant to the closing of the deal, Alstom made, during the fiscal year ended 31 March 2012, an initial payment of \$75 million (€54 million) to the selling shareholders. The remainder of the price was calculated using a computation method based on TMH operating results over a four-year period (2008-2011) and net debt. It was paid in October 2012 for an amount of \$347 million (€253 million).

In accordance with IAS 28, the Group has recognised its share in the net fair values of the associate's identifiable assets acquired and liabilities assumed at the acquisition date. The valuation of assets acquired and liabilities assumed at their fair value has resulted in the recognition of

new intangible assets (order backlog margin and customer relationships) and the re-measurement of tangible assets, inventories and liabilities. This valuation was finalised on 27 May 2012. The resulting goodwill amounts to €117 million and is included in the carrying amount of the investment.

### **3.2. BrightSource Energy**

On 25 October 2012, Alstom has invested \$40 million in the American company BrightSource Energy, Inc to reinforce its partnership with the solar power pioneering company. Since its initial investment in 2010, Alstom has progressively increased its investment and now holds more than 20% of the capital.

Since that date, BrightSource Energy Inc has been consolidated under the equity method. Accordingly, a preliminary valuation has been determined as at 25 October 2012. The fair value of assets acquired and liabilities assumed may be subsequently adjusted during a maximum of 12 months from the date the investment becomes an associate, depending on new information obtained about the facts and circumstances existing at the acquisition date.

## NOTE 4 • SEGMENT INFORMATION

### 4.1. Key indicators by operating segment

AT 31 MARCH 2013

<i>(in € million)</i>	Thermal Power	Renewable Power	Grid	Transport	Corporate & Others	Eliminations	Total
Sales	9,252	1,808	3,922	5,461	-	(174)	20,269
Inter Sector eliminations	(73)	(5)	(93)	(3)	-	174	-
<b>Total Sales</b>	<b>9,179</b>	<b>1,803</b>	<b>3,829</b>	<b>5,458</b>	<b>-</b>	<b>-</b>	<b>20,269</b>
<b>Income (loss) from operations</b>	<b>959</b>	<b>88</b>	<b>238</b>	<b>297</b>	<b>(119)</b>	<b>-</b>	<b>1,463</b>
<b>Earnings (loss) before interest and taxes</b>	<b>915</b>	<b>(10)</b>	<b>140</b>	<b>287</b>	<b>(145)</b>	<b>-</b>	<b>1,187</b>
Financial income (expense)							(223)
Income tax							(193)
Share in net income of equity investments							47
<b>NET PROFIT</b>							<b>818</b>
<b>Segment assets <sup>(1)</sup></b>	<b>10,835</b>	<b>3,106</b>	<b>5,462</b>	<b>6,648</b>	<b>1,227</b>	<b>-</b>	<b>27,278</b>
Deferred taxes (assets)							1,711
Prepaid employee defined benefit costs							10
Financial assets							2,613
<b>TOTAL ASSETS</b>							<b>31,612</b>
<b>Segment liabilities <sup>(2)</sup></b>	<b>8,571</b>	<b>1,906</b>	<b>3,280</b>	<b>4,724</b>	<b>1,146</b>	<b>-</b>	<b>19,627</b>
Deferred taxes (liabilities)							284
Accrued employee defined benefit costs							1,642
Financial debt							4,955
Total equity							5,104
<b>TOTAL EQUITY AND LIABILITIES</b>							<b>31,612</b>
<b>Capital employed <sup>(3)</sup></b>	<b>2,264</b>	<b>1,200</b>	<b>2,182</b>	<b>1,924</b>	<b>81</b>	<b>-</b>	<b>7,651</b>
<b>Capital expenditure</b>	<b>(238)</b>	<b>(166)</b>	<b>(113)</b>	<b>(175)</b>	<b>(46)</b>	<b>-</b>	<b>(738)</b>
<b>Depreciation and amortisation in EBIT</b>	<b>225</b>	<b>34</b>	<b>134</b>	<b>125</b>	<b>44</b>	<b>-</b>	<b>562</b>

(1) Segment assets are defined as the sum of goodwill, intangible assets, property, plant and equipment, associates and other investments, other non-current assets (other than those related to financial debt and to employee defined benefit plans), inventories, construction contracts in progress assets, trade receivables and other operating assets.

(2) Segment liabilities are defined as the sum of non-current and current provisions, construction contracts in progress liabilities, trade payables and other operating liabilities.

(3) Capital employed corresponds to segment assets minus segment liabilities.



AT 31 MARCH 2012

<i>(in € million)</i>	Thermal Power	Renewable Power	Grid	Transport	Corporate & Others	Eliminations	Total
Sales	8,771	2,039	4,060	5,171	-	(107)	19,934
Inter Sector eliminations	(45)	(12)	(47)	(3)	-	107	-
<b>Total Sales</b>	<b>8,726</b>	<b>2,027</b>	<b>4,013</b>	<b>5,168</b>	<b>-</b>	<b>-</b>	<b>19,934</b>
Income (loss) from operations	850	150	248	264	(106)	-	1,406
Earnings (loss) before interest and taxes	824	149	83	222	(206)	-	1,072
Financial income (expense)							(177)
Income tax							(179)
Share in net income of equity investments							28
<b>NET PROFIT</b>							<b>744</b>
Segment assets <sup>(1)</sup>	11,570	2,674	5,197	5,778	1,814	-	27,033
Deferred taxes (assets)							1,472
Prepaid employee defined benefit costs							12
Financial assets							2,530
<b>TOTAL ASSETS</b>							<b>31,047</b>
Segment liabilities <sup>(2)</sup>	9,500	1,630	3,058	4,375	1,435	-	19,998
Deferred taxes (liabilities)							176
Accrued employee defined benefit costs							1,417
Financial debt							5,022
Total equity							4,434
<b>TOTAL EQUITY AND LIABILITIES</b>							<b>31,047</b>
Capital employed <sup>(3)</sup>	2,070	1,044	2,139	1,403	379	-	7,035
Capital expenditure	(264)	(179)	(140)	(188)	(42)	-	(813)
Depreciation and amortisation in EBIT	223	45	209	138	41	-	656

(1) Segment assets are defined as the sum of goodwill, intangible assets, property, plant and equipment, associates and other investments, other non-current assets (other than those related to financial debt and to employee defined benefit plans), inventories, construction contracts in progress assets, trade receivables and other operating assets.

(2) Segment liabilities are defined as the sum of non-current and current provisions, construction contracts in progress liabilities, trade payables and other operating liabilities.

(3) Capital employed corresponds to segment assets *minus* segment liabilities.

## 4.2. Key indicators by geographic area

### SALES BY COUNTRY OF DESTINATION

<i>(in € million)</i>	Year ended	
	31 March 2013	31 March 2012
Western Europe	6,571	7,077
<i>thereof France</i>	2,168	2,136
Eastern Europe	1,953	1,352
North America	2,583	2,440
<i>thereof USA</i>	1,689	1,630
South & Central America	1,561	1,752
Asia & Pacific	4,478	4,316
Middle East & Africa	3,123	2,997
<b>TOTAL GROUP</b>	<b>20,269</b>	<b>19,934</b>

## NON-CURRENT ASSETS BY COUNTRY OF ORIGIN

<i>(in € million)</i>	Year ended	
	At 31 March 2013	At 31 March 2012
Western Europe <sup>(1)</sup>	9,280	8,704
<i>thereof France</i> <sup>(2)</sup>	2,957	2,832
Eastern Europe	245	310
North America	707	771
<i>thereof USA</i>	588	670
South & Central America	201	188
Asia & Pacific	885	885
Middle East & Africa	46	36
<b>TOTAL GROUP</b>	<b>11,364</b>	<b>10,894</b>

(1) This amount includes goodwill of Thermal Power & Renewable Power Sectors.

(2) This amount includes goodwill of Grid Sector.

Non-current assets by country of origin are defined as non-current assets other than those related to financial debt, to employee defined benefit plans and deferred tax assets.

### 4.3. Information about major customers

No external customer represents individually 10% or more of the Group's consolidated sales.

## NOTE 5 • RESEARCH AND DEVELOPMENT EXPENDITURE

<i>(in € million)</i>	Year ended	
	31 March 2013	31 March 2012
<b>Research and development expenses</b>	<b>(737)</b>	<b>(682)</b>
Developments costs capitalised during the period (see Note 10.2)	(233)	(293)
Amortisation expense of capitalised development costs (see Note 10.2)	82	113
Amortisation of acquired technology (see Note 10.2)	94	82
<b>TOTAL RESEARCH AND DEVELOPMENT EXPENDITURE</b>	<b>(794)</b>	<b>(780)</b>

During the fiscal year ended 31 March 2013, the Group invested €794 million in research and development to develop new technologies and to extend its existing product offering.

These research and development programmes relate mainly to:

- the ongoing upgrade of the range of gas turbines and the incremental performance improvements of nuclear steam turbines;
- the adaptation of Transport Sector product offering to the clients' needs;
- the development of HALIADE™ offshore wind turbines;
- the development of Super Grid and Smart Grid technologies.

## NOTE 6 • OTHER INCOME AND OTHER EXPENSE

<i>(in € million)</i>	Year ended	
	31 March 2013	31 March 2012
Capital gains on disposal of businesses	6	-
Other	-	3
<b>Other income</b>	<b>6</b>	<b>3</b>
Capital losses on disposal of businesses	(50)	(2)
Restructuring costs	(137)	(83)
Expenses exclusively incurred in the context of business combinations	(45)	(156)
Other	(50)	(96)
<b>Other expense</b>	<b>(282)</b>	<b>(337)</b>
<b>OTHER INCOME (EXPENSE)</b>	<b>(276)</b>	<b>(334)</b>

Restructuring costs derive from the adaptation of the Group's footprint in order to take into account the lower demand in developed countries (Europe and USA) and the situation of global overcapacity faced in some segments.

Expenses exclusively incurred in the context of business combinations comprise the amortisation of acquired margin related to Grid's acquisition and the costs incurred to effect the acquisition of Grid.

Other income and other expense mainly derive from components of the post-employment and other long term defined benefit expense, costs of legal proceedings that have arisen outside the ordinary course of business and non-recurring impairment losses on assets.

## NOTE 7 • FINANCIAL INCOME (EXPENSE)

<i>(in € million)</i>	Year ended	
	31 March 2013	31 March 2012
Interest income	29	37
Other financial income	7	18
<b>Financial income</b>	<b>36</b>	<b>55</b>
Interest expense	(194)	(179)
Net financial expense from employee defined benefit plans	(27)	(4)
Net exchange loss	(5)	(11)
Other financial expenses	(33)	(38)
<b>Financial expense</b>	<b>(259)</b>	<b>(232)</b>
<b>FINANCIAL INCOME (EXPENSE)</b>	<b>(223)</b>	<b>(177)</b>
<i>Out of which</i>		
• Financial income/(expense) arising from Financial instruments (see Note 25)	(195)	(173)

Interest income of €29 million represents the remuneration of the Group's cash positions over the period.

Interest expense of €(194) million represents the cost of the gross financial debt.

Other financial expense of €(33) million incorporates fees and commitment fees paid on guaranteed facilities, syndicated loans and other financing facilities for €(19) million versus €(15) million for the fiscal year ended 31 March 2012.

## NOTE 8 • TAXATION

### 8.1. Analysis of income tax charge

The following table summarises the components of income tax charge for the years ended 31 March 2013 and 2012:

<i>(in € million)</i>	Year ended	
	31 March 2013	31 March 2012
Current income tax charge	(266)	(273)
Deferred income tax charge	73	94
<b>Income tax charge</b>	<b>(193)</b>	<b>(179)</b>
<b>EFFECTIVE TAX RATE</b>	<b>20%</b>	<b>20%</b>

The geographical mix of income before taxes has enabled the Group to maintain the effective tax rate to 20% for the period ended 31 March 2013. Note that, although the rate has been stable over the last years, it may change from one year to another notably based on the following events:

- the geographical mix of income before taxes;

- the Group's ability to recognise new deferred tax assets and to use its tax loss carry forwards; and
- the outcome of income tax audits.

### 8.2. Effective income tax rate

The following table provides a reconciliation from the income tax charge valued at the French statutory rate to the actual income tax charge for the years ended 31 March 2013 and 2012:

<i>(in € million)</i>	Year ended	
	31 March 2013	31 March 2012
<b>Pre-tax income</b>	<b>964</b>	<b>895</b>
Statutory income tax rate of the parent company	34.43%	34.43%
<b>Expected tax charge</b>	<b>(332)</b>	<b>(308)</b>
Impact of:		
• Difference between normal tax rate applicable in France and normal tax rate in force in jurisdictions outside France	144	105
• Transactions liable for reduced tax rate	(20)	11
• Changes in unrecognised deferred tax assets	2	(69)
• Changes in tax rates	(10)	(7)
• Additional tax expenses (withholding tax, CVAE in France and IRAP in Italy)	(68)	(73)
• Permanent differences and other (*)	91	162
<b>Income tax charge</b>	<b>(193)</b>	<b>(179)</b>
<b>EFFECTIVE TAX RATE</b>	<b>20%</b>	<b>20%</b>

(\*) Including operations of internal reorganisation.

### 8.3. Deferred tax assets and liabilities

<i>(in € million)</i>	Year ended	
	At 31 March 2013	At 31 March 2012
Deferred tax assets	1,711	1,472
Deferred tax liabilities	(284)	(176)
<b>DEFERRED TAX ASSETS, NET</b>	<b>1,427</b>	<b>1,296</b>

## 8.4. Changes in net deferred tax assets

Net deferred tax assets reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The following table summarises the significant components of the Group's net deferred tax assets as of 31 March 2013 and 2012:

<i>(in € million)</i>	At 31 March 2012	Change in P&L	Change in equity (*)	Changes in consolidation scope	Translation adjustments and other changes	At 31 March 2013
Differences between carrying amount and tax basis of tangible and intangible assets	(21)	(24)	-	11	(37)	(71)
Accruals for employee benefit costs not yet deductible	242	(16)	55	-	(3)	278
Provisions and other accruals not yet deductible	500	53	-	-	(37)	516
Differences in recognition of margin on construction contracts	(279)	48	-	-	98	(133)
Tax loss carry forwards	1,035	(106)	-	-	(51)	878
Other	(181)	118	(2)	(4)	28	(41)
<b>NET DEFERRED TAX ASSETS/(LIABILITIES)</b>	<b>1,296</b>	<b>73</b>	<b>53</b>	<b>7</b>	<b>(2)</b>	<b>1,427</b>

(\*) Mainly related to actuarial gains and losses directly recognised in equity (see consolidated statement of comprehensive income).

<i>(in € million)</i>	At 31 March 2011	Change in P&L	Change in equity (*)	Acquisitions through business combinations	Translation adjustments and other changes	At 31 March 2012
Differences between carrying amount and tax basis of tangible and intangible assets	(13)	(13)	-	-	5	(21)
Accruals for employee benefit costs not yet deductible	213	(15)	31	1	12	242
Provisions and other accruals not yet deductible	500	(1)	-	-	1	500
Differences in recognition of margin on construction contracts	(299)	11	-	-	9	(279)
Tax loss carry forwards	911	177	-	(5)	(48)	1,035
Other	(113)	(65)	4	15	(22)	(181)
<b>NET DEFERRED TAX ASSETS/(LIABILITIES)</b>	<b>1,199</b>	<b>94</b>	<b>35</b>	<b>11</b>	<b>(43)</b>	<b>1,296</b>

(\*) Mainly related to actuarial gains and losses directly recognised in equity (see consolidated statement of comprehensive income).

The Group is satisfied as to the recoverability of its recognised net deferred tax assets at 31 March 2013 (€1,427 million) on the basis of an extrapolation of the last three-year business plan and the strategy for the long-term recovery of tax losses in each country.

Deferred tax assets still unrecognised amount to €1,255 million at 31 March 2013 (€1,225 million at 31 March 2012). Most of these unrecognised deferred taxes are originated from tax loss carry forward (€1,052 million at 31 March 2013 and €827 million at 31 March 2012), out of which €491 million are not subject to expiry at 31 March 2013 (€500 million at 31 March 2012).

## NOTE 9 • EARNINGS PER SHARE

### 9.1. Earnings

<i>(in € million)</i>	Year ended	
	31 March 2013	31 March 2012
Net profit attributable to equity holders of the parent	802	732
<b>Earnings attributable to equity holders of the parent used to calculate basic and diluted earnings per share</b>	<b>802</b>	<b>732</b>

## 9.2. Number of shares

	Year ended	
	31 March 2013	31 March 2012
Weighted average number of ordinary shares used to calculate basic earnings per share	301,376,784	294,522,251
Effect of dilutive instruments other than bonds reimbursable with shares:		
• Stock options and free shares (*) (LTI plan)	2,724,963	2,962,692
• Free shares (Alstom Sharing plans)	226,044	225,727
<b>Weighted average number of ordinary shares used to calculate diluted earnings per share</b>	<b>304,327,791</b>	<b>297,710,670</b>

(\*) Stock options taken into consideration in the calculation of the diluted earnings per share only relate to plans 7, 8 and 14, plans 9, 10, 12, 13 and 15 being out of the money as at 31 March 2013.

## 9.3. Earnings per share

(in €)	Year ended	
	31 March 2013	31 March 2012
Basic earnings per share	2.66	2.49
Diluted earnings per share	2.64	2.46

## NOTE 10 • GOODWILL AND INTANGIBLE ASSETS

Goodwill and intangible assets are reviewed for impairment at least annually and whenever events or circumstances indicate that they might be impaired. Such events or circumstances are related to significant, unfavourable changes that are of a lasting nature and affect either the

economic environment or the assumptions or the targets adopted as of the acquisition date. An impairment loss is recognised when the recoverable value of the assets tested becomes durably lower than their carrying value.

### 10.1. Goodwill

(in € million)	At 31 March 2012	Acquisitions and adjustments on preliminary goodwill	Disposals	Translation adjustments and other changes	At 31 March 2013
Thermal Power	3,208	-	(3)	16	3,221
Renewable Power	489	-	-	-	489
Transport	661	29	-	1	691
Grid	1,125	9	-	1	1,135
<b>GOODWILL</b>	<b>5,483</b>	<b>38</b>	<b>(3)</b>	<b>18</b>	<b>5,536</b>
of which:					
Gross value	5,483	38	(3)	18	5,536
Impairment	-	-	-	-	-



<i>(in € million)</i>	At 31 March 2011	Acquisitions and adjustments on preliminary goodwill	Disposals	Translation adjustments and other changes	At 31 March 2012
Thermal Power	3,180	-	-	28	3,208
Renewable Power	488	-	-	1	489
Transport	568	90	-	3	661
Grid	1,160	(37)	-	2	1,125
<b>GOODWILL</b>	<b>5,396</b>	<b>53</b>	<b>-</b>	<b>34</b>	<b>5,483</b>
<i>of which:</i>					
Gross value	5,396	53	-	34	5,483
Impairment	-	-	-	-	-

### Goodwill impairment test

As of 31 March 2013, Alstom tested the value of goodwill allocated to its groups of Cash Generating Units (CGU) applying valuation methods consistent with previous years. Alstom ensured that the recoverable amount of groups of CGU exceeded their carrying value (including goodwill).

### Presentation of key assumptions used for the determination of recoverable amounts

The value in use of each group of CGU is determined as the discounted value of future cash flows by using cash flow projections for the next

three years consistent with the Group's internal business plan, the extrapolation of the two following years and the most recent forecasts prepared by the Sectors.

The value in use is mainly driven by the terminal value which is particularly sensitive to changes in the assumptions on the discount rate after tax, the long-term growth rate and the terminal value operating margin (corresponding to the ratio Income from Operations over Sales).

The main assumptions used to assess the recoverable amounts of goodwill are as follows:

	Thermal Power	Renewable Power	Transport	Grid
Net carrying amount of goodwill at 31 March 2013 <i>(in € million)</i>	3,221	489	691	1,135
Value elected as representative of the recoverable value	value in use	value in use	value in use	value in use
Number of years over which cash flow estimates are available	3 years	3 years	3 years	3 years
Extrapolation period of cash flow estimates	2 years	2 years	2 years	2 years
<b>Long-term growth rate at 31 March 2013</b>	<b>2.0%</b>	<b>2.0%</b>	<b>1.5%</b>	<b>2.0%</b>
Long-term growth rate at 31 March 2012	2.0%	2.0%	1.5%	2.0%
<b>After tax discount rate at 31 March 2013 (*)</b>	<b>9.0%</b>	<b>9.0%</b>	<b>9.0%</b>	<b>9.0%</b>
After tax discount rate at 31 March 2012 (*)	9.0%	9.0%	9.0%	9.0%

(\*) The application of pre-tax discount rates to pre-tax cash flows leads to the same valuation of cash generating units.

As of 31 March 2013, the recoverable amounts of the four Sectors exceeded their carrying value and the impairment test supports the Group's opinion that goodwill is not impaired.

For all the Sectors, no impairment of the goodwill would need to be recognized when the value in use is calculated by using either:

- a discount rate that ranges from 120 to 2 100 basis points above the base rate of 9%, depending on the Sector;
- a below 0.5% long-term growth rate.

Sensitivity of enterprise values to key assumptions can be presented as follows:

<i>(in € million)</i>	Thermal Power		Renewable Power		Transport		Grid	
	-100 bp	+100 bp	-100 bp	+100 bp	-100 bp	+100 bp	-100 bp	+100 bp
After tax discount rate	1,687	(1,263)	322	(239)	531	(405)	444	(332)
Long-term growth rate	(621)	716	(105)	121	(172)	196	(142)	164

## 10.2. Intangible assets

<i>(in € million)</i>	At 31 March 2012	Additions/ disposals/ amortisation	Changes in consolidation scope	Translation adjustments and other changes	At 31 March 2013
Development costs	1,686	233	-	(19)	1,900
Acquired technology	1,422	-	-	-	1,422
Other intangible assets	697	36	13	76	822
<b>Gross value</b>	<b>3,805</b>	<b>269</b>	<b>13</b>	<b>57</b>	<b>4,144</b>
Development costs	(657)	(82)	-	15	(724)
Acquired technology	(748)	(94)	-	-	(842)
Other intangible assets	(479)	(70)	1	(48)	(596)
<b>Amortisation and impairment</b>	<b>(1,884)</b>	<b>(246)</b>	<b>1</b>	<b>(33)</b>	<b>(2,162)</b>
Development costs	1,029	151	-	(4)	1,176
Acquired technology	674	(94)	-	-	580
Other intangible assets	218	(34)	14	28	226
<b>NET VALUE</b>	<b>1,921</b>	<b>23</b>	<b>14</b>	<b>24</b>	<b>1,982</b>

<i>(in € million)</i>	At 31 March 2011	Additions/ disposals/ amortisation	Acquisitions through business combinations	Translation adjustments and other changes	At 31 March 2012
Development costs	1,395	293	-	(2)	1,686
Acquired technology	1,422	-	-	-	1,422
Other intangible assets	678	6	(3)	16	697
<b>Gross value</b>	<b>3,495</b>	<b>299</b>	<b>(3)</b>	<b>14</b>	<b>3,805</b>
Development costs	(549)	(113)	-	5	(657)
Acquired technology	(668)	(82)	-	2	(748)
Other intangible assets	(344)	(124)	-	(11)	(479)
<b>Amortisation and impairment</b>	<b>(1,561)</b>	<b>(319)</b>	<b>-</b>	<b>(4)</b>	<b>(1,884)</b>
Development costs	846	180	-	3	1,029
Acquired technology	754	(82)	-	2	674
Other intangible assets	334	(118)	(3)	5	218
<b>NET VALUE</b>	<b>1,934</b>	<b>(20)</b>	<b>(3)</b>	<b>10</b>	<b>1,921</b>

Technology and licence agreements acquired through the combination with ABB ALSTOM POWER in 1999 and 2000 and through the combination with Grid activities in 2010 represent the bulk of the gross amount reported as acquired technology.

The impairment test at 31 March 2013 supports the Group's opinion that intangible assets are not impaired.

## NOTE 11 • PROPERTY, PLANT AND EQUIPMENT

<i>(in € million)</i>	At 31 March 2012	Acquisitions/ Amortisation/ Impairments	Disposals	Changes in consolidation scope	Translation adjustments and other changes	At 31 March 2013
Land	195	4	(7)	-	4	196
Buildings	1,760	61	(24)	63	63	1,923
Machinery and equipment	2,842	155	(155)	5	104	2,951
Constructions in progress	334	188	(4)	-	(126)	392
Tools, furniture, fixtures and other	584	42	(56)	(1)	(73)	496
<b>Gross value</b>	<b>5,715</b>	<b>450</b>	<b>(246)</b>	<b>67</b>	<b>(28)</b>	<b>5,958</b>
Land	(9)	-	(1)	-	-	(10)
Buildings	(673)	(77)	18	3	(7)	(736)
Machinery and equipment	(1,798)	(179)	126	4	(5)	(1,852)
Constructions in progress	-	-	-	-	-	-
Tools, furniture, fixtures and other	(383)	(44)	48	1	42	(336)
<b>Amortisation and impairment</b>	<b>(2,863)</b>	<b>(300)</b>	<b>191</b>	<b>8</b>	<b>30</b>	<b>(2,934)</b>
Land	186	4	(8)	-	4	186
Buildings	1,087	(16)	(6)	66	56	1,187
Machinery and equipment	1,044	(24)	(29)	9	99	1,099
Constructions in progress	334	188	(4)	-	(126)	392
Tools, furniture, fixtures and other	201	(2)	(8)	-	(31)	160
<b>NET VALUE</b>	<b>2,852</b>	<b>150</b>	<b>(55)</b>	<b>75</b>	<b>2</b>	<b>3,024</b>

<i>(in € million)</i>	At 1 March 2011	Acquisitions/ Amortisation/ Impairments	Disposals	Acquisitions through business combinations	Translation adjustments and other changes	At 31 March 2012
Land	197	6	(5)	-	(3)	195
Buildings	1,612	72	(6)	(5)	87	1,760
Machinery and equipment	2,716	145	(103)	-	84	2,842
Constructions in progress	262	209	(1)	-	(136)	334
Tools, furniture, fixtures and other	538	53	(42)	-	35	584
<b>Gross value</b>	<b>5,325</b>	<b>485</b>	<b>(157)</b>	<b>(5)</b>	<b>67</b>	<b>5,715</b>
Land	(9)	-	-	-	-	(9)
Buildings	(603)	(68)	10	-	(12)	(673)
Machinery and equipment	(1,715)	(185)	96	-	6	(1,798)
Constructions in progress	-	-	-	-	-	-
Tools, furniture, fixtures and other	(347)	(54)	38	-	(20)	(383)
<b>Amortisation and impairment</b>	<b>(2,674)</b>	<b>(307)</b>	<b>144</b>	<b>-</b>	<b>(26)</b>	<b>(2,863)</b>
Land	188	6	(5)	-	(3)	186
Buildings	1,009	4	4	(5)	75	1,087
Machinery and equipment	1,001	(40)	(7)	-	90	1,044
Constructions in progress	262	209	(1)	-	(136)	334
Tools, furniture, fixtures and other	191	(1)	(4)	-	15	201
<b>NET VALUE</b>	<b>2,651</b>	<b>178</b>	<b>(13)</b>	<b>(5)</b>	<b>41</b>	<b>2,852</b>

The net value of tangible assets held under finance leases and included in the above data is as follows:

<i>(in € million)</i>	At 31 March 2013	At 31 March 2012
Land	13	13
Buildings	63	70
Machinery and equipment	1	3
Tools, furniture, fixtures and other	13	15
<b>NET VALUE OF TANGIBLE ASSETS HELD UNDER FINANCE LEASES</b>	<b>90</b>	<b>101</b>

Commitments to purchase fixed assets amount to €118 million at 31 March 2013. They notably arise from the construction of a new facility in India for the manufacturing of turbines and in Germany.

## NOTE 12 · ASSOCIATES AND NON CONSOLIDATED INVESTMENTS

### 12.1. Associates

#### Financial information on associates

<i>(in € million)</i>	At 31 March 2013	At 31 March 2012	At 31 March 2013 % ownership
The Breakers Investments B.V. (Transmashholding) <sup>(1)</sup>	388	307	25.0%
BrightSource Energy <sup>(2)</sup>	106	-	25.2%
NTL (Translohr) <sup>(3)</sup>	25	-	51.0%
Cerrey – Babcock & Wilcox de Mexico	23	19	25.0%
Other <sup>(4)</sup>	55	51	-
<b>TOTAL ASSOCIATES</b>	<b>597</b>	<b>377</b>	

(1) See Note 3.

(2) Following an additional investment of \$40 million in October 2012, BrightSource Energy is consolidated under equity method instead of being accounted as a non-consolidated investment before.

(3) NTL was acquired on 28 September 2012. Based on contractual agreements, Alstom doesn't exercise control over NTL.

(4) No other investment's net value individually exceeds €15 million.

<i>(in € million)</i>	Closing date	Total assets at closing date	Total liabilities at closing date	Total revenues	Total net profit (loss)
The Breakers Investments B.V. (Transmashholding) <sup>(1)</sup>	31 December	2,373	1,241	2,807	219
BrightSource Energy	31 December	449	300	226	(118)
NTL (Translohr) <sup>(2)</sup>	30 June	64	44	-	-
Cerrey – Babcock & Wilcox de Mexico	31 December	232	138	179	12

(1) Financial statements of year end closing 31 December 2012 are not yet available. Financial statements of year end closing 31 December 2011 are mentioned here.

(2) Latest financial statements available, at the date of transfer of assets from Lohr industrie.

#### Movements in the period

<i>(in € million)</i>	Year ended	
	31 March 2013	31 March 2012
<b>Opening balance</b>	<b>377</b>	<b>43</b>
Share in net income/(loss) of equity investments	47	28
Dividends	(29)	(1)
Acquisitions	80	276
Transfer from non consolidated investments	118	22
Translation adjustments and other	4	9
<b>CLOSING BALANCE</b>	<b>597</b>	<b>377</b>

## 12.2. Non-consolidated investments

### Financial information on non-consolidated investments

<i>(in € million)</i>	At 31 March 2013			At 31 March 2012	At 31 March 2013
	Gross	Impairment	Net	Net	% ownership
Tidal Generation Ltd <sup>(1)</sup>	50	-	50	-	100.0%
BrightSource Energy <sup>(2)</sup>	-	-	-	97	
Other <sup>(3)</sup>	60	(9)	51	57	
<b>TOTAL</b>	<b>110</b>	<b>(9)</b>	<b>101</b>	<b>154</b>	

(1) On 29 January 2013, Alstom completed the acquisition of Tidal Generation Limited. Tidal Generation Limited is at the forefront in the design, development and manufacture of tidal stream turbines which capture and convert the energy of tidal streams to generate electrical power. Alstom made an initial payment of €16 million (approximately €21 million) to the selling shareholder. The remainder of the price will be based on the achievement of technical milestones and paid by the end of June 2014. As its consolidation did not have a material impact on the consolidated financial statement at 31 March 2013, Tidal Generation Limited will be consolidated from 1 April 2013.

(2) Following an additional investment of \$40 million in October 2012, BrightSource Energy is consolidated under equity method instead of being accounted as a non-consolidated investment before.

(3) No other investment's net value individually exceeds €10 million.

### Movements in the period

<i>(in € million)</i>	Year ended	
	31 March 2013	31 March 2012
Opening balance	154	164
Change in fair value <sup>(*)</sup>	(1)	(13)
Acquisitions	62	16
Transfer to associates	(114)	(25)
Translation adjustments and other	-	12
<b>CLOSING BALANCE</b>	<b>101</b>	<b>154</b>

(\*) Variation recorded in other comprehensive income as fair value gains/(losses) on assets available for sale.

## NOTE 13 • OTHER NON-CURRENT ASSETS

<i>(in € million)</i>	At 31 March 2013	At 31 March 2012
Financial non-current assets associated to financial debt <sup>(*)</sup>	382	426
Long-term loans, deposits and other	133	119
<b>OTHER NON-CURRENT ASSETS</b>	<b>515</b>	<b>545</b>

(\*) These non-current assets relate to a long-term rental of trains and associated equipment to a London metro operator (see Notes 24 and 29). They are made up as follows:

- at 31 March 2013, €368 million receivables and €14 million deposit;
- at 31 March 2012, €400 million receivables and €26 million deposit.

## NOTE 14 • INVENTORIES

<i>(in € million)</i>	At 31 March 2013	At 31 March 2012
Raw materials and supplies	989	910
Work in progress	2,145	2,207
Finished products	354	374
<b>Inventories, gross</b>	<b>3,488</b>	<b>3,491</b>
Raw materials and supplies	(138)	(154)
Work in progress	(157)	(144)
Finished products	(49)	(55)
<b>Write-down</b>	<b>(344)</b>	<b>(353)</b>
<b>INVENTORIES, NET</b>	<b>3,144</b>	<b>3,138</b>

Changes in inventory write-down recognised as income for the fiscal year ended 31 March 2013 amount to €9 million (€47 million income for the year ended 31 March 2012).

## NOTE 15 • CONSTRUCTION CONTRACTS IN PROGRESS

<i>(in € million)</i>	At 31 March 2013	At 31 March 2012	Variation
Construction contracts in progress, assets	4,158	3,752	406
Construction contracts in progress, liabilities	(9,909)	(9,508)	(401)
<b>CONSTRUCTION CONTRACTS IN PROGRESS</b>	<b>(5,751)</b>	<b>(5,756)</b>	<b>5</b>

<i>(in € million)</i>	At 31 March 2013	At 31 March 2012	Variation
Contract costs incurred <i>plus</i> recognised profits <i>less</i> recognised losses to date	58,511	55,138	3,373
Less progress billings	(61,084)	(57,463)	(3,621)
<b>Construction contracts in progress excluding down payments received from customers</b>	<b>(2,573)</b>	<b>(2,325)</b>	<b>(248)</b>
Down payments received from customers	(3,178)	(3,431)	253
<b>CONSTRUCTION CONTRACTS IN PROGRESS</b>	<b>(5,751)</b>	<b>(5,756)</b>	<b>5</b>

## NOTE 16 • TRADE RECEIVABLES

<i>(in € million)</i>	Total	No past due on the closing date	Past due on the closing date		
			Less than 60 days	Between 60 and 180 days	More than 180 days
<b>Trade receivables at 31 March 2013</b>	<b>5,285</b>	<b>4,287</b>	<b>350</b>	<b>261</b>	<b>387</b>
• o/w gross	5,394	4,307	351	265	471
• o/w impairment	(109)	(20)	(1)	(4)	(84)
<b>Trade receivables at 31 March 2012</b>	<b>5,692</b>	<b>4,705</b>	<b>335</b>	<b>200</b>	<b>452</b>
• o/w gross	5,806	4,732	337	203	534
• o/w impairment	(114)	(27)	(2)	(3)	(82)



Impairment losses are determined considering the risk of non-recovery assessed on a case by case basis. Due to the type of business operated by the Group, past due receivables are frequently representative of outstanding amounts confirmed by customers but whose payment is

subject to clearance of items raised during inspection of works. Such receivables do remain fully recoverable; costs to be incurred for the clearance of pending items are included in the determination of the margin at completion of the related contracts.

## NOTE 17 • OTHER CURRENT OPERATING ASSETS

<i>(in € million)</i>	At 31 March 2013	At 31 March 2012
Down payments made to suppliers	735	515
Corporate income tax	184	192
Other taxes	842	1,046
Prepaid expenses	236	431
Other receivables	408	443
Derivatives relating to operating activities	333	283
Remeasurement of hedged firm commitments in foreign currency	590	647
<b>OTHER CURRENT OPERATING ASSETS</b>	<b>3,328</b>	<b>3,557</b>

## NOTE 18 • MARKETABLE SECURITIES AND OTHER CURRENT FINANCIAL ASSETS

<i>(in € million)</i>	At 31 March 2013	At 31 March 2012
Derivatives related to financing activities	35	10
Marketable securities	1	3
<b>MARKETABLE SECURITIES AND OTHER CURRENT FINANCIAL ASSETS</b>	<b>36</b>	<b>13</b>

## NOTE 19 • WORKING CAPITAL

### 19.1. Balance sheet positions

<i>(in € million)</i>	At 31 March 2013	At 31 March 2012	Variation
Inventories	3,144	3,138	6
Construction contracts in progress, assets	4,158	3,752	406
Trade receivables	5,285	5,692	(407)
Other current operating assets	3,328	3,557	(229)
<b>ASSETS</b>	<b>15,915</b>	<b>16,139</b>	<b>(224)</b>
Non-current provisions	680	804	(124)
Current provisions	1,309	1,414	(105)
Construction contracts in progress, liabilities	9,909	9,508	401
Trade payables	4,041	4,080	(39)
Other current operating liabilities	3,688	4,192	(504)
<b>LIABILITIES</b>	<b>19,627</b>	<b>19,998</b>	<b>(371)</b>
<b>WORKING CAPITAL</b>	<b>(3,712)</b>	<b>(3,859)</b>	<b>147</b>

## 19.2. Analysis of variation in working capital

<i>(in € million)</i>	Year ended 31 March 2013
<b>Working capital at the beginning of the period</b>	<b>(3,859)</b>
Changes in working capital resulting from operating activities <sup>(1)</sup>	150
Changes in working capital resulting from investing activities <sup>(2)</sup>	(31)
Translation adjustments and other changes	28
<b>Total changes in working capital</b>	<b>147</b>
<b>WORKING CAPITAL AT THE END OF THE PERIOD</b>	<b>(3,712)</b>

(1) Item presented within "net cash provided by/(used in) operating activities" in the consolidated statement of cash flows.

(2) Item presented within "net cash provided by/(used in) investing activities" in the consolidated statement of cash flows.

## NOTE 20 • EQUITY

When managing capital, the objective of the Group is to safeguard its ability to continue as a going concern so that it can provide returns to shareholders, bring benefits to its other partners and optimise the structure of the capital in order to reduce its cost. To achieve this, the Group may choose to:

- adjust the amount of dividends paid to the shareholders;
- reimburse a portion of capital to the shareholders;
- issue new shares; or
- sell assets in order to scale back its net debt.

### 20.1. Movements in share capital

#### Movements in financial year ended 31 March 2013

At 31 March 2013, the share capital of ALSTOM amounted to €2,157,106,882 consisting of 308,158,126 ordinary shares with a par value of €7 each. For the year ended 31 March 2013, the weighted average number of outstanding ordinary shares amounted to 301,376,784 after the dilutive effect of bonds reimbursable in shares "Obligations Remboursables en Actions" and to 304,327,791 after the effect of all dilutive instruments.

As of 4 October 2012, ALSTOM SA ("the Company") completed a €350 million share capital increase through a private placement to institutional investors. 13,133,208 new shares were issued at a subscription price of €26.65 per share.

During the year ended 31 March 2013, 128 bonds reimbursable in shares "Obligations Remboursables en Actions" were converted into 8 shares at a par value of €7. The 81,266 bonds reimbursable with shares outstanding at 31 March 2013 represent 5,104 shares to be issued.

#### Movements in financial year ended 31 March 2012

At 31 March 2012, the share capital of ALSTOM amounted to €2,061,735,760 consisting of 294,533,680 ordinary shares with a par value of €7 each. For the year ended 31 March 2012, the weighted average number of outstanding ordinary shares amounted to 294,522,251 after the dilutive effect of bonds reimbursable in shares "Obligations Remboursables en Actions" and to 297,710,670 after the effect of all dilutive instruments.

During the year ended 31 March 2012, 288 bonds reimbursable in shares "Obligations Remboursables en Actions" were converted into 18 shares at a par value of €7. The 81,394 bonds reimbursable with shares outstanding at 31 March 2012 represent 5,112 shares to be issued.

### 20.2. Distribution of dividends

In respect of the financial year ended 31 March 2013, it will be proposed to the Shareholders' Meeting called on 2 July 2013 to distribute dividends for a total amount of €259 million corresponding to a €0.84 dividend per share.

The following dividends were distributed in respect of the previous three financial years:

- year ended 31 March 2012 (decision of Shareholders' Meeting held on 26 June 2012): total amount of €236 million, corresponding to a €0.80 dividend per share;
- year ended 31 March 2011 (decision of Shareholders' Meeting held on 28 June 2011): total amount of €183 million, corresponding to a €0.62 dividend per share;
- year ended 31 March 2010 (decision of Shareholders' Meeting held on 22 June 2010): total amount of €364 million, corresponding to a €1.24 dividend per share.

## NOTE 21 • SHARE-BASED PAYMENTS

### 21.1. Stock options and free shares

#### Key characteristics

	Plans issued by Shareholders Meeting on 9 July 2004			Plans issued by Shareholders Meeting on 26 June 2007		
	Plan No. 7 stock options	Plan No. 8 stock options	Plan No. 9 stock options	Plan No. 10 stock options	Plan No. 10 free shares	Plan No. 11 stock options
Grant date	17/09/2004	27/09/2005	28/09/2006	25/09/2007	25/09/2007	23/09/2008
	17/09/2007	27/09/2008	28/09/2009	25/09/2010		23/09/2011
Exercise period	16/09/2014	26/09/2015	27/09/2016	24/09/2017	N/A	22/09/2018
Number of beneficiaries	1,007	1,030	1,053	1,196	1,289	411
Adjusted number granted <sup>(1)</sup>	5,566,000	2,803,000	3,367,500	1,697,200	252,000	754,300
Adjusted number exercised since the origin	4,707,109	1,834,271	526,967	1,000	220,320	-
Adjusted number cancelled since the origin	417,200	268,500	388,744	226,500	31,680	754,300
Adjusted number outstanding at 31 March 2013 inc. to the present members of the Executive Committee	441,691	700,229	2,451,789	1,469,700	-	-
	9,572	8,000	325,000	171,100	-	-
Adjusted exercise price <sup>(2)</sup> (in €)	8.60	17.88	37.33	67.50	N/A	66.47
Fair value at grant date (in €)	7.30	10.30	12.90	29.24	129.20	16.71

(1) The number of options and free shares and the exercise price of options have been adjusted as a result of transactions that have impacted the number of capital shares after grant dates.

(2) The exercise price corresponds to the average opening price of the shares during the twenty trading days preceding the day on which the options were granted by the Board (no discount or surcharge).

At 31 March 2013, stock options granted by plans 7, 8, 9, 10, 11 and 12 are fully vested. These options will expire seven years after the end of the vesting period of each plan. Starting plan 12, the options will expire five years after the end of the vesting period.

The long term incentive plans set up since 2007 combine the allocation of stock options with the allocation of free shares.

The grant of these instruments is conditional upon the Group satisfying the following performance conditions.

#### LTI plan 13 granted on 13 December 2010

The total number of options exercisable and free shares to be delivered will depend on the Group's operating margin for the fiscal years ended 31 March 2011, 31 March 2012 and 31 March 2013:

	% Of options exercisable & free shares to be delivered		
	Year ended 31 March 2011	Year ended 31 March 2012	Year ended 31 March 2013
Operating margin achieved above or equal to 7.5%	40%	40%	20%
Operating margin achieved between 7% (inclusive) and 7.5% (non inclusive)	30%	30%	10%
Operating margin achieved between 6.5% (inclusive) and 7% (non inclusive)	10%	10%	0%
Operating margin achieved below 6.5%	0%	0%	0%

Based on consolidated financial statements for the fiscal years ended 31 March 2011, 31 March 2012 and 31 March 2013, the performance condition is achieved for 80% of an allotment of LTIP13 options and free shares. 20% of options and free shares are cancelled.

Plans issued by Shareholders Meeting on 26 June 2007			Plans issued by Shareholders Meeting on 22 June 2010					
Plan No. 11	Plan No. 12	Plan No. 12	Plan No. 13	Plan No. 13	Plan No. 14	Plan No. 14	Plan No. 15	Plan No. 15
free shares	stock options	free shares	stock options	free shares	stock options	free shares	stock options	free shares
23/09/2008	21/09/2009	21/09/2009	13/12/2010	13/12/2010	04/10/2011	04/10/2011	10/12/2012	10/12/2012
	21/09/2012		13/12/2013		04/10/2014		10/12/2015	
N/A	20/09/2017	N/A	12/12/2018	N/A	03/10/2019	N/A	09/12/2020	N/A
1,431	436	1,360	528	1,716	514	1,832	538	1,763
445,655	871,350	522,220	1,235,120	740,860	1,369,180	804,040	1,312,690	781,540
-	-	80,928	-	1,930	-	460	-	-
445,655	552,570	340,988	281,039	150,285	267,652	139,722	6,910	9,500
-	318,780	100,304	954,081	588,645	1,101,528	663,858	1,305,780	772,040
-	50,100	320	120,735	10,341	337,500	38,700	340,000	43,000
N/A	49.98	N/A	33.14	N/A	26.39	N/A	27.70	N/A
63.54	11.26	48.11	7.59	31.35	3.14	19.77	5.80	26.70

### LTI plan 14 granted on 4 October 2011

The total number of options exercisable and free shares to be delivered will depend on the Group's operating margin for the fiscal years ended 31 March 2012 and 31 March 2013 and 31 March 2014:

	% Of options exercisable & free shares to be delivered		
	Year ended 31 March 2012	Year ended 31 March 2013	Year ended 31 March 2014
Operating margin achieved above or equal to 7.5%	40%	40%	20%
Operating margin achieved between 7% (inclusive) and 7.5% (non inclusive)	30%	30%	10%
Operating margin achieved between 6.5% (inclusive) and 7% (non inclusive)	10%	10%	0%
Operating margin achieved below 6.5%	0%	0%	0%

Based on consolidated financial statements for the fiscal years ended 31 March 2012 and 31 March 2013, the performance condition is achieved for 60% of an allotment of LTIP14 options and free shares. 20% of options and free shares are cancelled.

### LTI plan 15 granted on 10 December 2012

The total number of options exercisable and free shares to be delivered will depend on the Group's operating margin and the free cash flow for the fiscal years ended 31 March 2013, 31 March 2014 and 31 March 2015:

Year ended 31 March 2013	Year ended 31 March 2014	Year ended 31 March 2015
% of conditional options exercisable & free shares to be delivered	% of conditional options exercisable & free shares to be delivered	% of conditional options exercisable & free shares to be delivered
FCF (*) $\geq$ 0 and OM (*) $\geq$ 7.4% 40%	FCF $\geq$ 0 and OM $\geq$ 7.6% 40%	FCF $\geq$ 0 and OM $\geq$ 8% 20%
FCF $\geq$ 0 and 7.2% $\leq$ OM <7.4% 30%	FCF $\geq$ 0 and 7.3% $\leq$ OM <7.6% 30%	FCF $\geq$ 0 and 7.5% $\leq$ OM <8% 10%
FCF $\geq$ 0 and 7% $\leq$ OM <7.2% 10%	FCF $\geq$ 0 and 7% $\leq$ OM <7.3% 10%	FCF <0 or OM <7.5% 0
FCF <0 or OM <7% 0	FCF <0 or OM <7% 0	- -

(\*) FCF means free cash flow and OM operating margin

Based on consolidated financial statements for the fiscal year ended 31 March 2013, the performance condition is achieved for 30% of an allotment of LTIP15 options and free shares. 10% of options and free shares are cancelled.

## Movements

	Number of options	Weighted average exercise price per share (in €)	Number of free shares
<b>Outstanding at 31 March 2011</b>	<b>7,855,932</b>	<b>39.15</b>	<b>1,330,400</b>
Granted	1,369,180	26.39	804,040
Exercised	(192,417)	18.78	(121,830)
Cancelled	(304,858)	40.54	(91,680)
<b>Outstanding at 31 March 2012</b>	<b>8,727,837</b>	<b>37.42</b>	<b>1,920,930</b>
Granted	1,312,690	27.70	781,540
Exercised	(411,504)	12.95	(79,648)
Cancelled	(885,445)	42.32	(497,975)
<b>OUTSTANDING AT 31 MARCH 2013</b>	<b>8,743,578</b>	<b>36.58</b>	<b>2,124,847</b>
of which exercisable	5,382,189		N/A

## Valuation

	Plan No. 11 stock options	Plan No. 11 free shares	Plan No. 12 stock options	Plan No. 12 free shares	Plan No. 13 stock options	Plan No. 13 free shares	Plan No. 14 stock options	Plan No. 14 free shares	Plan No. 15 stock options	Plan No. 15 free shares
Grant date	23/09/2008	23/09/2008	21/09/2009	21/09/2009	13/12/2010	13/12/2010	04/10/2011	04/10/2011	10/12/2012	10/12/2012
Expected life (in years)	3.5	2.5 or 4.0	3.5	2.5 or 4.0	3.5	2.5 or 4.0	4.0	2.5 or 4.0	4.0	2.5 or 4.0
End of vesting period	22/09/2011	31/05/2011 or 22/09/2012	20/09/2012	31/05/2012 or 20/09/2013	12/12/2013	31/05/2013 or 12/12/2014	03/10/2014	31/05/2014 or 03/10/2015	09/12/2015	31/05/2015 or 09/12/2016
Adjusted exercise price <sup>(*)</sup> (in €)	66.47	N/A	49.98	N/A	33.14	N/A	26.39	N/A	27.70	N/A
Share price at grant date (in €)	65.10	65.10	50.35	50.35	35.40	35.40	23.82	23.82	29.77	29.77
Volatility	30%	N/A	30%	N/A	31%	N/A	31%	N/A	30%	N/A
Risk free interest rate	4.1%	4.2% or 4.4%	2.0%	1.6% or 2.3%	1.8%	1.4% or 2.0%	1.5%	1.1% or 1.5%	0.5%	0.2% or 0.5%
Dividend yield	1.3%	1.3%	1.3%	1.3%	3.1%	3.1%	5.0%	5.0%	3.4%	3.4%

(\*) The exercise price corresponds to the average opening price of the shares during the twenty trading days preceding the day on which the options were granted by the Board (no discount or surcharge).

The option valuation method follows a binomial mathematical model for plan 11 and a Black & Scholes model for plans 12, 13, 14 and 15, with exercise of the options anticipated and spread over the exercise period on a straight-line basis. The volatility factor applied is an average of CAC 40 comparable companies' volatility at the grant date.

The Group booked a total expense of €15 million for the year ended 31 March 2013, and €11 million for the year ended 31 March 2012.

## 21.2. Stock appreciation rights ("SARs")

### Key characteristics

	SARs No. 7	SARs No. 8	Notional SARs <sup>(1)</sup>	SARs No. 9	SARs No. 10
Grant date	01/12/2004	18/11/2005	16/12/2005	28/09/2006	25/09/2007
Vesting date	17/09/2007	27/09/2008	27/09/2008	28/09/2009	25/09/2010
Expiry date	16/09/2014	18/11/2015	26/09/2015	28/09/2016	24/09/2017
Number of beneficiaries	114	120	120	134	134
Adjusted number granted <sup>(2)</sup>	478,000	234,000	232,000	341,250	59,700
Adjusted number exercised since the origin	408,948	134,150	195,000	172,500	5,100
Adjusted number cancelled since the origin	69,052	43,100	37,000	53,125	4,200
Adjusted number outstanding at 31 March 2013	-	56,750	-	115,625	50,400
Adjusted exercise price <sup>(3)</sup> (in €)	8.60	22.45	17.88	36.05	73.42

(1) Notional SARs have been granted at an exercise price of €17.88 and are capped at €22.45.

(2) The number of SARs and their exercise prices have been adjusted as a result of transactions that have impacted the number of capital shares after grant dates.

(3) The exercise price corresponds to the average opening price of the shares during the twenty trading days preceding the day on which the options were granted by the Board (no discount or surcharge).

## Movements

	Number of SARs	Weighted average exercise price per share (in €)
<b>Outstanding at 31 March 2011</b>	<b>244,804</b>	<b>40.15</b>
Granted	-	-
Exercised	(16,169)	35.69
Cancelled	-	-
<b>Outstanding at 31 March 2012</b>	<b>228,635</b>	<b>40.52</b>
Granted	-	-
Exercised	(5,860)	16.82
Cancelled	-	-
<b>OUTSTANDING AT 31 MARCH 2013</b>	<b>222,775</b>	<b>41.04</b>
of which exercisable	222,775	

## Valuation

	SARs No. 7	SARs No. 8	Notional SARs <sup>(1)</sup>	SARs No. 9	SARs No. 10
Grant date	01/12/2004	18/11/2005	16/12/2005	28/09/2006	25/09/2007
Expected life (in years)	4.0	4.0	4.0	4.0	4.0
End of vesting period	17/09/2007	27/09/2008	27/09/2008	28/09/2009	24/09/2010
Adjusted exercise price <sup>(2)</sup> (in €)	8.60	22.45	17.88	36.05	73.42
Share price at 31 March 2013 (in €)	31.75	31.75	31.75	31.75	31.75
Share price at 31 March 2012 (in €)	29.26	29.26	29.26	29.26	29.26
Volatility	23%	23%	23%	23%	23%
Risk free interest rate	1.8%	1.8%	1.8%	1.8%	1.8%
Dividend yield	2.2%	2.2%	2.2%	2.2%	2.2%

(1) SARs of the Notional plan have been granted at an exercise price of €17.88 and are capped at €22.45.

(2) The number of SARs and their exercise prices have been adjusted as a result of transactions that have impacted the number of capital shares after grant dates.

The value of SARs plans is measured at the grant date using a Black & Scholes option valuation model taking into account the terms and conditions according to which the instruments were granted. Until the liability is settled, it is measured at each reporting date with changes in fair value recognized in profit and loss.

The Group books a nil income for the year ended 31 March 2013, and €2 million for the year ended 31 March 2012.

## NOTE 22 • PROVISIONS

(in € million)	At 31 March 2012	Additions	Releases	Applications	Changes in consolidation scope	Translation adjustments and other	At 31 March 2013
Warranties	759	416	(206)	(207)	(1)	6	767
Litigations and claims	655	337	(287)	(159)	(2)	(2)	542
<b>Current provisions <sup>(1)</sup></b>	<b>1,414</b>	<b>753</b>	<b>(493)</b>	<b>(366)</b>	<b>(3)</b>	<b>4</b>	<b>1,309</b>
Tax risks and litigations <sup>(2)</sup>	155	68	(42)	(4)	5	(2)	180
Restructuring <sup>(3)</sup>	231	64	(24)	(86)	-	(3)	182
Other non-current provisions <sup>(4)</sup>	418	161	(234)	(30)	-	3	318
<b>Non-current provisions</b>	<b>804</b>	<b>293</b>	<b>(300)</b>	<b>(120)</b>	<b>5</b>	<b>(2)</b>	<b>680</b>
<b>TOTAL PROVISIONS</b>	<b>2,218</b>	<b>1,046</b>	<b>(793)</b>	<b>(486)</b>	<b>2</b>	<b>2</b>	<b>1,989</b>



<i>(in € million)</i>	At 31 March				Business	Translation	At 31 March
	2011	Additions	Releases	Applications	combination	adjustments and other	2012
Warranties	721	343	(138)	(227)	51	9	759
Litigations and claims	666	329	(205)	(156)	37	(16)	655
<b>Current provisions <sup>(1)</sup></b>	<b>1,387</b>	<b>672</b>	<b>(343)</b>	<b>(383)</b>	<b>88</b>	<b>(7)</b>	<b>1,414</b>
Tax risks and litigations <sup>(2)</sup>	139	24	(9)	(19)	26	(6)	155
Restructuring <sup>(3)</sup>	361	41	(35)	(138)	-	2	231
Other non-current provisions <sup>(4)</sup>	595	103	(86)	(140)	(60)	6	418
<b>Non-current provisions</b>	<b>1,095</b>	<b>168</b>	<b>(130)</b>	<b>(297)</b>	<b>(34)</b>	<b>2</b>	<b>804</b>
<b>TOTAL PROVISIONS</b>	<b>2,482</b>	<b>840</b>	<b>(473)</b>	<b>(680)</b>	<b>54</b>	<b>(5)</b>	<b>2,218</b>

(1) Current provisions relate to warranties, litigations and claims on completed contracts.

(2) In relation to tax risks, the Group tax filings are subject to audit by tax authorities in most jurisdictions in which the Group operates. These audits may result in assessment of additional taxes that are subsequently resolved with the authorities or potentially through the courts. The Group believes that it has strong arguments against the questions being raised, that it would pursue all legal remedies to avoid an unfavourable outcome and that it has adequately provided for any risk that could result from those proceedings where it is probable that it will pay some amounts.

(3) Restructuring derive from the adaptation of the Group's footprint in order to take into account the lower demand in developed countries (Europe and USA) and the situation of global overcapacity faced in some segments.

(4) Other non-current provisions mainly relate to guarantees delivered in connection with disposals, employee litigations, commercial disputes and environmental obligations. Environmental provisions amount to €37 million at 31 March 2013 and €38 million at 31 March 2012.

## NOTE 23 • POST-EMPLOYMENT AND OTHER LONG-TERM DEFINED EMPLOYEE BENEFITS

In addition to mandatory social insurance plans, the Group has introduced a number of retirement plans (€5,621 million as of 31 March 2013) and other defined benefit post-employment plans (€351 million as of 31 March 2013) which include end-of-service benefits in France and retiree healthcare plans mainly in the United States. Other long-term benefits mainly correspond to jubilees in France and Germany (€63 million as of 31 March 2013).

Post-employment and long-term defined employee benefits are mainly in the United Kingdom, Switzerland, Germany and in the United States.

### 23.1. Defined benefit obligations

In the United Kingdom, there are three various defined benefit pension plans covering different populations. The largest plan, which accounts for 90% of the defined benefit obligations in the country, provides a pension, in the form of an indexed annuity based on the employee's final pensionable earnings, as well as benefits payable upon death and serious ill-health. This plan was closed to new members as of 5 April 2006. The two other plans also provide a pension in the form of an indexed annuity and are scheduled to be closed to new members as of 1 May 2013. New hires are ordinarily offered the opportunity to participate in a defined contribution Group pension plan ("GPP"), a Group life assurance plan and an income replacement scheme. These arrangements will also be used to meet the auto-enrolment requirements which affect Alstom in the United Kingdom from 1 May 2013.

In Switzerland, the pension plans allow members to accumulate retirement funds with interests in a dedicated account during their employment life. The account value is converted into a pension, in the form of an annuity or a lump sum payment. The plans also include benefits payable upon death and disability.

In Germany, the plans provide coverage for pension, death and disability. In the past, the pension was accrued in the form of an annuity. The plans were deeply modified for future accruals as of 1 April 2003 for the employees of the Grid Sector, as of 1 April 2009 for the employees of the Thermal Power and Renewable Thermal Sectors and as of 1 April 2010 for the employees of the Transport Sector to remove most defined benefit pension risks. The plans now continue to be accounted as defined benefit plans under IAS 19 but with much lower risks for the Company. With respect to employee contributions, there are remitted into defined contributions plans.

In the United States of America, Alstom sponsors five qualified defined benefit pension plans and two post-retirement medical plans. Two of the qualified pension plans, namely a cash balance plan and a final average earnings plan, which represent 63% of the defined benefit obligations in the country, were closed to new members as of 1 September 2005, and further closed to all service accruals respectively as of 30 September 2010 and 31 December 2010. Employees now participate in a defined contribution 401(k) plan. The post-retirement medical plans were closed to new hires in 2002 and 2003 with the exception of a small number of unionized employees.

<i>(in € million)</i>	At 31 March 2013	European Union	Other European countries	Northern America	Others
<b>Defined benefit obligations at beginning of year</b>	<b>(5,521)</b>	<b>(3,361)</b>	<b>(1,380)</b>	<b>(691)</b>	<b>(89)</b>
Service cost	(81)	(32)	(38)	(6)	(5)
Plan participant contributions	(38)	(3)	(34)	(1)	-
Interest cost	(238)	(164)	(35)	(33)	(6)
Plan amendments	3	-	1	2	-
Business combinations/disposals	-	-	-	(1)	1
Curtailments	8	-	8	-	-
Settlements	14	1	12	1	-
Actuarial gains (losses) – due to experience	(1)	31	(28)	-	(4)
Actuarial gains (losses) – due to changes in assumptions	(522)	(355)	(102)	(60)	(5)
Benefits paid	313	184	65	58	6
Change in scope	-	-	-	-	-
Foreign currency translation and others	28	36	17	(27)	2
<b>DEFINED BENEFIT OBLIGATIONS AT END OF YEAR</b>	<b>(6,035)</b>	<b>(3,663)</b>	<b>(1,514)</b>	<b>(758)</b>	<b>(100)</b>
<i>Of which:</i>					
Funded schemes	(5,255)	(3,042)	(1,501)	(669)	(43)
Unfunded schemes	(780)	(621)	(13)	(89)	(57)

<i>(in € million)</i>	At 31 March 2012	European Union	Other European countries	Northern America	Others
<b>Defined benefit obligations at beginning of year</b>	<b>(4,892)</b>	<b>(2,964)</b>	<b>(1,228)</b>	<b>(637)</b>	<b>(63)</b>
Service cost	(83)	(29)	(44)	(4)	(6)
Plan participant contributions	(37)	(3)	(33)	(1)	-
Interest cost	(237)	(157)	(42)	(34)	(5)
Plan amendments	(4)	(1)	(6)	2	1
Business combinations/disposals	(15)	(7)	-	-	(8)
Curtailments	-	-	-	-	-
Settlements	(1)	-	-	-	(1)
Actuarial gains (losses) – due to experience	(35)	(33)	(1)	(1)	-
Actuarial gains (losses) – due to changes in assumptions	(263)	(216)	(10)	(34)	(3)
Benefits paid	303	164	83	50	6
Change in scope	-	-	-	-	-
Foreign currency translation and others	(257)	(126)	(99)	(32)	-
<b>DEFINED BENEFIT OBLIGATIONS AT END OF YEAR</b>	<b>(5,521)</b>	<b>(3,372)</b>	<b>(1,380)</b>	<b>(690)</b>	<b>(79)</b>
<i>Of which:</i>					
Funded schemes	(4,848)	(2,834)	(1,368)	(609)	(37)
Unfunded schemes	(673)	(538)	(12)	(81)	(42)

## 23.2. Plan assets

For defined benefit plans, plan assets have been progressively built up by contributions from the employer and the employees, primarily in the United Kingdom, in Switzerland, in the United States and Germany.

The fair value of plan assets is deducted from the Group's defined benefit obligation, as estimated using the projected unit credit method, in order to calculate the unfunded obligation to be covered by a provision.

<i>(in € million)</i>	<b>At 31 March 2013</b>	European Union	Other European countries	Northern America	Others
<b>Fair value of plan assets at beginning of year</b>	<b>4,097</b>	<b>2,237</b>	<b>1,353</b>	<b>477</b>	<b>30</b>
Expected return on assets	211	132	50	27	2
Actuarial gains (losses) on assets due to experience	215	128	72	14	1
Company contributions	127	41	55	27	4
Plan participant contributions	38	3	34	1	-
Business combinations/disposals	-	-	-	-	-
Settlements	(13)	-	(13)	-	-
Benefits paid from plan assets	(260)	(142)	(63)	(51)	(4)
Change in scope	-	-	-	-	-
Foreign currency translation and others	(33)	(32)	(17)	19	(3)
<b>FAIR VALUE OF PLAN ASSETS AT END OF YEAR</b>	<b>4,382</b>	<b>2,367</b>	<b>1,471</b>	<b>514</b>	<b>30</b>

<i>(in € million)</i>	<b>At 31 March 2012</b>	European Union	Other European countries	Northern America	Others
<b>Fair value of plan assets at beginning of year</b>	<b>3,763</b>	<b>2,065</b>	<b>1,219</b>	<b>452</b>	<b>27</b>
Expected return on assets	233	140	61	30	2
Actuarial gains (losses) on assets due to experience	(26)	9	(30)	(3)	(2)
Company contributions	112	36	56	16	4
Plan participant contributions	37	3	33	1	-
Business combinations/disposals	-	-	-	-	-
Settlements	-	-	-	-	-
Benefits paid from plan assets	(247)	(125)	(82)	(41)	1
Change in scope	-	-	-	-	-
Foreign currency translation and others	225	106	96	25	(2)
<b>FAIR VALUE OF PLAN ASSETS AT END OF YEAR</b>	<b>4,097</b>	<b>2,234</b>	<b>1,353</b>	<b>480</b>	<b>30</b>

## 23.3. Reconciliation of funded status of the plans with assets and liabilities recognised in the balance sheet

<i>(in € million)</i>	<b>At 31 March 2013</b>	<b>At 31 March 2012</b>
<b>Funded status of the plans</b>	<b>(1,653)</b>	<b>(1,424)</b>
Unrecognised past service costs (gains)	22	24
Impact of asset ceiling	(1)	(5)
<b>NET OF ACCRUED AND PREPAID BENEFIT COSTS AFTER ASSET CEILING</b>	<b>(1,632)</b>	<b>(1,405)</b>
<i>Of which:</i>		
• <i>Accrued pension and other employee benefit costs</i>	<i>(1,642)</i>	<i>(1,417)</i>
• <i>Prepaid pension and other employee benefit costs</i>	<i>10</i>	<i>12</i>

The net asset of €10 million mainly related to a pension scheme in the United Kingdom is supported by appropriate refund expectations, as requested by IFRIC 14.

The following chart displays the evolution over the current fiscal year and the previous four fiscal years of the present value of the defined benefit obligation, the fair value of the plan assets, the deficit and the experience adjustments:

<i>(in € million)</i>	At 31 March 2013	At 31 March 2012	At 31 March 2011	At 31 March 2010	At 31 March 2009
Defined benefit obligation	(6,035)	(5,521)	(4,892)	(4,251)	(3,668)
Fair value of plan assets	4,382	4,097	3,763	3,334	2,716
<b>Funded status of the plans</b>	<b>(1,653)</b>	<b>(1,424)</b>	<b>(1,129)</b>	<b>(917)</b>	<b>(952)</b>
Unrecognised past service costs (gains)	22	24	25	(12)	(10)
Impact of asset ceiling	(1)	(5)	(13)	(6)	(4)
<b>NET OF ACCRUED AND PREPAID BENEFIT COSTS AFTER ASSET CEILING</b>	<b>(1,632)</b>	<b>(1,405)</b>	<b>(1,117)</b>	<b>(935)</b>	<b>(966)</b>
Experience adjustments to:					
• plan liabilities	(1)	(35)	(25)	(16)	15
• plan assets	215	(26)	(27)	405	(663)

### 23.4. Changes of accrued pensions and other employee benefits recognised in comprehensive income

Actuarial gains and losses and asset ceiling arising from post-employment defined benefit plans have been recognised in other comprehensive income as follows:

<i>(in € million)</i>	At 31 March 2013	At 31 March 2012
Opening balance (net loss)	(1,863)	(1,546)
Actuarial gains and losses generated during the period	(300)	(324)
Asset ceiling generated during the period	5	7
<b>CLOSING BALANCE (NET LOSS)</b>	<b>(2,158)</b>	<b>(1,863)</b>

### 23.5. Components of plan assets

<i>(in € million)</i>	At 31 March 2013	%	European Union	Other European countries	Northern America
Equities	1,501	34	36	31	39
Bonds	2,384	55	55	52	59
Properties	405	9	8	15	1
Others	92	2	1	2	1
<b>TOTAL</b>	<b>4,382</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

<i>(in € million)</i>	At 31 March 2012	%	European Union	Other European countries	Northern America
Equities	1,431	35	35	33	40
Bonds	2,166	53	55	48	59
Properties	361	9	7	14	1
Others	139	3	3	5	0
<b>TOTAL</b>	<b>4,097</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Plan assets for each individual plan are invested in accordance with statutory regulations, pension plan rules, and decisions of pension fund trustees. At 31 March 2013, plan assets do not include any of the Group's capital stock.

## 23.6. Assumptions (weighted average rates)

Actuarial assumptions used vary by country and type of plan. Compensation increase assumptions are determined at business unit level and reviewed centrally.

(in %)	At 31 March 2013	European Union	Other European countries	Northern America	Others
Discount rate	3.61	4.10	2.18	3.90	5.99
Rate of compensation increase	2.88	3.42	1.46	3.01	3.82

(in %)	At 31 March 2012	European Union	Other European countries	Northern America	Others
Discount rate	4.30	4.87	2.50	4.93	5.51
Rate of compensation increase	2.92	3.46	1.54	2.97	2.98

For the year ended 31 March 2013, the effective return on assets was 10.5%.

### Discount rate

In accordance with IAS 19 principles, discount rates are set each year by reference to the market yields on high quality corporate bonds denominated in the relevant currency. In countries where there is no deep market in such bonds, discount rates are set by reference to the yields on government bonds. The required information is sourced from the Company's actuarial advisors and from market quotations and indices.

### Assumptions related to the post-employment healthcare obligation

The healthcare trend rate is assumed to be 7.5% in the year ended 31 March 2013 and reduces thereafter to an ultimate rate of 5.4% from 2018 onwards.

### Sensitivity analysis

A 25 bp increase or decrease in the main assumptions would have the following impacts on the defined benefit obligation:

(in %)	At 31 March 2013
Impact of a 25 bp increase or decrease in the discount rate	-3.28%/3.46%
Impact of a 25 bp increase or decrease in the rate of compensation increase	+0.18%/-0.23%

## 23.7. Analysis of post-employment and other long-term defined benefit expense

(in € million)	Year ended 31 March 2013	European Union	Other European countries	Northern America	Others
Service cost	(81)	(32)	(38)	(6)	(5)
Defined contributions (*)	(191)	(120)	(1)	(55)	(15)
<b>Income from operations</b>	<b>(272)</b>	<b>(152)</b>	<b>(39)</b>	<b>(61)</b>	<b>(20)</b>
Actuarial gains/losses on other long-term benefits	(8)	(7)	(1)	-	-
Amortisation of unrecognised past service gain (cost)	-	(3)	1	2	-
Curtailments/settlements	8	-	7	1	-
<b>Other income (expenses)</b>	<b>-</b>	<b>(10)</b>	<b>7</b>	<b>3</b>	<b>-</b>
Interest cost	(238)	(164)	(35)	(33)	(6)
Expected return on plan assets	211	132	50	27	2
<b>Financial income (expenses)</b>	<b>(27)</b>	<b>(32)</b>	<b>15</b>	<b>(6)</b>	<b>(4)</b>
<b>TOTAL BENEFIT EXPENSE</b>	<b>(299)</b>	<b>(194)</b>	<b>(17)</b>	<b>(64)</b>	<b>(24)</b>

<i>(in € million)</i>	Year ended 31 March 2012	European Union	Other European countries	Northern America	Others
Service cost	(83)	(29)	(44)	(4)	(6)
Defined contributions (*)	(181)	(114)	(1)	(51)	(15)
<b>Income from operations</b>	<b>(264)</b>	<b>(143)</b>	<b>(45)</b>	<b>(55)</b>	<b>(21)</b>
Actuarial gains/losses on other long-term benefits	1	1	-	-	-
Amortisation of unrecognised past service gain (cost)	(5)	(3)	(6)	3	1
Curtailments/settlements	(1)	-	-	-	(1)
<b>Other income (expenses)</b>	<b>(5)</b>	<b>(2)</b>	<b>(6)</b>	<b>3</b>	<b>-</b>
Interest cost	(237)	(157)	(42)	(34)	(4)
Expected return on plan assets	233	140	61	30	2
<b>Financial income (expenses)</b>	<b>(4)</b>	<b>(17)</b>	<b>19</b>	<b>(4)</b>	<b>(2)</b>
<b>TOTAL BENEFIT EXPENSE</b>	<b>(273)</b>	<b>(162)</b>	<b>(32)</b>	<b>(56)</b>	<b>(23)</b>

(\*) Including an expense of €19 million related to multi-employer contributions accounted for as defined contribution plans for the year ended 31 March 2013 (€15 million for the year ended 31 March 2012).

### 23.8. Cash flows

In accordance with local practice and regulations, the Company pays contributions to the funded schemes it sponsors and benefits to the members of unfunded plans.

Total cash spent for defined benefit plans in the year ended 31 March 2013 amounted to €180 million and covers both regular contributions

for accruing service and recovery contributions in case of funding shortfall. Total cash spent for defined contribution plans in the year ended 31 March 2013 amounted to €191 million.

The Company's best estimate of contributions in the year ending 31 March 2014 are respectively €210 million and €190 million for defined benefit and defined contribution plans.

## NOTE 24 • FINANCIAL DEBT

<i>Carrying amount (in € million)</i>	At 31 March 2013	At 31 March 2012
Bonds	4,141	3,795
Other borrowing facilities	232	415
Put options and earn-out on acquired entities (*)	46	229
Derivatives relating to financing activities	18	17
Accrued interests	43	41
<b>Borrowings</b>	<b>4,480</b>	<b>4,497</b>
<i>Non-current</i>	4,197	3,863
<i>Current</i>	283	634
Obligations under finance leases	108	125
Other obligations under long-term rental	367	400
<b>Obligations under finance leases</b>	<b>475</b>	<b>525</b>
<i>Non-current</i>	433	477
<i>Current</i>	42	48
<b>TOTAL FINANCIAL DEBT</b>	<b>4,955</b>	<b>5,022</b>

(\*) Includes, at 31 March 2012, the remaining price of TMH's acquisition paid in October 2012 (see Note 3).

The following table summarises the significant components of the Group's bonds:

	Nominal value <i>(in € million)</i>	Maturity date	Nominal interest rate	Effective interest rate
Alstom September 2014	743	23/09/2014	4.00%	3.89%
Alstom March 2015	60	09/03/2015	4.25%	4.47%
Alstom October 2015	500	05/10/2015	2.88%	2.98%
Alstom March 2016	500	02/03/2016	3.87%	4.05%
Alstom February 2017	750	01/02/2017	4.13%	4.25%
Alstom October 2017	350	11/10/2017	2.25%	2.44%
Alstom October 2018	500	05/10/2018	3.63%	3.71%
Alstom March 2020	750	18/03/2020	4.50%	4.58%

As of 4 October 2012, under its Euro Medium Term Note Programme listed in Luxembourg, the Company launched a new bond issue for an amount of €350 million. It bears an annual coupon of 2.25% and mature in October 2017.

The other obligations under long-term rental represent liabilities related to lease obligations on trains and associated equipment (see Note 13 and 29).

## NOTE 25 • FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT

3

### 25.1. Financial instruments reported in the financial statements

The Group's financial liabilities comprise borrowings, trade and other payables. The main purpose of these financial liabilities is to raise funds for the Group's operations.

The Group has loans, trade and other receivables, and cash and cash equivalents that are directly derived from its operations.

The Group is exposed to currency risk, interest rate risk, credit risk and liquidity risk.

The main valuation methods applied are as follows:

- borrowings, when unhedged, are stated at amortised cost, determined by the effective interest rate method;
- the fair value of cash, cash equivalents, trade receivables and trade payables is considered as being equivalent to carrying value, due to their short maturities;
- the fair value of the financial debt is estimated based on either quoted market prices for traded instruments or current rates offered to the Group for debt of the same maturity.

The fair value of derivative instruments is the estimated amount that the Group would receive or pay to settle the related contracts, valued on the basis of relevant yield curves and foreign exchange rates at closing date.



Year ended 31 March 2013

Balance sheet positions at 31 March 2013

At 31 March 2013 (in € million)	Balance sheet carrying amount	Carrying amount not defined as financial instruments	Carrying amount of financial instruments by categories (*)					Fair value of items classified as financial instruments			
			FV P/L	AFS	LRL at amortised cost	DER	Total	Listed prices	Internal model based on observables factors	Internal model not based on observables factors	Total
Associates and non consolidated investments	698	597	-	101	-	-	101	-	100	-	100
Other non-current assets	515	10	-	-	505	-	505	-	123	382	505
Trade receivables	5,285	-	-	-	5,285	-	5,285	-	5,285	-	5,285
Other current operating assets	3,328	1,990	590	-	415	333	1,338	-	1,338	-	1,338
Marketable securities and other current financial assets	36	-	1	-	-	35	36	-	36	-	36
Cash and cash equivalents	2,195	-	2,195	-	-	-	2,195	-	2,195	-	2,195
<b>ASSETS</b>	<b>12,057</b>	<b>2,597</b>	<b>2,786</b>	<b>101</b>	<b>6,205</b>	<b>368</b>	<b>9,460</b>	<b>-</b>	<b>9,077</b>	<b>382</b>	<b>9,459</b>
Non-current borrowings	4,197	-	-	-	4,197	-	4,197	-	4,489	-	4,489
Non-current obligations under finance leases	433	-	-	-	433	-	433	-	433	-	433
Current borrowings	283	-	-	-	265	18	283	-	283	-	283
Current obligations under finance leases	42	-	-	-	42	-	42	-	42	-	42
Trade payables	4,041	-	-	-	4,041	-	4,041	-	4,041	-	4,041
Other current operating liabilities	3,688	1,778	215	-	1,332	363	1,910	-	1,910	-	1,910
<b>LIABILITIES</b>	<b>12,684</b>	<b>1,778</b>	<b>215</b>	<b>-</b>	<b>10,310</b>	<b>381</b>	<b>10,906</b>	<b>-</b>	<b>11,198</b>	<b>-</b>	<b>11,198</b>

(\*) FV P/L short for fair value through profit and loss; AFS short for available-for-sale assets; LRL short for loans, receivables and liabilities and DER short for derivative instruments.

Financial income and expense arising from financial instruments for period ended 31 March 2013

(in € million)	FV P/L	AFS	LRL at amortised cost inc. related derivatives	Total
Interests	-	-	(165)	(165)
Interest income	-	-	29	29
Interest expense	-	-	(194)	(194)
Dividends	-	4	-	4
Impairment/loss from subsequent measurement	-	-	-	-
Gain on disposal	-	-	-	-
Foreign currency and other	-	-	(34)	(34)
<b>NET INCOME/EXPENSE FOR THE YEAR ENDED 31 MARCH 2013</b>	<b>-</b>	<b>4</b>	<b>(199)</b>	<b>(195)</b>

The amount reported as "foreign currency and other" is mainly representative of forward points attached to transactions related to financing activities (See Note 2.3.9) and bank fees (see Note 7).

### Income from operations arising from financial instruments for the period ended 31 March 2013

Net foreign currency gains and losses recorded within income from operations are positive by €86 million for the year ended 31 March 2013.

They are made up of two components:

- forward points attached to hedging transactions qualified for hedge accounting;
- variation of fair value of hedging instruments and not qualifying for hedge accounting.

### Year ended 31 March 2012

#### Balance sheet positions at 31 March 2012

At 31 March 2012 (in € million)	Balance sheet carrying amount	Carrying amount not defined as financial instruments	Carrying amount of financial instruments by categories (*)					Fair value of items classified as financial instruments			
			FV P/L	AFS	LRL at amortised cost		DER	Total	Listed prices	Internal model based on observables factors	Internal model not based on observables factors
Associates and non consolidated investments	531	377	-	154	-	-	154	-	154	-	154
Other non-current assets	545	12	-	-	533	-	533	-	107	426	533
Trade receivables	5,692	-	-	-	5,692	-	5,692	-	5,692	-	5,692
Other current operating assets	3,557	2,180	647	-	447	283	1,377	-	1,377	-	1,377
Marketable securities and other current financial assets	13	-	3	-	-	10	13	-	13	-	13
Cash and cash equivalents	2,091	-	2,091	-	-	-	2,091	-	2,091	-	2,091
<b>ASSETS</b>	<b>12,429</b>	<b>2,569</b>	<b>2,741</b>	<b>154</b>	<b>6,672</b>	<b>293</b>	<b>9,860</b>	<b>-</b>	<b>9,434</b>	<b>426</b>	<b>9,860</b>
Non-current borrowings	3,863	-	-	-	3,863	-	3,863	-	4,042	-	4,042
Non-current obligations under finance leases	477	-	-	-	477	-	477	-	477	-	477
Current borrowings	634	-	-	-	617	17	634	-	634	-	634
Current obligations under finance leases	48	-	-	-	48	-	48	-	48	-	48
Trade payables	4,080	-	-	-	4,080	-	4,080	-	4,080	-	4,080
Other current operating liabilities	4,192	1,933	253	-	1,364	642	2,259	-	2,259	-	2,259
<b>LIABILITIES</b>	<b>13,294</b>	<b>1,933</b>	<b>253</b>	<b>-</b>	<b>10,449</b>	<b>659</b>	<b>11,361</b>	<b>-</b>	<b>11,540</b>	<b>-</b>	<b>11,540</b>

(\*) FV P/L short for fair value through profit and loss; AFS short for available-for-sale assets; LRL short for loans, receivables and liabilities and DER short for derivative instruments.

#### Financial income and expense arising from financial instruments for period ended 31 March 2012

(in € million)	FV P/L	AFS	LRL at amortised cost inc. related derivatives	Total
Interests	1	-	(143)	(142)
Interest income	1	-	36	37
Interest expense	-	-	(179)	(179)
Dividends	-	5	-	5
Impairment/loss from subsequent measurement	-	(1)	-	(1)
Gain on disposal	-	-	-	-
Foreign currency and other	-	-	(35)	(35)
<b>NET INCOME/EXPENSE FOR THE YEAR ENDED 31 MARCH 2012</b>	<b>1</b>	<b>4</b>	<b>(178)</b>	<b>(173)</b>

The amount reported as "foreign currency and other" is mainly representative of forward points attached to transactions related to financing activities (See Note 2.3.9) and bank fees (see Note 7).

### Income from operations arising from financial instruments for the period ended 31 March 2012

Net foreign currency gains and losses recorded within income from operations are positive by €47 million for the year ended 31 March 2012. They are comprised essentially of forward points at mark to market of the hedging instruments.

## 25.2. Currency risk management

### Financial debt

The nominal value of the financial debt split by currency is as follows:

<i>(in € million)</i>	At 31 March 2013	At 31 March 2012
Euro	4,325	4,224
Chinese yuan	72	83
Brazilian real	67	144
British pound	413	425
US dollar	14	12
Other currencies	79	149
<b>FINANCIAL DEBT IN NOMINAL VALUE</b>	<b>4,970</b>	<b>5,037</b>

The debt in GBP essentially originates from a long-term lease scheme of trains, involving London Underground. The related €367 million debt denominated in GBP is counter-balanced by long-term receivables having the same maturity and also denominated in GBP that are recognised as non-current assets (see Notes 13, 24 and 29).

### Operations

In the course of its operations, the Group is exposed to currency risk arising from tenders submitted in foreign currency, awarded contracts and any future cash out transactions denominated in foreign currency. Main currencies triggering a significant exposure for the year ended 31 March 2013 are the Swiss franc and the US dollar.

During the tender period, depending on the probability to obtain the project and on market conditions, the Group can hedge a portion of its tenders using options or export insurance contracts when possible. Once the contract is signed, forward exchange contracts are used to hedge the actual exposure during the life of the contract (either as the only hedging instruments or as a complement to existing export insurance contracts).

The Group requires all of its operating units to use forward currency contracts to eliminate the currency exposure on any individual sale or purchase transaction in excess of €100,000. Forward currency contracts must be denominated in the same currency as the hedged item. It is the Group's policy to negotiate the terms of hedge derivatives to match the terms of hedged items to maximise hedge effectiveness.

Derivative instruments hedging foreign currency risk are recognised at their fair value on the balance sheet as follows:

<i>(in € million)</i>	At 31 March 2013		At 31 March 2012	
	Assets	Liabilities	Assets	Liabilities
Derivatives qualifying for fair value hedge	346	367	290	637
Derivatives qualifying for cash flow hedge	20	11	1	24
Derivatives qualifying for net investment hedge	-	-	-	-
Derivatives not qualifying for hedge accounting	2	3	2	1
<b>TOTAL</b>	<b>368</b>	<b>381</b>	<b>293</b>	<b>662</b>

The fair value of those instruments is the estimated amount that the Group would receive or pay to settle the related contracts, valued on the basis of relevant yield curves and foreign exchange rates at closing date.

High volatility of foreign exchange rates during the periods ended 31 March 2013 and 31 March 2012 explains the significant amount

of fair value of derivative instruments (either positive or negative). For instruments that qualify for fair value hedge accounting, any change in fair value is mostly offset by the re-measurement of the underlying exposure (either on balance sheet or off-balance sheet).

The following table shows the sensitivity of the Group's pre-tax income to a change in the US dollar and Swiss Franc exchange rates. The effects on pre-tax income arise from derivative instruments not qualifying for hedge accounting while the effect on income and expense directly recognised in equity is due to the measurement of the effective portion of derivative instruments qualifying for cash flow hedge accounting.

	USD rate			CHF rate		
	Variation	Effect on pre-tax income	Effect on income and expense directly recognised in equity	Variation	Effect on pre-tax income	Effect on income and expense directly recognised in equity
Year ended	10%	-	-	5%	-	(2)
31 March 2013	-10%	-	-	-5%	-	2
Year ended	10%	3	-	5%	-	8
31 March 2012	-10%	(3)	-	-5%	-	(8)

The effective portion of instruments qualifying for cash flow hedge accounting reclassified from equity to profit or loss during the year ended 31 March 2013 is negative by €6 million.

### 25.3. Interest rate risk management

The Group has not implemented an active interest rate risk management policy. However under the supervision of the Executive Committee, it may enter into transactions in order to hedge its interest rate risk on a case-by-case basis according to market opportunities.

Carrying amount (in € million)	At 31 March 2013	At 31 March 2012
Financial assets at floating rate	2,264	2,140
Financial assets at fixed rate	409	465
<b>Financial assets bearing interests</b>	<b>2,673</b>	<b>2,605</b>
Financial debt at floating rate	47	102
Financial debt at fixed rate, put options and earn-out on acquired entities	4,908	4,920
<b>Financial debt</b>	<b>4,955</b>	<b>5,022</b>
Total position at floating rate before swaps	2,311	2,242
Total position at fixed rate before swaps	5,317	5,385
<b>Total position before hedging</b>	<b>7,628</b>	<b>7,627</b>
Total position at floating rate after swaps	2,311	2,242
Total position at fixed rate after swaps	5,317	5,385
<b>TOTAL POSITION AFTER HEDGING</b>	<b>7,628</b>	<b>7,627</b>

Sensitivity is analysed based on the Group's net cash position after hedging at 31 March 2013, assuming that it remains constant over one year.

In absence of instruments hedging the interest risk, the effects of increases or decreases in market rates are symmetrical: a rise of 0.1% would increase the net interest income by €3 million while a fall of 0.1% would decrease it by the same amount.

### 25.4. Credit risk management

Credit risk is the risk that a counterparty will not meet its obligations under a financial instrument or customer contract, leading to a loss. The Group is exposed to credit risk on its operating activities (primarily for trade receivables) and from its financing activities, including deposits, foreign currency hedging instruments and other financial instruments with banks and financial institutions.

#### Risk related to customers

The Group believes that the risk of a counterparty failing to perform as contracted, which could have a significant impact on the Group's financial statements or results of operations, is limited because the Group seeks to ensure that customers generally have strong credit profiles or adequate financing to meet their project obligations.

In specific cases, the Group may use export credit insurance policies which may hedge up to 90% of the credit risk on certain contracts.

#### Risk related to other financial assets

The Group's exposure to credit risk related to other financial assets arises from default of the counterparty, with a maximum exposure equal to the carrying amount of those instruments. The financial instruments are taken out with over 30 different counterparties and the risk is therefore highly diluted.

#### Risk related to cash and cash equivalents

Credit risk from balances with banks and financial institutions is managed by Group treasury in accordance with the Group's policy. At 31 March 2013 and at 31 March 2012, as part of the central treasury management, cash and cash equivalents are invested entirely in deposits with bank counterparts of first rank noted "Investment Grade".

The Group's parent company has access to some cash held by wholly-owned subsidiaries through the payment of dividends or pursuant to intercompany loan arrangements. However local constraints can delay or restrict this access. Furthermore, while the Group's parent company has the power to control decisions of subsidiaries of which it is the majority owner, its subsidiaries are distinct legal entities and their payment of dividends and granting of loans, advances and other payments to the parent company may be subject to legal or contractual

restrictions, be contingent upon their earnings or be subject to business or other constraints. These limitations include local financial assistance rules and corporate benefit laws.

The Group's policy is to centralise liquidity of subsidiaries at the parent company's level when possible. Restricted cash and cash equivalents available at subsidiary level were €490 million and €350 million at 31 March 2013 and 31 March 2012, respectively.

## 25.5. Liquidity risk management

### Financial covenants

At 31 March 2012, to increase its liquidity, the Group completed a €1,350 million revolving credit facility fully undrawn maturing in December 2016. This facility is subject to the following financial covenants, based on consolidated data:

Covenants	Minimum	Maximum	Maximum total
	Interest Cover	total debt (in € million)	net debt leverage
	(a)	(b)	(c)
	3	5,000	3.6

(a) Ratio of EBITDA (Earnings Before Interest and Tax plus Depreciation and Amortisation) to net interest expense (excluding interest related to obligations under finance lease). It amounts to 11.2 at year end 31 March 2013 (12.5 at year end 31 March 2012).

(b) Total debt corresponds to borrowings, i.e. total financial debt less finance lease obligations. This covenant ceases to apply since the Group has an "Investment grade" rating.

(c) Ratio of total net debt (Total debt less short-term investments or trading investments and cash and cash equivalents) to EBITDA. The net debt leverage as at 31 March 2013 is 1.3 (1.4 at 31 March 2012).

### Cash Flow

The Group's objective is to maintain a strong liquidity. A revolving cash planning tool is used to monitor the Group's liquidity needs.

The following tables show the remaining maturities of all financial assets and liabilities held at 31 March 2013 and 31 March 2012.

Planning data for future new assets and liabilities are not reported. Amounts in foreign currency are translated at the closing rate. The variable interest payments are calculated using the last interest rates available at the closing date. Assets and liabilities that can be repaid at any time are always assigned to the earliest possible time period.

### Financial instruments held at 31 March 2013

#### Cash flow arising from instruments included in net cash/(debt) at 31 March 2013

Cash flow for the years ended 31 March (in € million)	Carrying amount	2014		2015		2016-2018		2019 and thereafter	
		Interests	Repayment	Interests	Repayment	Interests	Repayment	Interests	Repayment
Other non-current assets	382	26	25	24	28	50	315	-	14
Marketable securities and other current financial assets	36	-	36	-	-	-	-	-	-
Cash and cash equivalents	2,195	2	2,195	-	-	-	-	-	-
<b>Assets</b>	<b>2,613</b>	<b>28</b>	<b>2,256</b>	<b>24</b>	<b>28</b>	<b>50</b>	<b>315</b>	<b>-</b>	<b>14</b>
Non-current borrowings	(4,197)	-	-	(144)	(805)	(264)	(2,120)	(79)	(1,272)
Non-current obligations under finance leases	(433)	-	-	(28)	(44)	(57)	(137)	(3)	(252)
Current borrowings	(283)	(170)	(283)	-	-	-	-	-	-
Current obligations under finance leases	(42)	(31)	(42)	-	-	-	-	-	-
<b>Liabilities</b>	<b>(4,955)</b>	<b>(201)</b>	<b>(325)</b>	<b>(172)</b>	<b>(849)</b>	<b>(321)</b>	<b>(2,257)</b>	<b>(82)</b>	<b>(1,524)</b>
<b>NET CASH/(DEBT)</b>	<b>(2,342)</b>	<b>(173)</b>	<b>1,931</b>	<b>(148)</b>	<b>(821)</b>	<b>(271)</b>	<b>(1,942)</b>	<b>(82)</b>	<b>(1,510)</b>

### Cash flow arising from operating derivatives at 31 March 2013

Cash flow for the years ended 31 March (in € million)	Carrying amount	2014		2015		2016-2018		2019 and thereafter	
		Interests	Repayment	Interests	Repayment	Interests	Repayment	Interests	Repayment
Other current operating assets	333	-	160	-	53	-	69	-	51
<b>Assets</b>	<b>333</b>	<b>-</b>	<b>160</b>	<b>-</b>	<b>53</b>	<b>-</b>	<b>69</b>	<b>-</b>	<b>51</b>
Other current operating liabilities	(363)	-	(187)	-	(89)	-	(76)	-	(11)
<b>Liabilities</b>	<b>(363)</b>	<b>-</b>	<b>(187)</b>	<b>-</b>	<b>(89)</b>	<b>-</b>	<b>(76)</b>	<b>-</b>	<b>(11)</b>
<b>DERIVATIVES</b>	<b>(30)</b>	<b>-</b>	<b>(27)</b>	<b>-</b>	<b>(36)</b>	<b>-</b>	<b>(7)</b>	<b>-</b>	<b>40</b>

### Cash flow arising from instruments included in other financial assets and liabilities at 31 March 2013

Cash flow for the years ended 31 March (in € million)	Carrying amount	2014		2015		2016-2018		2019 and thereafter	
		Interests	Repayment	Interests	Repayment	Interests	Repayment	Interests	Repayment
Other investments	101	-	-	-	-	-	-	-	101
Other non-current assets	123	-	75	-	1	-	5	-	42
Trade receivables	5,285	-	5,285	-	-	-	-	-	-
Other current operating assets	1,005	-	1,005	-	-	-	-	-	-
<b>Assets</b>	<b>6,514</b>	<b>-</b>	<b>6,365</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>143</b>
Trade payables	(4,041)	-	(4,041)	-	-	-	-	-	-
Other current operating liabilities	(1,547)	-	(1,547)	-	-	-	-	-	-
<b>Liabilities</b>	<b>(5,588)</b>	<b>-</b>	<b>(5,588)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>OTHER FINANCIAL ASSETS AND LIABILITIES</b>	<b>926</b>	<b>-</b>	<b>777</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>143</b>

### Financial instruments held at 31 March 2012

#### Cash flow arising from instruments included in net cash/(debt) at 31 March 2012

Cash flow for the years ended 31 March (in € million)	Carrying amount	2013		2014		2015-2017		2018 and thereafter	
		Interests	Repayment	Interests	Repayment	Interests	Repayment	Interests	Repayment
Other non-current assets	426	28	28	26	25	66	97	9	276
Marketable securities and other current financial assets	13	-	13	-	-	-	-	-	-
Cash and cash equivalents	2,091	8	2,091	-	-	-	-	-	-
<b>Assets</b>	<b>2,530</b>	<b>36</b>	<b>2,132</b>	<b>26</b>	<b>25</b>	<b>66</b>	<b>97</b>	<b>9</b>	<b>276</b>
Non-current borrowings	(3,863)	-	-	(152)	(21)	(285)	(2,571)	(79)	(1,271)
Non-current obligations under finance leases	(477)	-	-	(31)	(41)	(76)	(150)	(13)	(286)
Current borrowings	(634)	(165)	(634)	-	-	-	-	-	-
Current obligations under finance leases	(48)	(33)	(48)	-	-	-	-	-	-
<b>Liabilities</b>	<b>(5,022)</b>	<b>(198)</b>	<b>(682)</b>	<b>(183)</b>	<b>(62)</b>	<b>(361)</b>	<b>(2,721)</b>	<b>(92)</b>	<b>(1,557)</b>
<b>NET CASH/(DEBT)</b>	<b>(2,492)</b>	<b>(162)</b>	<b>1,450</b>	<b>(157)</b>	<b>(37)</b>	<b>(295)</b>	<b>(2,624)</b>	<b>(83)</b>	<b>(1,281)</b>

### Cash flow arising from operating derivatives at 31 March 2012

Cash flow for the years ended 31 March (in € million)	Carrying amount	2013		2014		2015-2017		2018 and thereafter	
		Interests	Repayment	Interests	Repayment	Interests	Repayment	Interests	Repayment
Other current operating assets	283	-	147	-	76	-	40	-	20
<b>Assets</b>	<b>283</b>	<b>-</b>	<b>147</b>	<b>-</b>	<b>76</b>	<b>-</b>	<b>40</b>	<b>-</b>	<b>20</b>
Other current operating liabilities	(642)	-	(422)	-	(92)	-	(114)	-	(14)
<b>Liabilities</b>	<b>(642)</b>	<b>-</b>	<b>(422)</b>	<b>-</b>	<b>(92)</b>	<b>-</b>	<b>(114)</b>	<b>-</b>	<b>(14)</b>
<b>DERIVATIVES</b>	<b>(359)</b>	<b>-</b>	<b>(275)</b>	<b>-</b>	<b>(16)</b>	<b>-</b>	<b>(74)</b>	<b>-</b>	<b>6</b>

### Cash flow arising from instruments included in other financial assets and liabilities at 31 March 2012

Cash flow for the years ended 31 March (in € million)	Carrying amount	2013		2014		2015-2017		2018 and thereafter	
		Interests	Repayment	Interests	Repayment	Interests	Repayment	Interests	Repayment
Other investments	154	-	-	-	-	-	-	-	154
Other non-current assets	107	-	63	-	1	-	2	-	41
Trade receivables	5,692	-	5,692	-	-	-	-	-	-
Other current operating assets	1,094	-	1,094	-	-	-	-	-	-
<b>Assets</b>	<b>7,047</b>	<b>-</b>	<b>6,849</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>195</b>
Trade payables	(4,080)	-	(4,080)	-	-	-	-	-	-
Other current operating liabilities	(1,618)	-	(1,618)	-	-	-	-	-	-
<b>Liabilities</b>	<b>(5,698)</b>	<b>-</b>	<b>(5,698)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>OTHER FINANCIAL ASSETS AND LIABILITIES</b>	<b>1,349</b>	<b>-</b>	<b>1,151</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>195</b>

## 25.6. Commodity risk management

Most of commodities bought by the Group has already been modified and included into spare parts. For the other commodities, the Group has included into customer contracts a customer price adjustment clause, so that the Group has a limited exposure to the variation of commodity prices.

## NOTE 26 • OTHER CURRENT OPERATING LIABILITIES

(in € million)	At 31 March 2013	At 31 March 2012
Staff and associated liabilities	1,145	1,069
Corporate income tax	76	116
Other taxes	458	643
Deferred income	95	98
Other payables	1,336	1,371
Derivatives relating to operating activities	363	642
Remeasurement of hedged firm commitments in foreign currency	215	253
<b>OTHER CURRENT OPERATING LIABILITIES</b>	<b>3,688</b>	<b>4,192</b>



## NOTE 27 • EMPLOYEE BENEFIT EXPENSE AND HEADCOUNT

<i>(in € million)</i>	Year ended	
	31 March 2013	31 March 2012
Wages and salaries	4,545	4,384
Social charges	1,143	1,037
Post-employment and other long-term benefit expense (see Note 23)	299	273
Share-based payment expense (see Note 21)	15	9
<b>TOTAL EMPLOYEE BENEFIT EXPENSE</b>	<b>6,002</b>	<b>5,703</b>

	At 31 March 2013	At 31 March 2012
Staff of consolidated companies at year end		
Managers, engineers and professionals	45,140	42,532
Other employees	41,112	42,917
<b>HEADCOUNT (*)</b>	<b>86,252</b>	<b>85,449</b>

(\*) Headcount doesn't include any temporary people.

## NOTE 28 • CONTINGENT LIABILITIES AND DISPUTES

### 28.1. Contingent liabilities

#### Commercial obligations

Contractual obligations of the Group towards its customers may be guaranteed by bank bonds or insurance bonds. Bank and insurance bonds may guarantee liabilities already recorded on the balance sheet as well as contingent liabilities.

At 31 March 2013, the Group has in place both uncommitted bilateral lines in numerous countries up to €20.7 billion and a Committed Bonding Facility Agreement allowing issuance of instruments until 27 July 2016 for an amount of €9 billion.

At 31 March 2013, the total outstanding bonding guarantees related to contracts, issued by banks or insurance companies, amount to €15.6 billion (€15.9 billion at 31 March 2012).

The available amount under the Committed Bonding Facility at 31 March 2013 amounts to €2.1 billion (€1.4 billion at 31 March 2012). The issuance of new bonds under this bonding facility is subject to the financial covenants disclosed in Note 25.5. The available amount under bilateral lines at 31 March 2013 amounts to €10.7 billion.

#### Vendor financing

Until 2003, the Group provided some financial support, referred to as vendor financing, to financial institutions financing certain purchasers of Transport equipment.

At 31 March 2013, guarantees given as part of past vendor financing arrangements amount to €258 million.

Included in this amount are:

- guarantees totalling \$63 million (€49 million and €47 million at 31 March 2013 and 31 March 2012 respectively) given with respect to equipment sold to a US train operator;
- guarantees totalling £177 million (€209 million and €212 million at 31 March 2013 and 31 March 2012 respectively) given as part of a leasing scheme involving London Underground Limited (Northern Line). Were London Underground Limited to decide not to extend the contract beyond 2017, and to hand the trains back, the Group has guaranteed to the lessors that the value of the trains and associated equipment, net of the £15 million non-extension payment due by London Underground, should not be less than £177 million in 2017. The £177 million is included in the €367 million amount of "Other obligations under long-term rental" (see Note 24).

### 28.2. Disputes

#### Disputes in the Group's ordinary course of business

The Group is engaged in several legal proceedings, mostly contract-related disputes that have arisen in the ordinary course of business. These disputes, often involving claims for contract delays or additional work, are common in the areas in which the Group operates, particularly for large long-term projects. In some cases, the amounts, which may be significant, are claimed against the Group, sometimes jointly with its consortium partners.

In some proceedings the amount claimed is not specified at the beginning of the proceedings. Amounts retained in respect of litigation are taken into account in the estimate of margin at completion in case of contracts in progress or included in provisions and other current liabilities in case of completed contracts when considered as reliable estimates of probable liabilities. Actual costs incurred may exceed the amount of initial estimates because of a number of factors including the inherent uncertainties of the outcome of litigation.

### Asbestos

In France, some of the Group's subsidiaries are subject to civil proceedings in relation to the use of asbestos. These proceedings are initiated by certain employees or former employees suffering from an occupational disease in relation to asbestos with the aim of obtaining a court decision allowing them to obtain a supplementary compensation from the French Social Security (medical) funds. In addition former employees not suffering from an asbestos related occupational disease have started lawsuits before the French courts with the aim of obtaining compensation for damages in relation to their alleged exposure to asbestos, including the specific "anxiety damage".

In the United States, subsidiaries of the Group are also subject to asbestos-related personal injury lawsuits. The Group considers that it has valid defences in these cases and the number of outstanding cases is decreasing.

The Group believes that the cases where it may be required to bear the financial consequences of such civil or criminal proceedings both in France and the United States do not represent a material exposure. While the outcome of the existing asbestos-related cases cannot be predicted with reasonable certainty, the Group believes that these cases will not have any material adverse effect on its financial condition. It can give no assurance, however, that present asbestos-related cases or new cases it may face in the future may not have a material adverse impact on its financial condition.

### Alleged anti-competitive activities

#### GIS equipment

In April 2006, the European Commission commenced proceedings against Alstom, along with a number of other companies, based on allegations of anti-competitive practices in the sale of gas-insulated switchgears ("GIS equipment"), a product of its former Transmission & Distribution business sold to Areva in January 2004, following investigations that began in 2004.

On 24 January 2007, the European Commission levied a fine of €65 million against Alstom which includes €53 million on a joint and several basis with Areva T&D (Alstom Grid). Alstom has requested the cancellation of this decision before the General Court of the European Union. On 3 March 2011 the Court reduced the amount of fines levied against Alstom to €58.5 million out of which €48.1 million on a joint and several basis with Areva T&D (Alstom Grid). On 20 May 2011, Alstom requested the cancellation of this decision before the Court of Justice of the European Union. A hearing took place on 2 May 2013 and the final decision could occur before the end of 2013.

Following the aforementioned European Commission decision of 24 January 2007, on 17 November 2008 National Grid commenced a civil action before the High Court of Justice in London to obtain damages against the manufacturers of GIS equipment, including Alstom and certain of its subsidiaries. National Grid asserts that it has suffered overall alleged damages from all manufacturers concerned of £249.3 million in total since it bought GIS equipment at inflated prices due to alleged anti-competitive arrangements between manufacturers. Alstom contests the facts. The High Court of Justice in London decided that the final hearings would occur in June 2014. Two other similar civil actions started in May and September 2010 before national jurisdictions for a global amount of approximately €32 million are ongoing.

#### Power transformers

On 20 November 2008, the European Commission sent a statement of objections to a number of manufacturers of power transformers, including Alstom, concerning their alleged participation in anti-competitive arrangements. Alstom has contested the materiality of the alleged facts. On 7 October 2009, the European Commission levied a fine of €16.5 million against Alstom which includes €13.5 million on a joint and several basis with Areva T&D (Alstom Grid). Alstom has requested the cancellation of the decision before the General Court of the European Union on 21 December 2009. The hearings on the merits took place on 9 July 2012 and the decision is expected to occur within one year.

#### Boilers

The Group received a statement of objections issued by the German Federal Cartel Office ("FCO") on 22 December 2008, alleging breaches of German competition law in the field of steam generators for lignite-fired power plants. On 20 October 2011, the FCO levied a fine of €42 million against ALSTOM Power Systems GmbH and two of its former officers, as well as against two competitors now bankrupt for alleged cartel arrangements between 1990 and 2003. This decision is final and the fine has been paid by Alstom. In addition the Group has reached agreements with regard to three out of four potential customer claims for civil actions. On 29 December 2011 the fourth customer filed a civil action against a German Alstom affiliate before the Dortmund Regional Court for an amount of €33 million, plus interests. Alstom contests.

### Alleged illegal payments

Certain companies and/or current and former employees of the Group have been or are currently being investigated in various countries, by judicial authorities (including in France, in the United States of America and in the United Kingdom) and development banks with respect to alleged illegal payments. These procedures may result in fines, exclusion of Group subsidiaries from public tenders and third-party actions.

The World Bank sanctioned Alstom for improper payment of €110,000 made in 2002 in relation to a World Bank-financed Zambian power rehabilitation project. On 22 February 2012, as part of a negotiated resolution agreement, the World Bank announced its decision to debar ALSTOM Hydro France and ALSTOM Network Schweiz AG (Switzerland) and their affiliates from public tenders financed by the World Bank for a period of three years, which can be reduced to 21 months subject to certain conditions Alstom intends to respect. The Group paid also a restitution amount of \$9.5 million. This debarment qualifies for cross-debarment by the other multilateral development banks pursuant to the Agreement of Mutual Recognition of Debarments signed on 9 April 2010.

On 22 November 2011, the Swiss Office of Attorney General closed the investigations opened in 2007 to determine whether the Alstom Group and some of its entities had violated rules prohibiting the payment of foreign civil servants to unlawfully win commercial contracts. After thorough investigations, the Office of Attorney General has concluded the absence of any bribery system or so called slush funds used for bribery of civil servants to illegally obtain contracts and sanctioned the company for corporate negligence in three isolated cases, imposing a fine of CHF2.5 million, to which is added the payment of an amount corresponding to the estimated profits of the orders of CHF36.4 million. Alstom has also paid reparation in the amount of CHF1 million to the International Committee of the Red Cross. The Office of Attorney General has issued a dismissal order acquitting the Alstom group and its entities of any additional wrongdoing, fully closing its investigations.

### US litigation following an accident in the Washington D.C. metro

On 22 June 2009, a collision between two metro trains occurred in the Washington D.C. metro resulting in the death of 9 persons and the injury of 52 persons. The claims against Alstom Signaling Inc. initially amounted to approximately \$475 million. A report of the National Transportation Safety Board on the causes of the accident partially implicated equipment supplied by Alstom Signaling Inc. As of today, 120 claims have been made. The 29 most serious claims were asserted through lawsuits. Of these 29 claims, 25 have been settled for a cost of about \$10.2 million and efforts are currently underway to settle the remaining four cases. All other cases have been settled. All the claims have been declared to the Group's insurers and Alstom believes it has adequate insurance coverage.

### Budapest metro

In 2006, Alstom was awarded by BKV a contract for the delivery of 22 Metropolis metros for Line 2 and 15 metros for Line 4 for the city of Budapest. During the execution of the project, Alstom experienced delays mostly related to technical change requests from BKV and the refusal by the Hungarian Authority "NKH" to deliver the final train homologation in 2010 (in August 2007, NKH granted a Preliminary Type License). On 19 October 2010 BKV terminated the contract and called immediately thereafter all bank guarantees amounting in total to approximately €130 million. This amount was paid in June 2011. In July 2011 the parties agreed the re-entry into force of the contract and the suspension of the arbitration procedure initiated by Alstom in January 2011. The homologation for the Final Type License was obtained in July 2012. On 17 December 2012, the arbitration resumed to solve notably the issue of the damages resulting from the past termination of the contract. The contract execution is ongoing.

### Lignite-fired station in Maritza

In 2006, Alstom was awarded by AES a contract for the manufacture of a lignite-fired station in Maritza, Bulgaria. During the execution of the project, Alstom experienced delays and works disruptions mostly due to the defective nature of the lignite supplied by AES. In February 2011, AES called the performance bank guarantee amounting to approximately €150 million. This amount was paid in July 2011. In addition, in March 2011, AES terminated the contract. An arbitration procedure initiated by Alstom, for wrongful termination notably, is on-going. According to the latest arbitral timetable, the hearings before the Arbitral Tribunal are postponed until December 2013 to January 2014.

There are no other governmental, legal or arbitration procedures, including proceedings of which the Group is aware and which are pending or threatening, which might have, or have had during the last twelve months, a significant impact on the financial situation or profitability of the Group.

## NOTE 29 • LEASE OBLIGATIONS

<i>(in € million)</i>	Total	Maturity of lease payments		
		Within 1 year	1 to 5 years	Over 5 years
Long term rental (*)	467	51	189	227
Capital leases	127	22	78	27
Operating leases	356	71	193	92
<b>TOTAL AT 31 MARCH 2013</b>	<b>950</b>	<b>144</b>	<b>460</b>	<b>346</b>
Long term rental (*)	529	56	215	258
Capital leases	148	25	83	40
Operating leases	308	65	152	91
<b>Total at 31 March 2012</b>	<b>985</b>	<b>146</b>	<b>450</b>	<b>389</b>

(\*) Obligations related to lease of trains and associated equipments (see Note 24) including interests to be paid.

## NOTE 30 • INDEPENDENT AUDITORS' FEES

Fees due to Auditors and members of their networks in respect of years ended 31 March 2013 and 31 March 2012 were as follows:

<i>(in € million)</i>	Year ended 31 March 2013				Year ended 31 March 2012			
	Mazars		PricewaterhouseCoopers		Mazars		PricewaterhouseCoopers	
	Amount	%	Amount	%	Amount	%	Amount	%
<b>AUDIT</b>								
Independent Auditors' diligence, certification, review of individual and consolidated accounts	6.9	86%	12.0	92%	7.0	94%	11.4	79%
• ALSTOM SA	0.8	10%	1.4	11%	0.8	11%	1.5	10%
• Controlled entities	6.1	76%	10.6	81%	6.2	83%	9.9	69%
Other audit diligence and audit related services	0.9	12%	0.7	5%	0.4	5%	2.8 (*)	19%
• ALSTOM SA	-	0%	0.1	1%	0.1	1%	-	0%
• Controlled entities	0.9	12%	0.6	4%	0.3	4%	2.8	19%
<b>Sub-total</b>	<b>7.8</b>	<b>98%</b>	<b>12.7</b>	<b>97%</b>	<b>7.4</b>	<b>99%</b>	<b>14.2</b>	<b>98%</b>
<b>OTHER SERVICES</b>								
Legal, tax and social	0.2	2%	0.3	3%	0.1	1%	0.3	2%
Other	-	-	-	-	-	-	-	-
<b>Sub-total</b>	<b>0.2</b>	<b>2%</b>	<b>0.3</b>	<b>3%</b>	<b>0.1</b>	<b>1%</b>	<b>0.3</b>	<b>2%</b>
<b>TOTAL</b>	<b>8.0</b>	<b>100%</b>	<b>13.0</b>	<b>100%</b>	<b>7.5</b>	<b>100%</b>	<b>14.5</b>	<b>100%</b>

(\*) Of which €2.2million relating to due diligence services rendered in connection with business combinations and directly linked to the Statutory Auditor engagement. These services were pre-approved by the Audit Committee and are compliant with French independence rules and Alstom's requirements.

## NOTE 31 • RELATED PARTIES

The Group has identified the following related parties:

- shareholders of the Group;
- associates and joint ventures;
- key management personnel.

### 31.1. Shareholders of the Group

Bouygues, a French company listed on Paris stock market, is the main shareholder holding more than 5% of the parent company's share. At 31 March 2013, Bouygues holds a 29.4% stake in Alstom share capital.

### 31.2. Related-party disclosures

<i>(in € million)</i>	Year ended 31 March 2013		At 31 March 2013	
	Income	Expenses	Receivables	Liabilities
Joint ventures	88	1	24	1
Associates	1	-	5	-

### 31.3. Key management personnel

The Group considers that key management personnel as defined by IAS 24 are the members of the Executive Committee at 31 March 2013.

<i>(in € thousand)</i>	Year ended	
	31 March 2013	31 March 2012
<b>Short-term benefits</b>	<b>8,611</b>	<b>8,254</b>
Fixed gross salaries	4,287	4,581
Variable gross salaries <sup>(1)</sup>	4,324	3,673
<b>Post-employment benefits</b>	<b>4,195</b>	<b>3,367</b>
Post-employment defined benefit plans	4,047	3,171
Post-employment defined contribution plans	148	196
Other post-employment benefits	-	-
<b>Other benefits</b>	<b>1,129</b>	<b>795</b>
Non monetary benefits	131	54
Share-based payments <sup>(2)</sup>	998	741
<b>TOTAL</b>	<b>13,935</b>	<b>12,416</b>

(1) Includes long-term conditional compensation plan allocated to the Chairman and CEO.

(2) Expense recorded in the income statement in respect of stock option plans and free shares.

3

## NOTE 32 • SUBSEQUENT EVENTS

The Group has not identified any subsequent event to be reported.

## NOTE 33 • MAJOR COMPANIES INCLUDED IN THE SCOPE OF CONSOLIDATION

The major companies of the Group are listed below and selected according to one of the following criteria: significant holding companies or sales above €100 million for the year ended 31 March 2013. The list of all consolidated companies is available upon request at the head office of the Group.

Companies	Country	Ownership %	Consolidation method
<b>PARENT COMPANY</b>			
ALSTOM	France	-	Parent company
<b>HOLDING COMPANIES</b>			
ALSTOM Holdings	France	100%	Full consolidation
ALSTOM Power Holdings SA	France	100%	Full consolidation
ALSTOM Hydro Holding	France	100%	Full consolidation
ALSTOM Deutschland AG	Germany	100%	Full consolidation
ALSTOM Spa	Italy	100%	Full consolidation
ALSTOM NV	Netherlands	100%	Full consolidation
Alstom Transport Holdings BV	Netherlands	100%	Full consolidation
ALSTOM Grid Finance BV	Netherlands	100%	Full consolidation
ALSTOM Renewable Holding BV	Netherlands	100%	Full consolidation
ALSTOM (Switzerland) Ltd	Switzerland	100%	Full consolidation
ALSTOM UK Holdings Ltd	United Kingdom	100%	Full consolidation
ALSTOM Inc.	USA	100%	Full consolidation
ALSTOM Transport Holding US Inc.	USA	100%	Full consolidation

Companies	Country	Ownership %	Consolidation method
<b>INDUSTRIAL COMPANIES</b>			
ALSTOM Grid Australia Ltd	Australia	100%	Full consolidation
ALSTOM Limited (Australia)	Australia	100%	Full consolidation
ALSTOM Belgium SA	Belgium	100%	Full consolidation
ALSTOM Brasil Energia e Transporte Ltda	Brazil	100%	Full consolidation
ALSTOM Grid Energia Ltda	Brazil	100%	Full consolidation
ALSTOM Power & Transport Canada Inc.	Canada	100%	Full consolidation
ALSTOM Grid Canada, Inc	Canada	100%	Full consolidation
ALSTOM Hydro China Co., Ltd	China	100%	Full consolidation
Casco Signaling Ltd	China	50%	Proportionate consolidation
ALSTOM Estonia AS	Estonia	100%	Full consolidation
ALSTOM Transport SA	France	100%	Full consolidation
ALSTOM Power Systems SA	France	100%	Full consolidation
ALSTOM Grid SAS	France	100%	Full consolidation
ALSTOM Power Service	France	100%	Full consolidation
ALSTOM Hydro France	France	100%	Full consolidation
COGELEX	France	100%	Full consolidation
ALSTOM Transport Deutschland GmbH	Germany	100%	Full consolidation
ALSTOM Power Systems GmbH	Germany	100%	Full consolidation
ALSTOM Power GmbH	Germany	100%	Full consolidation
ALSTOM Boiler Deutschland GmbH	Germany	100%	Full consolidation
ALSTOM Grid GmbH	Germany	100%	Full consolidation
ALSTOM Power Energy Recovery GmbH	Germany	100%	Full consolidation
ALSTOM T&D India Limited	India	80%	Full consolidation
ALSTOM India Limited	India	69%	Full consolidation
ALSTOM Ferrovaria S.p.A.	Italy	100%	Full consolidation
ALSTOM K.K.	Japan	100%	Full consolidation
ALSTOM Services Sdn Bhd	Malaysia	100%	Full consolidation
Cerrey – Babcock & Wilcox	Mexico	25%	Equity method
ALSTOM Mexicana S.A. de C.V.	Mexico	100%	Full consolidation
The Breakers Investments B.V. (Transmashholding)	Netherlands	25%	Equity method
ALSTOM Power Sp.z o.o.	Poland	100%	Full consolidation
ALSTOM Asia Pte Ltd	Singapore	100%	Full consolidation
ALSTOM S&E Africa (Pty)	South Africa	100%	Full consolidation
ALSTOM Power Service (Pty) Ltd	South Africa	100%	Full consolidation
ALSTOM Transporte SA	Spain	100%	Full consolidation
ALSTOM Renovables España, S.L.	Spain	100%	Full consolidation
ALSTOM Power Sweden AB	Sweden	100%	Full consolidation
AP O&M Ltd.	Switzerland	100%	Full consolidation
ALSTOM Taiwan Ltd	Taiwan	100%	Full consolidation
ALSTOM Grid Enerji Endustrisi A.S.	Turkey	100%	Full consolidation
ALSTOM Middle East FZE	United Arab Emirates	100%	Full consolidation
ALSTOM Ltd	United Kingdom	100%	Full consolidation
ALSTOM Power Inc.	USA	100%	Full consolidation
BrightSource Energy	USA	25%	Equity method
POWER SYSTEMS MFG., LLC	USA	100%	Full consolidation
ALSTOM Boilers US LLC	USA	100%	Full consolidation
ALSTOM Grid Inc.	USA	100%	Full consolidation

# STATUTORY AUDITORS' REPORT ON THE CONSOLIDATED FINANCIAL STATEMENTS

(For the year ended 31 March 2013)

*This is a free translation into English of the Statutory Auditors' report issued in French and is provided solely for the convenience of English speaking users. The Statutory Auditors' report includes information specifically required by French law in such reports, whether modified or not. This information is presented below the opinion on the consolidated financial statements and includes an explanatory paragraph discussing the Auditors' assessments of certain significant accounting and auditing matters. These assessments were considered for the purpose of issuing an audit opinion on the consolidated financial statements taken as a whole and not to provide separate assurance on individual account captions or on information taken outside of the consolidated financial statements.*

*This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.*

## To the Shareholders,

In compliance with the assignment entrusted to us by your Annual General Meeting, we hereby report to you, for the year ended 31 March 2013 on:

- the audit of the accompanying consolidated financial statements of Alstom;
- the justification of our assessments;
- the specific verification required by law.

These consolidated financial statements have been approved by the Board of Directors. Our role is to express an opinion on these consolidated financial statements based on our audit.

## I - Opinion on the consolidated financial statements

We conducted our audit in accordance with professional standards applicable in France. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit involves performing procedures, using sampling techniques or other methods of selection, to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made, as well as the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

In our opinion, the consolidated financial statements give a true and fair view of the assets and liabilities and of the financial position of the Group as at 31 March 2013 and of the results of its operations for the year then ended in accordance with International Financial Reporting Standards as adopted by the European Union.

## II - Justification of our assessments

In accordance with the requirements of article L.823-9 of the French Commercial Code (*Code de commerce*) relating to the justification of our assessments, we bring to your attention the following matters:

### 1. Construction contracts

As described in Notes 2.2, 2.3.5, 2.3.6, 2.3.17, 22 and 28.1 to the consolidated financial statements and related to the recognition of revenue and gross margin, Alstom makes estimates that may have a significant impact, notably when determining the margin at completion on each contract, determined on the basis of the latest information and contract status available. Those estimates are reflected on the balance sheet in the captions "Construction contracts in progress, assets", "Construction contracts in progress, liabilities" and for contracts completed in "Current provisions". We have examined the processes applied by Alstom and considered the data and assumptions on which these estimates are based.

### 2. Goodwill and other long term assets

Alstom performed at year-end an impairment test on goodwill and also assessed whether there was any indication of impairment of other long-term assets, in accordance with the approach described in Note 2.3.12 to the consolidated financial statements. We have assessed the impairment test performed and verified that Note 10 to the consolidated financial statements gives the appropriate information.



### 3. Disputes

We have examined the procedures used by Alstom to identify, assess and account for disputes. We have ensured that the status of the disputes and the related uncertainties are adequately described in Note 28.2 to the consolidated financial statements.

As stated in Note 2.2 to the consolidated financial statements, several matters mentioned in the paragraphs above are based on estimates and assumptions which are uncertain by nature, and for which the final outcome may significantly differ from the initial forward looking data used, in particular given the current economical and financial environment.

These assessments were made as part of our audit of the consolidated financial statements taken as a whole, and therefore contributed to the opinion we formed which is expressed in the first part of this report.

### III - Specific verification

As required by law, we have also verified in accordance with professional standards applicable in France the information presented in the Group management report.

We have no matters to report as to its fair presentation and its consistency with the consolidated financial statements.

Neuilly-sur-Seine and Courbevoie, 7 May 2013

The Statutory Auditors

**PricewaterhouseCoopers Audit**  
Olivier Lotz

**Mazars**  
Thierry Colin

# STATUTORY ACCOUNTS

## INCOME STATEMENTS

<i>(in € million)</i>	Note	Year ended	
		31 March 2013	31 March 2012
Management fees and other operating income		142	123
Administrative costs and other operating expenses		(76)	(60)
Depreciation and amortisation expense		(3)	(2)
<b>OPERATING INCOME</b>	<b>3</b>	<b>63</b>	<b>61</b>
Interest income		156	154
Interest expenses		(156)	(135)
Bonds issuance costs and premiums recognised as income or expense		(4)	(4)
Change differences		1	
<b>Financial income</b>	<b>4</b>	<b>(3)</b>	<b>15</b>
<b>Current income</b>		<b>60</b>	<b>76</b>
<b>Non recurring result</b>	<b>5</b>	<b>(4)</b>	<b>(7)</b>
Income tax credit	6	11	67
<b>NET PROFIT</b>		<b>67</b>	<b>136</b>
<i>Total income</i>		<i>316</i>	<i>351</i>
<i>Total expenses</i>		<i>(249)</i>	<i>(215)</i>

## BALANCE SHEETS

### Assets

<i>(in € million)</i>	Note	At 31 March 2013	At 31 March 2012
<b>FIXED ASSETS</b>			
Intangible assets		2	2
Investments	7	9,216	9,216
Advances to subsidiary	7	6,686	6,212
<b>Total fixed assets</b>		<b>15,904</b>	<b>15,430</b>
<b>CURRENT ASSETS</b>			
Receivables	8	99	88
Cash		2	2
Deferred charges	9	22	25
<b>Total current assets</b>		<b>123</b>	<b>115</b>
<b>TOTAL ASSETS</b>		<b>16,027</b>	<b>15,545</b>

### Liabilities

<i>(in € million)</i>	Note	At 31 March 2013	At 31 March 2012
<b>SHAREHOLDERS' EQUITY</b>			
Share capital		2,157	2,062
Additional paid-in capital		876	622
Legal reserve		206	206
Restricted reserve		22	19
General reserve		7,469	7,472
Retained earnings		840	940
Net profit		67	136
<b>Total shareholders' equity</b>	<b>10</b>	<b>11,637</b>	<b>11,457</b>
<b>Provisions for risks and charges</b>	<b>11</b>	<b>48</b>	<b>45</b>
<b>LIABILITIES</b>			
Bonds	13	4,199	3,851
Other borrowings			50
Trade payables	14	45	50
Other payables	14	95	87
Deferred income	16	3	5
<b>Total liabilities</b>		<b>4,342</b>	<b>4,043</b>
<b>TOTAL SHAREHOLDERS' EQUITY AND LIABILITIES</b>		<b>16,027</b>	<b>15,545</b>

# NOTES TO THE STATUTORY FINANCIAL STATEMENTS

## DETAILED SUMMARY

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## NOTE 1 • BASIS OF PREPARATION OF THE STATUTORY FINANCIAL STATEMENTS

The statutory financial statements for the year ended 31 March 2013 have been prepared in accordance with the provisions of the French Chart of Accounts as described by the Regulation 1999-03 issued by the "Comité de la réglementation comptable" (CRC), approved by Decree dated 22 June 1999 and principles generally admitted.

These accounts have been prepared using the same accounting policies and measurement methods as at 31 March 2012.

## NOTE 2 • DESCRIPTION OF ACCOUNTING POLICIES

### 2.1 Investments

Investments are recorded at acquisition cost, excluding transaction costs.

The year-end valuation is based on value in use which is estimated using the enterprise value net of indebtedness. The enterprise value is the sum of the discounted cash flows and the discounted terminal residual value, and captures the potential of the assets base to generate future profits and cash flows.

When the recoverable value of the investment is lower than the book value, an impairment loss is recognised.

### 2.2 Share capital

A share capital increase is recorded at the nominal share price. If the issue price is higher than the nominal value, this difference is recorded as a paid-in capital.

Transaction costs on capital increase are offset against paid-in capital. If total transaction costs exceed the paid-in capital, the excess is recorded as intangible assets and amortised over a period of five years.

### 2.3 Provisions for risks and charges

#### Provisions for litigations and disputes

The Company identifies and analyses on a regular basis current litigations in which it is engaged. When provisions are deemed necessary, they are measured on the basis of its best estimate of the expenditure required to settle the obligation at the balance-sheet date. These estimates take into account information available and different possible outcomes.

Due to changes in facts and circumstances, costs finally incurred may differ from those estimates.

#### Provision for the long-term conditional compensation plan

The Chairman and Chief Executive Officer benefits from a long term conditional compensation plan linked to the achievement of some Company's performances, over several years.

At the closing, the commitment of the Company is recorded on the basis of real data or on the basis of the best estimates according to elements part of the plan.

#### Provisions for post-employment benefits

The obligation arising from post-employment defined benefits granted to the Chairman and Chief Executive Officer is determined using the projected unit credit method and is wholly recognised as a liability.

### 2.4 Financial debt

Financial debt (bonds and commercial papers) is recorded at nominal value in the liabilities. Transaction costs and bonds premium are recorded as deferred charges or deferred income and amortised over the duration of the borrowings.

Financial instruments (swaps) may be used to hedge interest rate risks on bonds.

### 2.5 Tax Group

The Company is the mother company of a French tax group including ALSTOM Holdings and several subsidiaries of ALSTOM Holdings.

Each company determines its income tax charge on the basis of its own pre-tax income for the year, as if it was not included in a tax group. The Company recognises a gain or a loss equal to the difference between the current income tax based on the Group pre-tax income and the sum of tax charges recognised by the entities members of the tax group.

When a subsidiary member of the tax group exits from the said tax group, it is not compensated for the loss of its tax credits, tax loss carry forward and/or long term losses derived during the period of time it belonged to the tax group.

## NOTE 3 • OPERATING INCOME

At the financial year ended 31 March 2013, operating income is essentially made of €142 million management fees invoiced to the Group's Companies for the use of the Alstom name.

Administrative costs and other operating expenses include management fees invoiced by ALSTOM Holdings, external operating expenses, the gross compensation paid to the Chairman and Chief Executive Officer (€2,211,048 for the financial year ended 31 March 2013) and Directors' fees due for the fiscal year (€773,000 for the same financial year ended).

## NOTE 4 • FINANCIAL INCOME

<i>(in € million)</i>	Year ended at 31 March 2013	Year ended at 31 March 2012
Net Interest income on advances made to ALSTOM Holdings	156	151
Interest expenses on bonds	(153)	(131)
Interest expenses on borrowings	(3)	(3)
Bonds issuance costs and premiums recognised as income or expense	(4)	(2)
• Amortisation expense on deferred charges	(6)	(4)
• Amortisation income on premium received	2	2
Change differences	1	-
<b>TOTAL</b>	<b>(3)</b>	<b>15</b>

The interest income increase is explained by the raise of the average outstanding advance made to ALSTOM Holdings.

New bonds (€910 million issued within the two last financial years-see Note 13) explain the increase of interest costs.

## NOTE 5 • NON-RECURRING RESULT

<i>(in € million)</i>	Year ended at 31 March 2013			Year ended at 31 March 2012
	Non-recurring income	Non-recurring expense	Net amount	Net amount
Disposals of fixed assets	-	-	-	-
Addition or release of provisions	-	-	-	5
Other	1	(5)	(4)	(12)
<b>TOTAL</b>	<b>1</b>	<b>(5)</b>	<b>(4)</b>	<b>(7)</b>

Non-recurring costs are related to litigations on "Alleged anti-competitive activities" and "Alleged illegal payments" (see Note 11).

## NOTE 6 • INCOME TAX

The €11 million mainly linked to the tax grouping.

In absence of tax grouping, a €18 million income tax charge would have been recorded at 31 March 2013.

The deferred tax position of the Company at 31 March 2013, amounting €1,155 million is mainly composed of Tax losses carry forward.

## NOTE 7 • FINANCIAL ASSETS

<i>(in € million)</i>	At 31 March 2012	Acquisition	Disposal	At 31 March 2013
<b>Investments</b>				
• ALSTOM Holdings	9,216	-	-	9,216
<b>TOTAL</b>	<b>9,216</b>	<b>-</b>	<b>-</b>	<b>9,216</b>

### 7.1 Investments

ALSTOM Holdings is ALSTOM's sole significant subsidiary and owns all operating entities of the Group Alstom.

At 31 March 2013, the Company performed an impairment test of its stake in ALSTOM Holdings.

The enterprise value was based on the following factors:

- internal three-year business plan of ALSTOM Holdings and its subsidiaries prepared as part of their annual budget exercise;

- extrapolation of the three year business plan with two additional years; and

- Group's weighted average cost of capital, post-tax, of 9%.

The consolidated financial debt of ALSTOM Holdings and its subsidiaries and other assets and liabilities not recognised when using the discounted cash flow methodology was then considered to determine the recoverable value of investments.

The recoverable amount of ALSTOM Holdings shares is higher than their carrying amount. No impairment loss has been recognised, accordingly.

### 7.2 Advances

<i>(in € million)</i>	At 31 March 2012	Variation	At 31 March 2013
<b>Advances to ALSTOM Holdings</b>			
• Gross value	6,172	472	6,644
• Accrued interests	40	2	42
<b>TOTAL</b>	<b>6,212</b>	<b>474</b>	<b>6,686</b>

Advances to ALSTOM Holdings have a maturity below one year and can be cancelled by anticipation, which ensures their liquidity.

## NOTE 8 • RECEIVABLES

Current receivables can be broken down as follows:

<i>(in € million)</i>	At 31 March 2013		At 31 March 2012	
	Total	Out of which related parties	Total	Out of which related parties
Current account with ALSTOM Holdings	-	-	-	-
Trade receivables	9	8	7	7
"Research tax credit and others" receivable from the French Tax administration	86	-	71	-
Other receivables	4	-	10	-
<b>TOTAL</b>	<b>99</b>	<b>8</b>	<b>88</b>	<b>7</b>

All receivables are due within one year.



## NOTE 9 • DEFERRED CHARGES

<i>(in € million)</i>	At 31 March 2012	Amount capitalised during the period	Amortisation expense of the period	At 31 March 2013
Bonds issuance costs and premiums	25	3	(6)	22

## NOTE 10 • SHAREHOLDERS' EQUITY

### 10.1 Share capital

At 31 March 2013, ALSTOM's share capital amounted to €2,157,106,882 consisting of 308,158,126 ordinary shares with a par value of €7 each and fully paid.

The variations of share capital during the period are the following:

	Number	Par value <i>(in €)</i>
Existing shares at beginning of year	294,533,680	7
• capital increase	13,133,208	7
• reimbursement of bonds	8	7
• exercise of options	411,504	7
• subscription of shares under employee sharing program	79,726	7
<b>EXISTING SHARES AT YEAR END</b>	<b>308,158,126</b>	<b>7</b>

At 31 March 2012, ALSTOM's share capital amounted to €2,061,735,760 consisting of 294,533,680 ordinary shares with a par value of €7 and fully paid.

### 10.2 Changes in shareholders' equity

<i>(in € million)</i>	At 31 March 2012	Shareholders' Meeting held 26 June 2012	Other movements	At 31 March 2013
Capital	2,062	-	95	2,157
Additional paid-in capital	622	-	254	876
Legal reserve	206	-	-	206
Restricted reserve	19	-	3	22
General reserve	7,472	-	(3)	7,469
Retained earnings	940	(100)	-	840
Net profit	136	(136)	67	67
<b>TOTAL</b>	<b>11,457</b>	<b>(236)</b>	<b>416</b>	<b>11,637</b>

Following the decision of the Shareholders' Ordinary Meeting held on 26 June 2012, a €0.80 dividend per share was distributed, representing a total amount of €236 million, related to the financial year ended 31 March 2012.

"Other movements" for the period arise from:

- a €350 million capital increase, for €343 million net of cost, without Pre-emptive rights within a private placement framework;

- a €5 million cash contribution, resulting from the exercise of options;
- the subscription of shares under employee sharing programme;
- the €67 million net profit.

## NOTE 11 • PROVISIONS FOR RISKS AND CHARGES

<i>(in € million)</i>	At 31 March 2012	Additions	Releases	At 31 March 2013
Litigations and disputes	39	-		39
LT conditional compensation plan		1		1
Post-employment defined benefits	6	2	-	8
<b>TOTAL</b>	<b>45</b>	<b>3</b>	<b>-</b>	<b>48</b>

### 11.1 Provisions for litigations and disputes

#### Alleged anti-competitive activities

##### GIS equipment

In April 2006, the European Commission commenced proceedings against Alstom, along with a number of other companies, based on allegations of anti-competitive practices in the sale of gas-insulated switchgears ("GIS equipment"), a product of its former Transmission & Distribution business sold to Areva in January 2004, following investigations that began in 2004.

On 24 January 2007, the European Commission levied a fine of €65 million against Alstom which includes €53 million on a joint and several basis with Areva T&D (Alstom Grid). Alstom has requested the cancellation of this decision before the General Court of the European Union. On 3 March 2011 the Court reduced the amount of fines levied against Alstom to €58.5 million out of which €48.1 million on a joint and several basis with Areva T&D (Alstom Grid). On 20 May 2011, Alstom requested the cancellation of this decision before the Court of Justice of the European Union. A hearing took place on 2 May 2013 and the final decision could occur before the end of 2013.

Following the aforementioned European Commission decision of 24 January 2007, on 17 November 2008 National Grid commenced a civil action before the High Court of Justice in London to obtain damages against the manufacturers of GIS equipment, including Alstom and certain of its subsidiaries. National Grid asserts that it has suffered overall alleged damages from all manufacturers concerned of £249.3 million in total since it bought GIS equipment at inflated prices due to alleged anti-competitive arrangements between manufacturers. Alstom contests the facts. The High Court of Justice in London decided that the final hearings would occur in June 2014. Two other similar civil actions started in May and September 2010 before national jurisdictions for a global amount of approximately €32 million are ongoing.

##### Power transformers

On 20 November 2008, the European Commission sent a statement of objections to a number of manufacturers of power transformers, including Alstom, concerning their alleged participation in anti-competitive arrangements. Alstom has contested the materiality of the alleged facts. On 7 October 2009, the European Commission levied a fine of €16.5 million against Alstom which includes €13.5 million on a joint and several basis with Areva T&D (Alstom Grid). Alstom has requested the cancellation of the decision before the General Court of the European Union on 21 December 2009. The hearings on the merits took place on 9 July 2012 and the decision is expected to occur within one year.

#### Alleged illegal payments

Certain companies and/or current and former employees of the Group have been or are currently being investigated in various countries, by judicial authorities (including in France, in the United States of America and in the United Kingdom) and development banks with respect to alleged illegal payments. These procedures may result in fines, exclusion of Group subsidiaries from public tenders and third-party actions.

The World Bank sanctioned Alstom for improper payment of €110,000 made in 2002 in relation to a World Bank-financed Zambian power rehabilitation project. On 22 February 2012, as part of a negotiated resolution agreement, the World Bank announced its decision to debar ALSTOM Hydro France and ALSTOM Network Schweiz AG (Switzerland) and their affiliates from public tenders financed by the World Bank for a period of 3 years, which can be reduced to 21 months subject to certain conditions Alstom intends to respect. Alstom paid also a restitution amount of \$9.5 million. This debarment qualifies for cross-debarment by the other multilateral development banks pursuant to the Agreement of Mutual Recognition of Debarments signed on 9 April 2010.

Provisions recorded by Alstom regarding these proceedings amount to €39 million at 31 March 2013 (same amount as at 31 March 2012).

### 11.2 Provision for the long-term conditional compensation plan

The Chairman and Chief Executive Officer benefits a long term conditional compensation plan linked to the achievement of some Company's performances, over several years. At 31 March 2013, the commitment of the Company is estimated at €684,000.

### 11.3 Provisions for post-employment defined benefits

The provision related to post-employment benefits represents the present value at year end of the obligations arising from defined benefits granted by the Company to the Chairman and Chief Executive Officer.

The Chairman and Chief Executive Officer also benefits from the supplemental collective retirement scheme implemented in 2004, and taken into account in the determination of his overall compensation. This scheme is composed of a defined contribution plan and a defined benefit plan.

The defined benefit plan covers all persons exercising functions within the Group in France whose base annual remuneration exceeds eight times the annual French social security ceiling. The rights under the plan are vested only if the beneficiary retires from the Company and after claiming his or her retirement rights. Even though the plan does not set any minimum seniority requirement to be met in order to benefit from it,

the plan remains compliant with the intention behind the AFEP-MEDEF recommendation insofar as entitlements are acquired progressively per year of seniority, and only represent each year a limited percentage of the compensation corresponding at maximum to a rate of 1.2% per year on a capped amount. The pension is determined by multiplying the replacement ratio based on the seniority by the fraction of the annual reference remuneration (*i.e.* the average of the last three fixed and variable annual remunerations) that exceeds eight times the annual French social security ceiling (€296,256 for the 2013 calendar year). The annual reference remuneration is capped at €2 million. Since 1 January 2008, this cap is subject to an annual revaluation in accordance with the evolution of the reference salary used to determine the AGIRC supplemental retirement scheme. As such, given his seniority within the Group, the Chairman and Chief Executive Officer could, when he retires, claim a replacement ratio of between 13% and 20% of this salary portion.

There has been no change to this supplemental collective retirement scheme during the fiscal year.

The defined benefit obligation for the defined benefits plan is equal to €8,425,000 as at 31 March 2013, including statutory retirement indemnities for retirement and an amount of €2,637,000 of taxes applicable to supplemental retirement schemes as increased since 1 January 2013.

The defined contribution plan complements the defined benefit plan. The rights are acquired annually and cannot exceed 16% of four times the annual ceiling of French social security. The amount of contributions paid by Alstom within the defined contribution plan, was €23,384 for fiscal year 2012/13.

## NOTE 12 • BONDS REIMBURSABLE WITH SHARES

In December 2003, the Company had issued bonds reimbursable with shares maturing in December 2008.

At 31 March 2013, a balance of 81,266 bonds is still outstanding amounting €0.1 million, in absence of notification from bondholders regarding the redemption. Those bonds represent 5,104 shares to issue.

## NOTE 13 • BONDS

On 11 October 2012, Alstom has issued a new bond of €350 million with maturity date on 11 October 2017.

The movements in nominal amount of bonds over the past two years are as follows:

<i>(Nominal value in € million)</i>	Total	Maturity date							
		23/09/2014	09/03/2015	05/10/2015	02/03/2016	01/02/2017	11/10/2017	05/10/2018	18/03/2020
Annual nominal interest rate		4.00%	4.25%	2.88%	3.88%	4.13%	2.25%	3.63%	4.50%
<b>Outstanding amount at 31 March 2011</b>	<b>3,250</b>	<b>750</b>	-	<b>500</b>	-	<b>750</b>	-	<b>500</b>	<b>750</b>
Bonds issued	560		60		500				
Bonds reimbursed at maturity date	-								
<b>Outstanding amount at 31 March 2012</b>	<b>3,810</b>	<b>750</b>	<b>60</b>	<b>500</b>	<b>500</b>	<b>750</b>	-	<b>500</b>	<b>750</b>
Bonds issued	350						350		
Currency adjustments	3		3						
Repurchase	(7)	(7)							
Bonds reimbursed at maturity date	-								
<b>OUTSTANDING AMOUNT AT 31 MARCH 2013</b>	<b>4,156</b>	<b>743</b>	<b>63</b>	<b>500</b>	<b>500</b>	<b>750</b>	<b>350</b>	<b>500</b>	<b>750</b>

Accrued interests at 31 March 2013 amounting to €43 million are added to the outstanding principal amount in the balance-sheet.

During the financial year ended at 31 March 2012, a €1,350 million revolving Credit Facility, maturing in December 2016 was put in place by Alstom to increase its liquidity. It is subject to the following financial covenants, based on consolidated data:

Covenants	Minimum Interest Cover	Maximum total debt (in € million)	Maximum total net debt leverage
	(a)	(b)	(c)
	3	5,000	3.6

(a) Ratio of EBITDA (Earnings Before Interest and Tax plus Depreciation and Amortisation) to net interest expense (excluding interest related to obligations under finance lease). It amounts to 11.2 at year end 31 March 2013 (12.5 at year end 31 March 2012).

(b) Total debt corresponds to borrowings, i.e. total financial debt less finance lease obligations. This covenant ceases to apply since the Group has an "Investment grade" rating.

(c) Ratio of total net debt (Total debt less short-term investments or trading investments and cash and cash equivalents) to EBITDA. The net debt leverage as at 31 March 2013 is 1.3 (1.4 at 31 March 2012).

This facility is undrawn at 31 March 2013.

## NOTE 14 • PAYABLES AND RELATED PARTIES

(in € million)	At 31 March 2013		At 31 March 2012	
	Total	Out of which related parties	Total	Out of which related parties
Trade payables	45	38	50	47
Payables to members of the tax group	78	78	75	75
Payables to members of the VAT group	6	6	-	-
Other tax and social security payables	2	-	2	-
Other liabilities	9	5	10	5
<b>TOTAL</b>	<b>140</b>	<b>127</b>	<b>137</b>	<b>127</b>

At the beginning of the financial year the Company settled a "VAT group", with five subsidiaries, where it is the head of the group. This group allows making compensation between debit and credit statements of the six members. The debt regarding members of the Group corresponds to VAT credits not yet refunded to subsidiaries.

## NOTE 15 • MATURITY OF LIABILITIES

(in € million)	At 31 March 2013	Within one year	One to five years	More than five years	Out of which related parties
Bonds	4,199	43	2,906	1,250	-
Trade payables	45	45	-	-	38
Other payables	95	95	-	-	89
<b>TOTAL</b>	<b>4,339</b>	<b>183</b>	<b>2,906</b>	<b>1,250</b>	<b>127</b>

## NOTE 16 • DEFERRED INCOME

<i>(in € million)</i>	At 31 March 2012	Amount capitalised during the period	Amortisation income of the period	At 31 March 2013
<b>Bonds issuance premiums</b>	5	-	(2)	3

## NOTE 17 • OTHER INFORMATION

### 17.1 Off balance sheet commitments

Total outstanding guarantees given by the Company amounted to €119.8 million at 31 March 2013, out of which €37.6 million parent guarantees detailed as follows:

- €23.4 million lease guarantees;
- €11 million guarantees of commercial obligations contracted by the Transport Sector; and
- €3.2 million rent guarantees.

## 17.2 Stock options

### Key characteristics

	Plans issued by Shareholders Meeting on 9 July 2004			Plans issued by Shareholders Meeting on 26 June 2007		
	Plan No. 7 stock options	Plan No. 8 stock options	Plan No. 9 stock options	Plan No. 10 stock options	Plan No. 10 free shares	Plan No. 11 stock options
Grant date	17/09/2004	27/09/2005	28/09/2006	25/09/2007	25/09/2007	23/09/2008
Exercise period	17/09/2007- 16/09/2014	27/09/2008- 26/09/2015	28/09/2009- 27/09/2016	25/09/2010- 24/09/2017	n/a	23/09/2011- 22/09/2018
Number of beneficiaries	1,007	1,030	1,053	1,196	1,289	411
Adjusted number granted <sup>(1)</sup>	5,566,000	2,803,000	3,367,500	1,697,200	252,000	754,300
Adjusted number exercised since the origin	4,707,109	1,834,271	526,967	1,000	220,320	0
Adjusted number cancelled since the origin	417,200	268,500	388,744	226,500	31,680	754,300
Adjusted number outstanding at 31 March 2013 inc. to the present members of the Executive Committee	441,691 9,572	700,229 8,000	2,451,789 325,000	1,469,700 171,100	0 0	0 0
Adjusted exercise price <sup>(2)</sup> (in €)	8.60	17.88	37.33	67.50	n/a	66.47
Fair value at grant date (in €)	7.30	10.30	12.90	29.24	129.20	16.71

(1) The number of options and free shares and the exercise price of options have been adjusted as a result of transactions that have impacted the number of capital shares after grant dates.

(2) The exercise price corresponds to the average opening price of the shares during the twenty trading days preceding the day on which the options were granted by the Board (no discount or surcharge).

At 31 March 2013, stock options granted by plans 7, 8, 9, 10, 11 and 12 are fully vested. These options will expire seven years after the end of the vesting period of each plan. Starting plan 13, the options will expire five years after the end of the vesting period.

The long term incentive plans set up since 2007 combine the allocation of stock options with the allocation of free shares.

The grant of these instruments is conditional upon the Group satisfying the following performance conditions.

### LTI plan 13 granted on 13 December 2010

The total number of options exercisable and free shares to be delivered depends on the Group's operating margin for the fiscal years ended 31 March 2011, 31 March 2012 and 31 March 2013:

	% of options exercisable and free shares to be delivered		
	Year ended 31 March 2011	Year ended 31 March 2012	Year ended 31 March 2013
Operating margin achieved above or equal to 7.5%	40%	40%	20%
Operating margin achieved between 7% (inclusive) and 7.5% (non inclusive)	30%	30%	10%
Operating margin achieved between 6.5% (inclusive) and 7% (non inclusive)	10%	10%	0%
Operating margin achieved below 6.5%	0%	0%	0%

Based on consolidated financial statements for the fiscal years ended 31 March 2011, 31 March 2012 and 31 March 2013, the performance condition is achieved for 80% of an allotment of LTIP13 options and free shares. 20% of options and free shares are cancelled.

Plans issued by Shareholders Meeting on 26 June 2007			Plans issued by Shareholders Meeting on 22 June 2010					
Plan No. 11 free shares	Plan No. 12 stock options	Plan No. 12 free shares	Plan No. 13 stock options	Plan No. 13 free shares	Plan No. 14 stock options	Plan No. 14 free shares	Plan No. 15 stock options	Plan No. 15 free shares
23/09/2008	21/09/2009	21/09/2009	13/12/2010	13/12/2010	04/10/2011	04/10/2011	10/12/2012	10/12/2012
n/a	21/09/2012- 20/09/2017	n/a	13/12/2013- 12/12/2018	n/a	04/10/2014- 03/10/2019	n/a	10/12/2015- 09/12/2020	n/a
1,431	436	1,360	528	1,716	514	1,832	538	1,763
445,655	871,350	522,220	1,235,120	740,860	1,369,180	804,040	1,312,690	781,540
0	0	80,928	0	1,930	0	460	0	0
445,655	552,570	340,988	281,039	150,285	267,652	139,722	6,910	9,500
0	318,780	100,304	954,081	588,645	1,101,528	663,858	1,305,780	772,040
0	50,100	320	120,735	10,341	337,500	38,700	340,000	43,000
n/a	49.98	n/a	33.14	n/a	26.39	n/a	27.70	n/a
63.54	11.26	48.11	7.59	31.35	3.14	19.77	5.80	26.70

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### LTI plan 14 granted on 4 October 2011

The total number of options exercisable and free shares to be delivered will depend on the Group's operating margin for the fiscal years ended 31 March 2012 and 31 March 2013 and 31 March 2014:

	% of options exercisable and free shares to be delivered		
	Year ended 31 March 2012	Year ended 31 March 2013	Year ended 31 March 2014
Operating margin achieved above or equal to 7.5%	40%	40%	20%
Operating margin achieved between 7% (inclusive) and 7.5% (non inclusive)	30%	30%	10%
Operating margin achieved between 6.5% (inclusive) and 7% (non inclusive)	10%	10%	0%
Operating margin achieved below 6.5%	0%	0%	0%

Based on consolidated financial statements for the fiscal years ended 31 March 2012 and 31 March 2013, the performance condition is achieved for 60% of an allotment of LTIP14 options and free shares. 20% of options and free shares are cancelled.



### LTI plan 15 granted on 10 December 2012

The total number of options exercisable and free shares to be delivered will depend on the Group's operating margin and the free cash flow for the fiscal years ended 31 March 2013, 31 March 2014 and 31 March 2015:

Year ended 31 March 2013		Year ended 31 March 2014		Year ended 31 March 2015	
% of conditional options exercisable and free shares to be delivered		% of conditional options exercisable and free shares to be delivered		% of conditional options exercisable and free shares to be delivered	
FCF (*) $\geq 0$ and OM (*) $\geq 7.4\%$	40%	FCF $\geq 0$ and OM $\geq 7.6\%$	40%	FCF $\geq 0$ and OM $\geq 8\%$	20%
FCF $\geq 0$ and $7.2\% \leq \text{OM} < 7.4\%$	30%	FCF $\geq 0$ and $7.3\% \leq \text{OM} < 7.6\%$	30%	FCF $\geq 0$ and $7.5\% \leq \text{OM} < 8\%$	10%
FCF $\geq 0$ and $7\% \leq \text{OM} < 7.2\%$	10%	FCF $\geq 0$ and $7\% \leq \text{OM} < 7.3\%$	10%	FCF $< 0$ or OM $< 7.5\%$	0
FCF $< 0$ or OM $< 7\%$	0	FCF $< 0$ or OM $< 7\%$	0	-	-

(\*) FCF means free cash flow and OM operating margin.

Based on consolidated financial statements for the fiscal year ended 31 March 2013, the performance condition is achieved for 30% of an allotment of LTI15 options and free shares. 10% of options and free shares are cancelled.

### Movements

	Number of options	Weighted average exercise price per share (in €)	Number of free shares
<b>Outstanding at 31 March 2011</b>	<b>7,855,932</b>	<b>39.15</b>	<b>1,330,400</b>
Granted	1,369,180	26.39	804,040
Exercised	(192,417)	18.78	(121,830)
Cancelled	(304,858)	40.54	(91,680)
<b>Outstanding at 31 March 2012</b>	<b>8,727,837</b>	<b>37.42</b>	<b>1,920,930</b>
Granted	1,312,690	27.70	781,540
Exercised	(411,504)	12.95	(79,648)
Cancelled	(885,445)	42.32	(497,975)
<b>OUTSTANDING AT 31 MARCH 2013</b>	<b>8,743,578</b>	<b>36.58</b>	<b>2,124,847</b>
of which exercisable	5,382,189		N/A

### 17.3 Severance payment and other benefits arising upon the termination of the mandate

At its meeting dated 28 June 2011, which took place after the General Shareholders' Meeting held on the same day, the Board of Directors that decided not to separate the functions of Chairman and Chief Executive Officer, and to renew the term of office of Mr Patrick Kron as Chairman and Chief Executive Officer for the duration of his directorship, or until the end of the Ordinary Shareholders' Meeting called to approve the financial statements of the fiscal year 2014/15, also decided that the commitments made to Mr Patrick Kron on 26 June 2007, as amended on 6 May 2008 and 4 May 2009 and approved by the General Shareholders' Meeting dated 23 June 2009, concerning benefits arising upon termination of the mandate, would be maintained without any change.

Consequently, the commitments discussed in Article L. 225-42-1 of the French Commercial Code, undertaken with regard to Mr Patrick Kron, Chairman and Chief Executive Officer, concern, as in the past, (i) the potential entitlement to the supplemental collective retirement pension scheme composed of a defined contribution plan and a defined benefit plan from which benefit all persons exercising functions within the Group in France, the base annual remuneration of which exceeds

eight times the French Social Security cap, above mentioned, as well as (ii) the upholding, in the event of termination of his mandate as initiated by either the Company or himself, of only the rights to exercise the stock options and the rights to the delivery of the performance shares, that will have been definitively vested as of the end of his term of office following the fulfilment of the conditions set forth by the plans.

Since these commitments are the same as those granted on 26 June 2007, as amended on 6 May 2008 and 4 May 2009 and approved by the General Shareholders' Meeting dated 23 June 2009, concerning benefits arising upon termination of the mandate described in Article L. 225-42-1 of the French Commercial Code, the Board of Directors, at its meeting dated 28 June 2011, approved and authorised their renewal insofar as necessary. They were approved by the General Shareholders' Meeting on 26 June 2012 and are presented in the Statutory Auditors' special report.

### 17.4 Transactions with related parties

The decree No. 2009-267 dated 9 March 2009 requires to give information about transactions with related parties contracted at conditions other than normal market conditions.

The Company has not identified any transaction coming into the scope of requirement.

### 17.5 List of subsidiaries

ALSTOM Holdings is Alstom's sole significant subsidiary and is 100% owned.

#### Information on ALSTOM Holdings

Gross value of investment held by the Company	€9.2 billion
Net value of investment held by the Company	€9.2 billion
Gross value of loans and advances granted by the Company	€6.7 billion
Net value of loans and advances granted by the Company	€6.7 billion
Bonds and guarantees granted by the Company outstanding at 31 March 2013	-
Dividends paid by ALSTOM Holdings to the Company during financial year ended at 31 March 2013	-
ALSTOM Holdings shareholders' equity at 31 March 2012	€4.8 billion
ALSTOM Holdings shareholders' equity at 31 March 2013	€4.9 billion

## NOTE 18 • SUBSEQUENT EVENTS

The Company has not identified any subsequent event to be reported.

## FIVE-YEAR SUMMARY

Information as per Article L. 232-1 of the French Commercial Code.

	Year ended				
	31 March 2009	31 March 2010	31 March 2011	31 March 2012	31 March 2013
<b>1. Share capital at year end</b>					
a) Share capital <i>(in € thousand)</i>	2,013,576	2,056,894	2,060,935	2,061,736	2,157,107
b) Number of outstanding issued shares	287,653,703	293,841,996	294,419,304	294,533,680	308,158,126
c) Par value of shares <i>(in €)</i>	7	7	7	7	7
<b>2. Operations and income for the year <i>(in € million)</i></b>					
a) Dividends received	-	-	-	-	-
b) Income before tax, depreciation, impairment and provisions	177	118	125	70	65
c) Income tax credit	68	52	85	67	11
d) Net income after tax, depreciation, impairment and provisions	238	151	216	136	67
e) Dividends (*)	323	364	183	236	259
<b>3. Earnings per share <i>(in €)</i></b>					
a) Net earning after tax, but before depreciation, impairment and provisions	0.85	0.58	0.71	0.46	0.25
b) Net earning after tax, depreciation, impairment and provisions	0.83	0.51	0.73	0.46	0.22
c) Net dividend per share (*)	1.12	1.24	0.62	0.80	0.84
<b>4. Personnel</b>					
a) Average headcount of the year	-	-	-	-	-
b) Amount of remuneration of the Chairman and Chief Executive Officer and the Deputy Chief Executive Officer for March 2012 <i>(in € thousand)</i>	2,466	2,310	2,045	2,702	2,211
c) Amount of social charges and other welfare benefits for the year <i>(in € thousand)</i>	754	651	521	820	796

(\*) For the last year-end, subject to the approval of the General Shareholders Meeting.

## APPROPRIATION OF THE NET INCOME FOR THE PERIOD ENDED 31 MARCH 2013

Information as per Article 243 *bis* of the French Tax Code.

The following appropriation of the net income for the year ended 31 March 2013 (€67,186,173.39) will be proposed to the next Shareholders' Meeting:

Net income for the financial year	€ 67,186,173.39
Retained earnings	€ 840,001,589.76
Allocation to the legal reserve	€ 3,359,308.67
Distributable income	€ 903,828,454.48
Dividends paid	€ 258,852,825.84
Retained earnings carried forward	€ 644,975,628.64

The proposed dividend corresponds to a dividend of €0.84 for each of the 308,158,126 shares comprising the capital as of 31 March 2013 and eligible to dividend at 1 April 2012.

When such dividend is paid out to individuals residing in France for tax purposes, the dividend is eligible for a tax reduction of 40% resulting from Article 158-3-2° of the French General Tax Code. The dividend is subject to income tax at the progressive rate after a 21% fixed full tax withholding set forth in the fourth paragraph of Article 117 of the French General Tax Code.

The dividend would be paid in cash on 9 July 2013. Should the Company hold any of its own shares at that date, the amount of dividends attributable to those shares would be carried forward.

Dividend payouts in respect of the previous years were as follows:

- a dividend of €0.80 per share for the period ended 31 March 2012;
- a dividend of €0.62 per share for the period ended 31 March 2011;
- a dividend of €1.24 per share for the period ended 31 March 2010.

## COMMENTS ON STATUTORY ACCOUNTS

Information requested by the Article L. 225-100 of the French Commercial Code.

The Company is the holding company of the Alstom group. ALSTOM Holdings is Alstom's sole significant subsidiary. The Company centralises a large part of the external financing of the Group and directs the funds to its subsidiary ALSTOM Holdings through loans and a current account. Fees from its indirect subsidiaries for the use of the ALSTOM name are the Company's main other source of revenue.

### Income statement

The Company net profit amounted to €67 million and mainly comprised:

- €63 million operating income stemming from the fees for the use of ALSTOM name minus administrative costs and other external costs;
- €3 million financial charge;
- €4 million non-recurring expense; and
- €11 million net income tax credit mainly linked to the tax grouping.

### Balance sheet

Total of balance sheet amounts to €16,027 million and is made of:

- **assets:**
  - ALSTOM Holdings investments totalling €9,216 million;
  - advances to ALSTOM Holdings amounting to €6,686 million.

- **shareholders' equity and liabilities:**

- shareholders' equity amounts to €11,637 million and is made of:
  - share capital: €2,157 million,
  - paid-in capital: €876 million,
  - reserves: €7,697 million,
  - retained earnings: €840 million, and
  - net profit of the period: €67 million;
- outstanding bonds amounting to €4,199 million;
- tax and social payables (€86 million) out of which €78 million due to subsidiaries in accordance with the tax grouping agreements.

### Information on trade payables

In accordance with by the Article D.441-4 of the French Commercial Code, it is stated that trade payables recorded on the balance-sheet are made up as follows:

- received invoices to be paid for €7 million (versus €9 million at 31 March 2012) whose maturity is less than 60 days;
- invoices to come for €38 million (versus €41 million at 31 March 2012).

## STATUTORY AUDITORS' REPORT ON THE FINANCIAL STATEMENTS

(For the year ended 31 March 2013)

*This is a free translation into English of the Statutory Auditors' report issued in French and is provided solely for the convenience of English speaking users. The Statutory Auditors' report includes information specifically required by French law in such reports, whether modified or not. This information is presented below the opinion on the financial statements and includes an explanatory paragraph discussing the auditors' assessments of certain significant accounting and auditing matters. These assessments were considered for the purpose of issuing an audit opinion on the financial statements taken as a whole and not to provide separate assurance on individual account captions or on information taken outside of the financial statements. This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.*

### To the Shareholders,

In compliance with the assignment entrusted to us by your Annual General Meeting, we hereby report to you, for the year ended 31 March 2013, on:

- the audit of the accompanying financial statements of Alstom;
- the justification of our assessments;
- the specific verifications and information required by law.

These financial statements have been approved by the Board of Directors. Our role is to express an opinion on these financial statements based on our audit.

### I - Opinion on the financial statements

We conducted our audit in accordance with professional standards applicable in France; those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit involves performing procedures, using sample techniques or other methods of selection, to obtain audit evidence about the amounts and disclosures in the financial statements. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made, as well as the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

In our opinion, the financial statements give a true and fair view of the assets and liabilities and of the financial position of the Company as at 31 March 2013 and of the results of its operations for the year then ended in accordance with French accounting principles.

### II - Justification of our assessments

In accordance with the requirements of article L.823-9 of the French Commercial Code relating to the justification of our assessments, we bring to your attention the following matters:

- Investments are recorded as assets in your company's balance sheet for a net book value of €9,216 million. Note 2.1 "Description of accounting policies - Investments" to the financial statements describes the methods adopted for accounting for these investments as well as the methods used to calculate impairment losses. We have examined the methodology used and assessed the reasonableness of the estimates applied by Alstom to perform the impairment test, as described in Note 7 "Financial assets" to the financial statements. The data and assumptions on which those estimates are based, are uncertain by nature, and the future results may significantly differ from the initial forward looking data used.
- We have examined the procedures used by Alstom to identify, assess and account for disputes. We have ensured that the status of the disputes and the related uncertainties are adequately described in the Note 11 "Provisions for risks and charges" to the financial statements.

These assessments were made as part of our audit of the financial statements, taken as a whole, and therefore contributed to the opinion we formed which is expressed in the first part of this report.

### III - Specific verifications and information

We have also performed, in accordance with professional standards applicable in France, the specific verifications required by French law.

We have no matters to report as to the fair presentation and the consistency with the financial statements of the information given in the management report of the Board of Directors, and in the documents addressed to the shareholders with respect to the financial position and the financial statements.

Concerning the information given in accordance with the requirements of article L.225-102-1 of the French Commercial Code (*code de Commerce*) relating to remunerations and benefits received by the directors and any other commitments made in their favour, we have verified its consistency with the financial statements, or with the underlying information used to prepare these financial statements and, where applicable, with the information obtained by your company from companies controlling your company or controlled by it. Based on this work, we attest the accuracy and fair presentation of this information.

In accordance with French law, we have verified that the required information concerning the identity of shareholders and holders of the voting rights has been properly disclosed in the management report.

Neuilly-sur-Seine and Courbevoie, 7 May 2013  
The Statutory Auditors

PricewaterhouseCoopers Audit  
Olivier Lotz

Mazars  
Thierry Colin

# STATUTORY AUDITORS' SPECIAL REPORT ON RELATED-PARTY AGREEMENTS AND COMMITMENTS

(Annual General Meeting for the approval of the financial statements for the year ended 31 March 2013)

*This is a free translation into English of the Statutory Auditors' report issued in French and is provided solely for the convenience of English speaking readers. This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.*

## To the Shareholders,

In our capacity as Statutory Auditors of Alstom, we hereby report to you on related-party agreements and commitments.

It is our responsibility to report to shareholders, based on the information provided to us, on the main terms and conditions of agreements and commitments that have been disclosed to us or that we may have identified as part of our engagement, without commenting on their relevance or substance or identifying any undisclosed agreements or commitments. Under the provisions of article R.225-31 of the French Commercial Code (*Code de commerce*), it is the responsibility of shareholders to determine whether the agreements and commitments are appropriate and should be approved.

Where applicable, it is also our responsibility to provide shareholders with the information required by Article R.225-31 of the French Commercial Code in relation to the implementation during the year of agreements and commitments already approved by the Annual General Meeting.

We performed the procedures we deemed necessary in accordance with professional standards applicable in France to such engagements. These procedures consisted in verifying that the information given to us is consistent with the underlying documents.

## Agreements and commitments to be submitted for the approval of the Annual General Meeting

### Agreements and commitments authorised during the year

In accordance with Article L.225-40 of the French Commercial Code, we were informed of the following agreements and commitments authorised by the Board of Directors.

#### Underwriting agreement in connection with the share capital increase without preemptive subscription rights

Directors concerned: Georges Chodron de Courcel and Jean-Martin Folz

#### Nature and purpose:

On 1 October 2012, Alstom entered into an underwriting agreement with a group of banks, including BNP Paribas and Société Générale, in connection with the share capital increase without pre-emptive subscription rights carried out through a private placement for a maximum amount of €350 million including the issue premium. The banks undertook to underwrite the placement of the new shares. The remuneration paid to the four underwriters (including BNP Paribas and Société Générale) amounted to €6,550 thousand. A total of 13,133,208 shares were issued on 4 October 2012 representing a share capital increase of €350 million including the issue premium.

#### Conditions of the authorization:

The underwriting agreement was authorised in advance by the Board of Directors on 1 October 2012.

## Agreements and commitments already approved by the Annual General Meeting

### Agreements and commitments approved in previous years but not implemented during the year

In accordance with Article R.225-30 of the French Commercial Code, we were informed of the following agreements and commitments, approved by your Annual General Meeting in previous years, but not implemented during the year ended 31 March 2013.

#### Agreement for industrial, commercial and financial cooperation with Bouygues

Directors concerned: Bouygues SA and Georges Chodron de Courcel

#### Nature and purpose:

Alstom and Bouygues signed an agreement for industrial, commercial and financial cooperation on 26 April 2006. The purpose of this agreement is to develop cooperation between the commercial networks of the two groups and, where possible, to realise integrated projects combining the civil engineering activities of the Bouygues Group with the equipment activities of the Alstom Group.

#### Conditions of the authorization:

The agreement was authorised in advance by the Board of Directors on 21 April 2006 and approved by the Annual General Meeting on 26 June 2007.

**Underwriting agreement on the bond issue of 23 September 2009**

Directors concerned: Georges Chodron de Courcel and Jean-Martin Folz

Nature and purpose:

On 21 September 2009, Alstom entered into, in particular with BNP Paribas and Société Générale, an underwriting agreement in connection with its €500 million bond issue maturing on 23 September 2014, and for which the banks agreed to underwrite the placement of the bonds. The underwriting agreement carried a fee equal to 0.35% of the nominal amount, i.e., €1,750 thousand. The bonds were issued on 23 September 2009.

Conditions of the authorization:

The underwriting agreement was authorised in advance by the Board of Directors on 21 September 2009 and approved by the Annual General Meeting on 22 June 2010.

**Underwriting agreement on the bond issue of 1 February 2010**

Directors concerned: Georges Chodron de Courcel and Jean-Martin Folz

Nature and purpose:

On 28 January 2010, Alstom entered into, in particular with BNP Paribas and Société Générale, an underwriting agreement in connection with its €750 million bond issue maturing on 1 February 2017, and for which the banks agreed to underwrite the placement of the bonds. The underwriting agreement carries a fee equal to 0.35% of the nominal amount, i.e., €2,625 thousand. The bonds were issued on 1 February 2010.

Conditions of the authorization:

The underwriting agreement was authorised in advance by the Board of Directors on 22 December 2009 and approved by the Annual General Meeting on 22 June 2010.

**Commitments falling within the scope of Article L.225-42-1 of the French Commercial Code with Patrick Kron, Chairman and Chief Executive Officer**

Director concerned: Patrick Kron, Chairman and Chief Executive Officer

Nature and purpose:

At its meeting of 28 June 2011, the Board of Directors reappointed Patrick Kron as Chairman and Chief Executive Officer for the length of his term of office as Director, i.e., until the end of the Ordinary Shareholders' Meeting called to approve the financial statements for 2014/2015, and also renewed the commitments made to Patrick Kron on 26 June 2007 in relation to benefits following the termination of his term of office. These commitments were amended on 6 May 2008 and 4 May 2009, and were approved by the Annual General Meeting of 23 June 2009. These commitments, the renewal of which was approved by the Annual General Meeting of 26 June 2012, are as follows:

**Stock options and performance shares**

In the event of termination of his term of office as Chairman and Chief Executive Officer, by either the Company or himself, the Chairman and Chief Executive Officer will only retain the rights to exercise stock options subject to performance conditions, and to the delivery of performance shares, granted before the end of his term of office, and that have vested in full as of the end of his term of office following the fulfilment of the conditions set forth by the plans.

Stock options and performance shares that have not vested as of the end of his term of office may not be exercised or delivered.

**Supplemental retirement schemes**

The Chairman and Chief Executive Officer is entitled to a supplemental retirement scheme based on a defined contribution plan and a defined benefit plan, which was set up on 1 January 2004 for Group employees in France whose basic annual remuneration exceeds eight times the French social security ceiling.

This scheme provides for an annual pension equivalent to approximately 1.2% of the salary bracket above eight times this ceiling per year of service, capped at €2 million. Since 1 January 2008, this cap has been adjusted annually based on changes in the base salary used for determining supplemental retirement (AGIRC) benefits.

In addition to the defined contribution plan, the scheme comprises a defined benefit plan. Rights acquired annually under this plan by Group employees in France, whose basic annual remuneration exceeds eight times the French social security ceiling, may not exceed 16% of four times the French annual social security ceiling.

The contributions paid by Alstom to its Chairman and Chief Executive Officer under the defined contribution plan for the year ended 31 March 2013 amounted to €23,384. With respect to the defined benefit plan, the obligation assumed by Alstom at 31 March 2013 amounted to €8,425,000 including statutory retirement termination benefits.

Neuilly-sur-Seine and Courbevoie, 7 May 2013

The Statutory Auditors

PricewaterhouseCoopers Audit

Olivier Lotz

Mazars

Thierry Colin



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The Content of the Annual Financial Report is identified in the summary table with the help of a pictogram 

The section below presents the main risk factors, both specific to Alstom and to its market environment. Together with the sections “Management report on consolidated financial statements fiscal year 2012/13” and “Group description of activities”, it constitutes the Board of Directors’ report on the Group’s management for fiscal year 2012/13.

Internal control and risk management procedures are described in section “Corporate governance – Chairman’s report” (the “Chairman’s report”), which presents in particular the annual risk assessment process (“cartography of Group risks”) and the Internal Control Questionnaire (“self-assessment questionnaire”).

## RISKS IN RELATION TO MARKET ENVIRONMENT AND GROUP ACTIVITIES

### MARKET ENVIRONMENT

Long-term evolution of Alstom’s markets is driven by a variety of complex and inter-related external factors, such as economic growth, political stability, public policies in particular on environment and public transportation, price and availability of the different sources of fuels. Short-term evolution of Alstom’s markets is also driven by the current financing constraints and the uncertainty on economic growth, particularly on future demand of electricity. The macroeconomic and financial environment remains volatile, particularly in the eurozone, where recent developments have demonstrated that there continue to be significant risks. Financial markets and credit supply have been periodically negatively impacted by ongoing fears surrounding the sovereign debts and budget deficits of several countries and the possibility of further downgrading of, or defaults on, sovereign debt, as well as concerns about a macroeconomic environment durably weakened, or return to recessions globally or regionally. Government measures to control public spending in relation to the large sovereign debts and budget deficits, implemented mainly in Europe, may result in an increased reduction of public investments, notably in the transport market, and an additional tax burden increase in some countries.

Worldwide demand analysis and key drivers for each Alstom’s businesses, as well as Alstom assessment of the crisis short- and long-term impact on its activities are presented in sections “Group description of activities” and “Management report on consolidated financial statements fiscal year 2012/13”.

In addition the Group faces the evolution of customers demand due to the specificity of their markets, as well as a strong competition, both from large historical international competitors as well as new ones from

emerging countries, in particular Asia, where they benefit from a low cost base. The impact of this increased competition on prices, payment terms, tenders’ quality, time to market, and customer service may affect Alstom’s position in certain of its markets. As a consequence Alstom is adjusting its industrial footprint and adapting its products offering to better address these evolutions. Alstom competitive position in its various businesses is described in section “Group description of activities”.

The Group believes it competes effectively in most of its markets. It considers that its strong backlog as well as all the measures it has taken, in particular for reducing costs and adapting headcount to demand, should enable it to face the current competition and the economic environment which remains uncertain and contrasted across geographies and businesses. While emerging countries remain dynamic, advanced countries have not resumed their normal investment level yet, particularly in the thermal power generation sector. The initiatives taken by the Group may prove to be insufficient in case of a long lasting down turn of the world economy, drop in demand and increasing and continued competitive pressures. After the political events in North Africa and the Middle-East, the regional situation remains unstable, although these events did not had significant repercussions on Alstom’s activities in the concerned countries. However these unstable economical and political conditions may impact the hypothesis underlying the Group’s future targets and forecasts. Any unfavourable development of any of the aforementioned drivers may have an adverse effect on Alstom’s markets and as a consequence an adverse effect on its activity and financial situation.

## CONTRACT EXECUTION

Alstom's business includes major long-term contracts, often executed in consortium. The revenue, cash flow and profitability of a long-term project vary significantly in accordance with the progress of that project and depend on a variety of factors, some of which are beyond the Group's control, such as unanticipated technical problems with equipment being supplied, postponement or delays in contract implementation, financial difficulties of customers, withholding of payment by customers, and performance defaults by or financial difficulties of suppliers, subcontractors or consortium partners with whom Alstom is jointly liable. Profit margins realised on certain of Alstom's contracts may vary from its original estimates as a result of changes in costs and productivity over their term. As a result of this variability, the profitability of certain contracts may significantly impact the Group income and cash flows in

any given period. Although these cases remain extremely rare, Alstom may have to face calls of first demand bank guarantees in relation to its contracts for potentially significant amounts.

Alstom has established strict risk control procedures applying from tendering to contract execution, through its Risks Committees at the Group and Sectors levels, as well as procedures implemented within the Sectors, as described in the Chairman's report in section "Corporate governance". However Alstom can give no assurance that these and other initiatives will be sufficient. Certain of its projects are or may be subject to delays, cost overruns, or performance shortfalls which may lead to the payment of penalties or damages. Such difficulties may have a material adverse impact on the Group results and financial position.

## INNOVATION

The Group designs and manufactures high-technology products to meet its customers' needs and stay at the forefront of technological innovation in the power generation and transmission and rail transport sectors. The markets in which the Group operates quickly evolve with the development of new technologies. Alstom has to anticipate these changes and integrate new technologies or new products into its sales offer. This requires significant expenditures and investments which future profitability cannot be guaranteed. The Group has launched a very significant research and development program, dedicated in particular to the continuation of the modernisation of its turbines' range, the CO<sub>2</sub> capture, the high and ultra high-voltage transmission technologies, the

smart grid systems and the development of the wind turbines. In the Transport Sector, investments focus on the renewal of the rolling stock range and its adaptation to emerging countries' needs and on advanced signalling systems, including fully automated driverless systems ("CBTC"). In a highly competitive environment, the Group remains however exposed to the risk that more innovative or more competitive technologies or products are developed by competitors or introduced on the market more quickly or that the developed products are not welcomed by the market. This may have a material adverse impact on the Group's activity, results and financial position.

## DESIGN AND USE OF COMPLEX TECHNOLOGIES

The Group designs, manufactures and sells several products of large individual value that are used in major infrastructure projects. Alstom is required to address the evolution of customers demand for more and more complex tenders with increasing constraints and uncertainties in homologations. Alstom is also required to introduce new, highly sophisticated and technologically complex products on increasingly short time scales. This necessarily limits the time available for testing and increases the risk of product defects and their financial consequences. It is sometimes necessary to fine tune or modify products after Alstom begins manufacturing them or after its customers begin operating them. Because Alstom manufactures some of its products in series, it may need to make such modifications during the production cycle.

At the same time, when it sells its products or enters into maintenance contracts, Alstom may be required to accept onerous contractual penalties, in particular related to performance, availability and delay in delivering its products, as well as after-sales warranties. Alstom's contracts may also include clauses allowing the customer to terminate the contract or

return the product if performance specifications or delivery schedules are not met. As a result of these contractual provisions and the time needed for the development, design and manufacturing of new products, problems encountered with Alstom's products may result in material unanticipated expenditures, including without limitation additional costs related to securing replacement parts and raw materials, delays and cost overruns in manufacturing, delivering and implementing modified products and the related negotiations or litigation with affected clients.

In instances where such difficulties occur, Alstom cannot ensure that the total costs that it ultimately incurs will not exceed the amount that it has provisioned. Further, given the technical sophistication of its products, Alstom can give no assurance that it will not encounter new problems or delays in spite of the technical validation processes implemented within the Group. Any such problems or delays may cause Alstom's products to be less competitive than those of its competitors and have a material adverse impact on its results and financial position.

## COSTS AND CONDITIONS TO ACCESS TO CERTAIN MANUFACTURED GOODS AND RAW MATERIALS

In the course of its business, Alstom uses raw materials and manufactured goods in amounts which vary according to the project and which may represent up to one third of the contract price. Given the difficulties and delays in the delivery of certain manufactured goods and the significant volatility of raw materials prices, the Group cannot ensure that these elements will necessarily be fully reflected in contract prices thus potentially impacting the profitability of its contracts. See also Note 25.6 to the consolidated financial statements for the fiscal year ended 31 March 2013.

Any unexpected unfavourable evolution in this area may create a negative pressure on margins and adversely affect Alstom's results. In addition, the financial and economic crisis has increased risks of failures of certain Alstom's suppliers. Although the Group has a system to detect these failures, Alstom cannot ensure that it may not be affected by delays in deliveries or financial difficulties possibly encountered by its suppliers. The Note 25.6 to the financial statements as of 31 March 2013 presents the exposure to raw materials and manufactured goods and the management policy of this risk.

## WORKING CAPITAL MANAGEMENT

The structure and long term of Alstom's projects may result in payment of expenses before realisation of revenue. As a result, Alstom's ability to negotiate and collect customer advances and milestone payments is therefore an important element of its working capital management. Any long lasting decrease in the global orders intake or deterioration of its payment terms materially impacts working capital evolution and consequently adversely impact the Group's financial situation

and its liquidity. Additional information regarding customer deposits and advances and working capital are given in Notes 15, 16 and 19 to the consolidated financial statements for the fiscal year ended 31 March 2013. The development of the Group in emerging countries, often through the implementation of partnerships, notably for the Transport Sector, may also generate the risk that working capital needs related to these developments further increase.

## MANAGEMENT OF HUMAN RESOURCES

There is significant competition in the employment market with respect to the highly qualified managers and specialists, which are needed by Alstom's businesses, particularly in some growing countries. The success of development plans will depend in part on the Group's ability to retain its employee base and recruit and integrate additional managers and skilled employees. The Group can give no assurance that it will be

successful in developing and retaining its employee base as needed to accompany its business development in particular in emerging countries. Conversely the measures to adapt headcount to the evolution of demand in decreasing markets may result in significant social risks which may have an adverse impact on the expected costs reductions and Group production capacities.

## INFORMATION SYSTEMS AND TECHNOLOGY RISKS

The Group relies on state of the art information systems, technology and infrastructure to support its operations and promote business efficiency. The Group's broad geographic footprint, its diverse businesses and ranges of products, and the integration of successive businesses all makes for a complex environment. The Group has also set up partnerships to carry out the management of certain IT infrastructures and the support of some applications. Main stakes relating to the Group's information systems and technologies are ensuring business continuity, securing sensitive data, protecting intellectual property rights, maintaining systems availability and managing IT assets compliance. Within the framework of a centralised management of its information systems

and infrastructures, Alstom develops global common practices which contribute to reinforce the control environment and security within the Group. Alstom has defined risk management rules, including with respect to data protection, access to confidential data, security of its applications and infrastructures and has so far not experienced significant difficulties in this area. However Alstom can give no assurance that these rules would be sufficient to prevent any IT risks. The Information Systems & Technology function is presented in the Chairman's report, section "Corporate governance – Chairman's report – Internal control and risk management procedures report".

## RISKS IN RELATION TO FINANCIAL MARKETS

### CURRENCY EXCHANGE, INTEREST RATE, CREDIT AND LIQUIDITY RISKS

The Group is significantly exposed to currency exchange risks. The Note 25 to the consolidated financial statements for the fiscal year ended 31 March 2013 presents the Group exposure and sensitivity to currency exchange and interest rate risks, as well as the management policy of these risks. Detailed information on the Group financial debt amounting to €4,955 million as of 31 March 2013 is also given in Note 24 to the consolidated financial statements for the fiscal year ended 31 March 2013.

In addition to its cash available, €2,195 million as of 31 March 2013, the Group has a revolving credit facility (the "Credit Facility") signed

in December 2011 and maturing in December 2016 amounting to €1.350 billion and which is fully undrawn.

During fiscal year 2012/13 Alstom completed in October 2012 a capital increase amounting to €350 million, issue premium included, by way of a private placement, followed by a bond issue amounting to €350 million maturing in October 2017 within the framework of its Euro Medium Term Note Programme, to reinforce its financial situation.

In light of these operations and of the maturity of its debt described below, the Group considers that it has sufficient financial flexibility to meet its financial obligations and needs.

#### BOND ISSUES MATURITY

Instrument	Amount (in million)	Maturity	Interest rate
<b>Capital market</b>			
Bonds	€750	23 September 2014	4.00%
EMTN (RMB)	€60	9 March 2015	4.25%
Bonds	€500	5 October 2015	2.875%
EMTN	€500	2 March 2016	3.875%
Bonds	€750	1 February 2017	4.125%
Bonds	€350	11 October 2017	2.25%
Bonds	€500	5 October 2018	3.625%
Bonds	€750	18 March 2020	4.50%

Pursuant to its bonds and guarantees programmes, the Group has a committed revolving facility allowing issuance of bonds, recently extended until 27 July 2016 and which maximum amount was increased from €8.275 billion to €9 billion by amendment signed in March 2013 effective 1 April 2013. As of 31 March 2013 the available amount under the Committed Facility is €2.1 billion. In addition the Group has non-committed bilateral lines in numerous countries up to a total amount of €10.7 billion as of 31 March 2013.

The Credit Facility and the Committed Facility are subject to financial covenants disclosed in Note 25 to the consolidated financial statements for the fiscal year ended 31 March 2013. Alstom complies with these covenants as at 31 March 2013 and does not anticipate any particular difficulty continuing to comply with these covenants.

Alstom is rated by the rating agencies Moody's Investors Services and Standard & Poor's since May 2008. The ratings below are regularly reviewed and the Group cannot ensure that they will remain at the same level.

#### Agencies

##### Moody's Investors Services

Short-term rating	P-2
Long-term rating	Baa2 (outlook negative)

##### Standard & Poor's (\*)

Short-term rating	A-2
Long-term rating	BBB (outlook negative)

(\*) On 7 May 2012, Standard & Poor's confirmed the long-term and short-term credit ratings, but revised its outlook from stable to negative.

As of today the Group believes it has no major risk so as to access financial markets. A down grading of the Alstom's rating would however impact unfavourably the financial conditions of its financings. Additional

information regarding the specific management of financial risks is presented in the Chairman's report, section "Corporate governance".

## EQUITY RISKS

Alstom holds shareholdings in listed companies which market values are continuously fluctuating. In the context of its current cash management, Alstom does not use share instruments.

Alstom considers it has no significant exposure to equity risks, except risks in relation to defined benefit pension plans described below. See also Note 23 to the financial statements for the fiscal year ended 31 March 2013.

## PENSION PLANS

Pursuant to certain of Alstom's defined benefit schemes, notably in the United Kingdom and the United States, Alstom is committed to providing cash to cover differences between the market value of the plan's assets and required levels for such schemes over a defined period. The Group projected benefit obligations are based on certain actuarial assumptions that vary from country to country, including, in particular, discount rates, rates of increase in compensation levels and rates of mortality.

If actual results, in particular actual performance of plans assets, were to materially differ from these assumptions the funded status of the Group plans may be significantly higher or lower. Over fiscal year 2012/13, the funded status of the Group plans decreased due to the impact of interest rates' decrease which resulted in the increase in pension obligation over fiscal year 2012/13 partially offset by the increase in the fair value of

plan assets (underfunded status amounting to €1,653 million as of 31 March 2013 compared to €1,424 million as of 31 March 2012). This trend may lead to increased financing needs with a correlative impact on the Group's treasury.

Further details on the methodology used to assess pension assets and liabilities together with the annual pension costs are included in Notes 2.3.21 and 23 to the consolidated financial statements for the fiscal year ended 31 March 2013.

The Pension Committee supervises and monitors pension plans and other employee benefits as described in the Chairman's report (section "Corporate governance – Chairman's report – Internal control and risk management procedures report").

## RISKS IN RELATION TO ACQUISITIONS, DISPOSALS AND OTHER EXTERNAL GROWTH OPERATIONS

In June 2010, Alstom closed the acquisition of the Transmission activities of Areva which became the Grid Sector. As part of its development strategy, Alstom continues to complete acquisitions of businesses and/or companies, as well as joint ventures and partnerships. The Group has notably implemented an important number of joint ventures and partnerships in emerging countries, in particular Russia, India and China to enter these new markets. These operations include risks, in particular in relation to potential political or economic instability depending on the countries, to the difficulties that may arise in evaluating assets and liabilities relating to these operations, in integrating people, activities, technologies and products, as well as in implementing governance and compliance systems and procedures. Although the Group monitors the risks relating to these operations, no assurance exists that acquired businesses or companies do not contain liabilities which were not

identified at the time of the operation for which Alstom would have no or insufficient protection from the seller or partner. No assurance can also be given that such joint ventures and partnerships may not result in additional financing needs, increased acquisition and integration costs, as well as industrial property risks.

The Group has disposed of certain of its businesses and may further dispose of others. As is customary, it makes certain warranties regarding the businesses being sold. In some cases the Group has retained certain contracts and liabilities. As a result it may be required to bear increased costs on retained contracts and liabilities and to pay indemnities or purchase price adjustments to the acquirer, which may have a material adverse effect on the Group's results and financial position.



## LEGAL RISKS

This section is to be read in relation with the Note 28.2 to the consolidated financial statements for the fiscal year ended 31 March 2013.

### DISPUTES IN THE ORDINARY COURSE OF BUSINESS

The Group is engaged in several legal proceedings, mostly contract related disputes that have arisen in the ordinary course of business. Contract related disputes, often involving claims for contract delays or

additional work, are common in the areas in which the Group operates, particularly for large, long-term projects.

### ALLEGATIONS OF ANTI-COMPETITIVE ACTIVITIES AND ILLEGAL PAYMENTS

The Group is subject to procedures for alleged anti-competitive practices described in Note 28.2 to the consolidated financial statements for the fiscal year ended 31 March 2013. Any adverse development of these investigations and procedures, including civil lawsuits, may have a material adverse impact on the Group reputation, as well as on its results and financial position due notably to the significant amount of fines that can be ordered in this area.

Certain companies and/or current and former employees of the Group have been or are currently being investigated in various countries by judicial authorities (including in France, in the United States of America and in the United Kingdom) and development banks with respect to alleged illegal payments. These procedures may result in fines, the exclusion of Group subsidiaries from public tenders and third-party actions. Additional information is given in Note 28.2 to the consolidated financial statements for the fiscal year ended 31 March 2013.

Strict procedures are in place to ensure compliance with all laws and regulations, and in particular those relating to competition rules and prohibited payments. As part of this objective, the Group communicates to each employee the Alstom Code of Ethics, which prescribes strict compliance with rules of conduct to prevent in particular anti-competitive activities and corruption and which recalls the role of employees and the alert procedure within the Group. During fiscal year

2012/13, Alstom has continued to conduct several training programmes to continuously improve employees awareness towards potential risks linked to illegal activities and for teaching appropriate and practical individual behaviours for the day to day professional life. Alstom has also continued and enhanced its Competition Compliance Policy, while creating the Competition Department overseeing the implementation of the good practices worldwide. Training sessions adapted to local laws and regulations, in the language of the concerned country, are deployed in all countries where Alstom operates.

The Group internal control rules and procedures to control the risks linked to illegal activities have been constantly reinforced over the last years. Alstom actively strives to ensure that it appropriately addresses any problems that may arise. However, given the extent of its activities worldwide, Alstom cannot be assured that such difficulties will not arise or that such difficulties will not have a material adverse effect on its reputation and/or results and financial position.

For more information on the internal control system put in place within the Group, the Alstom Code of Ethics and the measures taken by the Ethics & Compliance Department, see section "Corporate governance – Chairman's report – Internal control and risks management procedures report".

### ASBESTOS

In the past, the Group used and sold some products containing asbestos, particularly in France in its former Marine Sector sold on 31 May 2006 and to a lesser extent in its other Sectors. It has been the Group's policy for many years to abandon definitively the use of products containing asbestos by all of its operating units worldwide and to promote the

application of this principle to all of its suppliers, including in those countries where the use of asbestos is permitted. The Group is subject to asbestos-related legal proceedings or claims including in France and the United States, which are described in Note 28.2 to the consolidated financial statements for the fiscal year ended 31 March 2013.

### US LITIGATION FOLLOWING AN ACCIDENT IN THE WASHINGTON D.C. METRO

Detailed information regarding the accident which occurred in the Washington D.C. metro on 22 June 2009 is given in the Note 28.2 to the consolidated financial statements for the fiscal year ended 31 March 2013.



## ENVIRONMENTAL, HEALTH AND SAFETY RISKS

The Group is subject to a broad range of environmental laws and regulations in each of the jurisdictions in which it operates. These laws and regulations impose increasingly stringent environmental protection standards regarding, among other things, air emissions, wastewater discharges, the use and handling of hazardous waste or materials, waste disposal practices and the remediation of environmental contamination. These standards expose the Group to the risk of substantial environmental costs and liabilities, including in relation with divested assets and past activities. In most of the jurisdictions in which the Group operates, its industrial activities are subject to obtaining permits, licences and/or authorisations, or to prior notification. Alstom's facilities must comply with these permits, licences or authorisations and are subject to regular inspections by competent authorities.

The Group invests significant amounts to ensure that it conducts its activities in order to reduce the risks of impacting the environment and regularly incurs capital expenditures in connection with environmental compliance requirements. Although the Group is involved in the remediation of ancient contamination of certain properties and other sites, it believes that its facilities are in compliance with their operating permits and that its operations are in compliance with environmental laws and regulations.

The Corporate Environment, Health and Safety ("EHS") Department is responsible for defining and following up Alstom common procedures and best practices to ensure compliance with environmental, health

and safety regulations (the Alstom "EHS roadmap"). The deployment of the EHS Roadmap is decentralised and monitored at each Sector, business and site level. The costs linked to environmental health and safety issues are budgeted at plant or unit level and included in the consolidated income statement.

The outcome of environmental, health and safety matters cannot be predicted with certainty and there can be no assurance that the Group will not incur any environmental, health and safety liabilities in the future and it cannot guarantee that the amount that it has budgeted or provided for remediation and capital expenditures for environmental or health and safety related projects will be sufficient to cover the intended loss or expenditure. In addition, the discovery of new conditions or facts or future changes in environmental laws, regulations or case law may result in increased liabilities that may have a material effect on the Group financial condition or results of operations. The Group has provisions of €37 million to cover environmental risks as of 31 March 2013.

The Group does not operate any industrial site identified on the list referred to in IV of Article L. 515-8 of the French Environment Code. The environmental, health and safety risks management policy is presented in section "Corporate governance – Chairman's report – Internal control and risk management procedures report".

## INSURANCE

The Group policy is to purchase insurance policies covering risks of a catastrophic nature from insurers presenting excellent solvency criteria. The amount of insurance purchased varies according to Alstom's estimation of the maximum foreseeable loss, both for Property Damage & business Interruption and Civil Liability Insurance.

This estimate is made within the framework of Industrial Risk Management Audits that are conducted for property damage and business interruption. For civil liability, the estimation of insurance needs depends on the evaluation of the maximum legal risk considering the various Group activities. The annual risks assessment process which results in the Group cartography of risks, has allowed the Group to confirm that the appropriate level of insurance was purchased for insurable risks. For more information see also section "Corporate governance – Chairman's report – Internal control and risk management procedures report".

The main risks covered are the following, subject to certain customary limitations, exclusions and declarations in relation of each type of insurance:

- property damage and business interruption caused by fire, explosion, natural events or other perils as well as machinery breakdown;
- liability incurred because of damage caused to third parties by operations, products and services;
- transit, covering transportation risks from start to unloading of goods at warehouse, construction site or final destination; and
- construction and installation, covering risks during execution of contracts.

In addition to these Group policies, Alstom purchases, in the various countries where it is present, policies of a mandatory nature or designed to cover specific risks such as automobile, worker's compensation or employer's liability.

The presentation below is a summary of the main Group insurance policies and does not reflect all applicable restrictions and limits. These policies are usually negotiated for one- to two-year periods. For reasons of confidentiality and protection of the interests of the Group, it is not possible to describe exhaustively all policies.

## Property damage and business interruption

The insurance programme covers accidental damage and consequent business interruption caused by fire, explosions, impact of vehicles and aircraft, storm, hail, snow, riot, civil commotion, water damage and natural events to industrial, commercial and administrative sites of the Group declared to insurers:

- the programme has an overall limit of €410 million per event;
- sub-limits apply in particular for natural events (these sub-limits vary according to the insured sites and the type of events) for machinery breakdown and accidental events other than those named in the policy;
- coverage is subject to usual limitations and exclusions, in particular: war, civil war, terrorism, nuclear reaction, and certain natural events normally insured in national pools;
- the policy is in force in all countries where the Group has significant industrial sites with the exception of India and China, where specific policies are in place.

## Civil liability resulting from operations or products and services

The Group Insurance Programme covers the financial consequences of liability of the Group because of damages caused to third parties because of its operations or products and services:

- the programme has several layers of insurance for an overall limit of €700 million per event and in annual aggregate; sub-limits are applicable;
- the policy is subject to usual limitations and exclusions of policies of this type, in particular, war, nuclear reactions, work accidents, Directors and Officers liability, automobile liability, consequences of contractual obligations more stringent than trade practice, as well as damages caused by products such as asbestos, formaldehyde, lead, organic pollutants as well as those caused by toxic mould, magnetic fields and electronic viruses.

## Transport

The policy covers damages to transported goods irrespective of the mode of transportation: sea, land or air, anywhere in the world; coverage is extended to war risks (however, some territories are excluded):

- the policy limit is €70 million per event, with sub-limits notably during storage at packers or sub-contractors;
- the policy is subject to limitations and exclusions generally applicable to policies of this type.

## Damage during installation and construction

For the Thermal Power and Renewable Power Sectors, a construction and installation policy covers damage to equipment being installed, with an insurance limit of €250 million per event for contracts having values of less than €1 billion and for which the duration of works is less than 60 months. For the Transport Sector, a policy with a limit of €100 million per event is in place to cover contracts of the French entities, with an obligation to declare contracts exceeding €50 million. The Grid Sector has a policy with a limit of €50 million per event, to cover contracts less than €150 million and 42 months. Contracts and activities, notably Wind, not covered under these policies are insured specifically according to the needs. Construction and Installation policies are subject to customary limitations and exclusions, in particular war, radioactive contamination and terrorism (except in France).

## Directors and Officers civil liability

The policy covers the financial consequences and defence costs incurred individually or jointly by Directors and Officers of companies belonging to the Alstom group by reason of claims made against them for civil liability due to wrongful act committed in their capacity as Directors and Officers.

It also covers the financial consequences and defence costs incurred by the Company by reason of claims for breach of securities laws applicable to stock market operations and securities issuers in relation to securities issued by companies belonging to the Alstom group.

This programme is subject to limitations and exclusions generally applicable to this type of insurance.

## Self-insurance


The Group owns a reinsurance vehicle to self-insure property damage and business interruption, civil liability and transportation risks. This new vehicle is not used since 2004. A reinsurance vehicle was opened in June 2007 to self-insure a primary layer of €2 million of the construction and installation risk policy of the Power Sector. The maximum commitment of this vehicle is €10 million per year. This new vehicle is not used since 1 January 2010.


The costs of the main Group policies represents approximately 0.5% of the annual consolidated sales for fiscal year 2012/13.



# 5

## CORPORATE GOVERNANCE

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For many years, the Company has committed itself to carrying out the corporate governance principles published by the AFEP and the MEDEF. The Corporate Governance Code to which the Company abides is the AFEP-MEDEF Corporate Governance Code updated on April 2010. In its first section, which is dedicated to corporate governance, the Chairman of the Board of Directors' report, as presented below pursuant to Article L. 225-37 of the French Commercial Code, presents the decisions made by the Board of Directors in that respect.

## CHAIRMAN'S REPORT

pursuant to Article L. 225-37 of the French Commercial Code

Pursuant to the provisions of Article L. 225-37 of the French Commercial Code, the Chairman of the Board of Directors presents, in this report for the fiscal year ended on 31 March 2013, the composition of the Board of Directors, the application of the principle of balanced representation of men and women, the Corporate Governance Code to which the Company abides, the conditions for the preparation and organisation of the Board of Directors' duties, the limitations that the Board can impose on the Chief Executive Officer's powers, the principles and rules set by the Board to determine the compensation and benefits of any kind to be paid to the Company's Executive and Non-Executive Directors (*mandataires sociaux*), other disclosure required pursuant to Article L. 225-37 of the French Commercial Code, as well as the internal control and risk management procedures implemented by the Company at the Group level.

This report was reviewed and approved by the Board of Directors at its meeting held on 6 May 2013, after the Audit Committee reviewed the chapter relating to the internal control and risk management procedures, after the Nominations and Remuneration Committee reviewed the chapter relating to corporate governance and after the Ethics, Compliance and Sustainability Committee reviewed the parts entering its field of expertise only.

In a report attached to their general report, the Statutory Auditors will present their observations on the content of this report, and more specifically on the internal control procedures relating to the preparation and the processing of accounting and financial information and on the compliance with the disclosure of other information required pursuant to Article L. 225-37 of the French Commercial Code.

## CODE OF CORPORATE GOVERNANCE

The AFEP-MEDEF Corporate Governance Code for listed companies updated on April 2010 that includes the October 2008 recommendations on the remuneration of Executive Directors represents the Corporate Governance Code applicable to the Company for the purpose of this report (the "AFEP-MEDEF Code"). This code is available on the MEDEF internet site ([www.medef.fr](http://www.medef.fr)) and on the Company internet site ([www.alstom.com](http://www.alstom.com), section "About us/Corporate governance").

Upon the report of the Nominations and Remuneration Committee, the Board of Directors reviews annually the Company corporate governance practices in order to identify the necessity to more accurately reflect these recommendations or to explain the discrepancies, if any. The Board of Directors also reviews specific topics upon recommendation of its Committees.

During fiscal year 2011/12, the Board of Directors thus took another look at the operation and the duties of the Audit Committee relative to the July 2010 report published by the AMF workgroup on Audit Committees, based on the review completed by the Committee and management. It also reviewed the Group's processes for the prevention of insider trading. During fiscal year 2012/13, it decided to complement the provisions of the Director's Charter by elements associated with information on conflicts of interests.

Some differences compared to the recommendations of AFEP-MEDEF Code are explained in this report and summarized in a specific paragraph (see page 194).

## CORPORATE GOVERNANCE AND EXECUTIVE AND NON-EXECUTIVE DIRECTORS' COMPENSATION REPORT

Representatives of the Legal Department, the Human Resources Department, and the Finance Department contributed to the drafting of this section.

### Board of Directors

#### Composition of the Board of Directors

As of 6 May 2013, the Board of Directors is composed of fourteen members, of whom six are non-French nationals and nine are independent as per the AFEP-MEDEF Code (64%). Mr Patrick Kron, the Chairman and Chief Executive Officer, is the only Director who performs executive duties.

Since 2002, the Directors are appointed for a four-year period. The terms of office have not been staggered as the renewal of such terms of office is distributed over three consecutive years. Upon the Nominations and Remuneration Committee's report, the Board of Directors examines the Board and Committees' composition at the time of renewal of Directors' mandates. Directors are also invited to indicate their views on this topic during the annual assessment of the Board and Committees' functioning. The Nominations and Remuneration Committee provide recommendations on proposals for new candidatures or on the renewal of Directors' mandates submitted to the Board of Directors.

Upon the Board of Directors' proposal, the Ordinary and Extraordinary Shareholders' Meeting held on 26 June 2012 renewed, for a four year period, the mandates of Mr Jean-Paul Béchat, Mr Pascal Colombani and Mr Gérard Hauser.

The Board acknowledged the request of Mr Jean-Paul Béchat and Mr Gérard Hauser, provided their mandates are renewed, to terminate their directorships whenever their respective terms in office as Directors of the Company reaches twelve years on aggregate, or in 2013 and 2015, respectively, in order to allow for their replacement by an independent Director and to maintain the ratio of the independent members on the Board of Directors.

Following the decision of Mr Jean-Paul Béchat to put an end to his mandate at the end of the General Shareholders' Meeting convened on 2 July 2013, the Board of Directors accordingly decided on 6 May 2013 to propose to this Shareholders' Meeting the appointment of Mrs Amparo Moraleda as a Director for a four year period.

The Board of Directors performed its annual review of the independence of its members on the basis of all the criteria recommended by the AFEP-MEDEF Code of corporate governance and concluded that Mrs Amparo Moraleda, whose biography is presented below, answers all the criteria of the Code allowing to qualify her as an independent director.

A Spanish national, Mrs Moraleda was from January 2009 and until February 2012 Chief Operating Officer – International Division of Iberdrola SA, one of the world's leading power utilities.

Previously, from 1988 to 2008, she held various positions within the IBM group she joined as Systems Engineer. From June 2011 to June 2005, she was notably General Manager of IBM Spain and Portugal. Between June 2005 and December 2008, she was General Manager of IBM Spain, Portugal, Greece, Israel and Turkey.

Mrs Amparo Moraleda graduated as an engineer from the ICAI (Escuela Técnica Superior de Ingeniería Industrial) Madrid and holds an MBA from IESE Business School in Madrid.

This proposed nomination meets the Board of Directors' permanent objective to reinforce the diversity and complementarity of its required skill sets, to include more international members, and to increase the ratio of women in the Board.

If this appointment is approved, the proportion of women in the Board would increase from 21% (3/14) to 28% (4/14).

Pursuant to the Board's Internal Rules, each Director shall hold at least 500 shares. The number of shares effectively held is, generally speaking, higher than 500. As of 6 May 2013, 46,445 total Company shares were held by individual Directors and 90,543,867 shares were held by Bouygues SA.

Name	Title	Age	Independent Director	Committees' membership			First Term Start	Current Term End	Years on Board	Experience
				Audit	N&R <sup>(1)</sup>	EC&S <sup>(2)</sup>				
Patrick Kron	Chairman and CEO	59					2003	2015	12	Industry
Jean-Paul Béchat	Director	70	√	√ Chairman			2001	2013	12	Industry
Candace K. Beinecke	Director	66			√		2001	2015	12	Law
Olivier Bouygues	Director	62			√		2006	2014	7	Industry
Georges Chodron de Courcel	Director	63		√			2002	2014	11	Bank, Finance
Pascal Colombani	Director	67	√	√		√	2004	2016	9	Industry, Technology
Jean-Martin Folz	Director	66	√			√ Chairman	2007	2015	6	Industry
Lalita D. Gupte	Director	64	√	√			2010	2014	3	Bank, Finance
Gerard Hauser	Director	71	√		√		2003	2016	10	Industry
Katrina Landis	Director	53	√			√	2010	2014	3	Industry
James W. Leng	Director	67	√		√ Chairman		2003	2015	10	Industry
Klaus Mangold	Director	69	√		√		2007	2015	6	Industry
Bouygues SA represented by Philippe Marien	Director	57		√			2008	2014	5	Finance
Alan Thomson	Director	66	√	√			2007	2015	6	Finance

(1) Nominations and Remuneration Committee.

(2) Ethics, Compliance and Sustainability Committee.

## Information on the Board members

The information provided below also constitutes the information of the Board of Directors' Report to the Shareholders' Meeting requested by the paragraph 4 of Article L. 225-102-1 of the French Commercial Code.

### PATRICK KRON

**Age:** 59.

**Nationality:** French.

**Professional address:** ALSTOM – 3, avenue André-Malraux – 92300 Levallois-Perret (France).

**Principal function:** Chairman and Chief Executive Officer of ALSTOM.

**End of current mandate:** AGM 2015.

**First mandate:** 2001 – 2007.

Holds 9,011 shares.

#### Other current directorships and positions:

##### In France:

Director of Bouygues (\*);

Director of *Association Française des Entreprises Privées* (AFEP);

Vice President of the Association of the choral Society "*Les Arts Florissants*".

*Within the Alstom Group:*

Chairman of ALSTOM Resources Management.

##### In foreign countries:

*Within the Alstom Group:*

Director and Managing Director of ALSTOM Asia Pte. Ltd

##### Past directorships (held during the past five years):

*Within the Alstom Group:*

Director of ALSTOM UK Holdings Ltd.

(\*) Listed company.



**Biography:**

Mr Patrick Kron is a graduate of *École polytechnique* and the Paris *École des mines*. He started his career in the French Ministry of Industry where he served from 1979 to 1984 before joining the Pechiney Group. From 1984 to 1988, Patrick Kron held operational responsibilities in one of the Group's most important factories in Greece, becoming manager of this Greek subsidiary. From 1988 to 1993, he occupied several senior operational and financial positions within Pechiney, first managing a group of activities in the processing of aluminium and eventually as President of the Electrometallurgy Division. In 1993, he became a member of the Executive Committee of the Pechiney Group and was

appointed Chairman of the Board of the Carbone Lorraine Company from 1993 to 1997. From 1995 to 1997, he ran the Food and Health Care Packaging Sector of Pechiney and held the position of Chief Operating Officer of the American National Can Company in Chicago (USA). From 1998 to 2002, Mr Patrick Kron was Chief Executive Officer of Imerys before joining ALSTOM. He has been Chief Executive Officer of ALSTOM since 1 January 2003 and Chairman and Chief Executive Officer since 11 March 2003.

Mr Patrick Kron was awarded the *Légion d'honneur* on 30 September 2004 and is Officer of National Order of Merit since 18 November 2007.

**JEAN-PAUL BÉCHAT**

**Age:** 70.

**Nationality:** French.

**Professional address:** ARSCO – 91, rue du Faubourg Saint-Honoré – 75008 Paris (France).

**Principal function:** Manager of ARSCO.

**End of current mandate:** AGM 2013.

**First mandate:** 14 May 2001 – 9 July 2004.

*Independent Director.*  
*Chairman of the Audit Committee.*

Holds 3,900 shares.

**Other current directorships and positions:****In France:**

Director and Chairman of the Audit Committee of Atos (\*);  
Director of *Musée de l'Air*;  
Member of the Board and Office of GIFAS.

**In foreign countries:**

Director of Russian OSJC Helicopters (\*) (Russia);  
Director of MIDPARC SA (Morocco).

**Past directorships and positions (held during the past-five years):****In France:**

Director of Sogepa (10 April 2000 – 24 March 2011);  
Director of the Supervisory Board of IMS (\*) (16 June 2009 – 30 June 2010).

**In foreign countries:**

–

**Biography:**

Mr Jean-Paul Béchat is a graduate of *École polytechnique* and has a Master degree in Science from Stanford University (USA). In 1965, Mr Béchat started his career at Snecma and, from June 1996 till March 2005, he was Chairman and Chief Executive Officer of the group, then Chairman of the Management Board when the group evolved as Safran until August 2007. Mr Jean-Paul Béchat is Honorary Chairman and member of the Board of GIFAS. He is also member of the Board of Atos. Mr Jean-Paul Béchat is Honorary Fellow of the Royal Aeronautical Society (RAeS), member of the *Association Aéronautique et Astronautique de France* (AAAF) and member of the International Academy of Astronautics (IAA). Mr Jean-Paul Béchat is Officer of the *Légion d'honneur* and Officer of the National Order of Merit.

**CANDACE K. BEINECKE**

**Age:** 66.

**Nationality:** American.

**Professional address:** Hughes Hubbard & Reed LLP – One Battery Park Plaza, New York, NY 10004 – 1482 (USA).

**Principal function:** Chair of Hughes Hubbard & Reed LLP.

**End of current mandate:** AGM 2015.

**First mandate:** 24 July 2001 – 26 June 2007.

*Member of the Nominations and Remuneration Committee.*

Holds 600 shares.

**Other current directorships and positions:****In France:**

–

**In foreign countries:**

Chairperson of the First Eagle Funds (\*), a leading US public mutual fund family, a public mutual fund family;  
Member, Board of Trustees, Vornado Realty Trust (NYSE) (\*);  
Member, Board of Directors, Rockefeller Financial Services, Inc. and Rockefeller & Co., Inc.

**Non-profit organisations:**

Director Vice-Chair and member of the Executive Committee, the Partnership for New York City;  
Trustee, The Wallace Foundation;  
Trustee, The Metropolitan Museum of Art.

**Past directorships and positions (held during the past-five years):****In France:**

–

**In foreign countries:**

Merce Cunningham Foundation, Trustee.

(\*) Listed company.

**Biography:**

Mrs Candace K. Beinecke, Chair of Hughes & Reed LLP, was named to her current position in 1999, the first woman to chair a major New York law firm. Mrs Beinecke is also a practicing partner in Hughes Hubbard's Corporate Department. Mrs Beinecke serves as Chairperson of First Eagle Funds, a leading US public mutual fund family. She is a Board member of Vornado Realty Trust (NYSE), Rockefeller Financial Services, Inc. and Rockefeller & Co., Inc. She also serves as a Director,

Vice-Chair and Executive Committee member of the Partnership for New York City, as a Trustee of The Wallace Foundation, and as Trustee of The Metropolitan Museum of Art. She is also a member of the Board of Advisors, Yale Law School Center for the Study of Corporate Law. She has been included in The Best Lawyers in America, in Chambers, and in the *National Law Journal's* 100 Most Influential Lawyers in America, and one of the "25 New York executives whose contributions in and beyond business changed the City".

**OLIVIER BOUYGUES**

**Age:** 62.

**Nationality:** French.

**Professional address:** Bouygues – 32, avenue Hoche – 75378 Paris Cedex 08 (France).

**Principal function:** Deputy Chief Executive Officer of Bouygues (\*).

**End of current mandate:** AGM 2014.

**First mandate:** 28 June 2006 – 22 June 2010.

*Member of the Nominations and Remuneration Committee.*

Holds 2,000 shares.

**Other current directorships and positions:****In France:**

Chief Executive Officer of SCDM;  
Standing representative of SCDM at the Board of Bouygues (\*);  
Chairman of SCDM Énergie;  
Chairman of SAGRI-E and SAGRI-F;  
Director of Finagestion;  
Manager of SIR and SIB.

*Within Bouygues group:*

Director of TF1 (\*), Bouygues Telecom, Colas (\*), Bouygues Construction and Eurosport.

**In foreign countries:***Within Bouygues group:*

Chairman and Director of Bouygues Europe (Belgium);

*Outside Bouygues group:*

Chairman and Chief Executive Officer and Director of Seci (ex-Saur Énergie de Côte d'Ivoire);  
Director of Compagnie Ivoirienne d'Électricité (CIE) (\*), of Société de Distribution d'Eau de la Côte d'Ivoire (Sodeci) (\*), and of Société Sénégalaise des Eaux.

**Past directorships (held during the past-five years) outside Bouygues group:****In France:**

Permanent representative of SCDM, Chairman of the Board of SCDM Investcan and SCDM Investur (2010);  
Member of the Executive Committee of Cefina (2010);  
Permanent representative of SCDM, Chairman of the Board of SCDM Énergie (2011).

**In foreign countries:**

–

**Biography:**

Mr Olivier Bouygues is a graduate of *École nationale supérieure du pétrole* (ENSPM). Mr Olivier Bouygues joined the Bouygues group in 1974. He began his career in the group's civil works branch. From 1983 to 1988, he worked at Bouygues Offshore as Director of the Cameroon subsidiary Boscarn and then Director for the France Works and Special Projects division. From 1988 to 1992, he held the position of Chairman and CEO of Maison Bouygues. In 1992, he was appointed Group Executive Vice President for Utilities Management, a division covering the French and international activities of Saur. In 2002, Mr Olivier Bouygues was appointed Deputy Chief Executive Officer of Bouygues.

**GEORGES CHODRON DE COURCEL**

**Age:** 63.

**Nationality:** French.

**Professional address:** BNP Paribas – 3, rue d'Antin – 75002 Paris (France).

**Principal function:** Chief Operating Officer of BNP Paribas (\*).

**End of current mandate:** AGM 2014.

**First mandate:** 3 July 2002 – 28 June 2006.

*Member of the Audit Committee.*

Holds 982 shares.

**Other current directorships and positions:****In France:**

Director of Bouygues (\*);  
Director of Société Foncière, Financière et de Participations (FFP) (\*);  
Director of Nexans (\*);

Member of the Supervisory Board of Lagardère SCA (\*);  
Non-voting Director of Scor (\*).

*Within BNP Paribas group:*

Director of Verner Investissements SAS;  
Non-voting Director of Exane (a subsidiary of Verner).

(\*) Listed company.

**In foreign countries:**

Director of Compagnie Nationale de Portefeuille (Belgium);  
 Director of Erbé SA (Belgium);  
 Director of Group Bruxelles Lambert-GBL (Belgium) (\*);  
 Director of Scor Holding (Switzerland) AG (Switzerland);  
 Director of Scor Global Life Rückversicherung Schweiz AG (Switzerland);  
 Director of Scor Switzerland AG (Switzerland).

*Within BNP Paribas group:*

Chairman of BNP Paribas (Switzerland) SA;  
 Vice-Chairman of Fortis Banque SA/NV (Belgium) (\*).

**Past directorships (held during the past-five years):****In France:**

Non-voting Director of Safran.

**In foreign countries:***Within BNP Paribas group:*

Director of BNP Paribas ZAO (Russia);  
 Director of BNL (Italy);  
 Chairman of Compagnie d'Investissement de Paris SAS;  
 Chairman of Financière BNP Paribas SAS.

**PASCAL COLOMBANI**

**Age:** 67.

**Nationality:** French.

**Professional address:** A.T. Kearney – 23, rue de l'Université – 75007 Paris (France).

**Principal function:** Senior Advisor, A.T. Kearney.

**Biography:**

Mr Georges Chodron de Courcel graduated in 1971 from *École centrale de Paris* and had a degree in Economics in 1972. He began his career with Banque Nationale de Paris where he has had a succession of responsibilities. After having spent six years in Corporate Banking, he was named Head of Equity Research and then Head of Asset Management. In 1989, he was appointed Director of Corporate Finance and Chief Executive Officer of Banexi. In January 1991, he became Head of Capital Markets and in September 1996, was appointed Chief Executive International and Finance of BNP. After the merger with Paribas in August 1999, he was named Head of Corporate and Investment Banking and was Member of the Executive Committee, then Chief Operating Officer in June 2003.

**End of current mandate:** AGM 2016.

**First mandate:** 9 July 2004 – 24 June 2008.

*Independent Director.*

*Member of the Audit Committee.*

*Member of the Ethics, Compliance and Sustainability Committee.*

Holds 600 shares.

**Other current directorships and positions:****In France:**

Non-Executive Chairman of the Board of Directors of Valeo (\*);  
 Non-Executive Director of Technip (\*).

**In foreign countries:**

Non-Executive Director of EnergySolutions Inc (\*) (USA).

**Past directorships (held during the past five years):****In France:**

Non-Executive Director of Rhodia (\*) (2005 – 2011)  
 Senior Advisor of Detroyat Associés and Banque Arjil (2006 – 2009).

**In foreign countries:**

Non-Executive Director of British Energy Group plc (subsidiary of EDF) (2003 – 2011).

**Biography:**

Mr Pascal Colombani is a graduate of *École normale supérieure* (Saint-Cloud) and holds a doctorate in Nuclear Physics. His career has been balanced between research and industry: he started as a research associate at the French National Centre for Scientific Research (CNRS) then joined Schlumberger where he spent almost twenty years in various management positions in Europe, the USA, and Japan. In this last assignment, while President of Schlumberger KK in Tokyo, he also initiated the implantation of an R&D centre in China. Director of Technology at the French Ministry of Research from 1997 to 1999, he became Chairman and Chief Executive Officer of the French Atomic Energy Commission (CEA) in 2000 until December 2002. He initiated the restructuring of the CEA industrial holdings, resulting in the creation of Areva in 2000, the nuclear engineering conglomerate. He chaired the Supervisory Board of Areva until 2003. Mr Pascal Colombani is Senior Advisor on Innovation, High Technology and Energy at A. T. Kearney, the management consultancy. He is also Non-Executive Chairman of the Board of Directors of Valeo and member of the Boards of Technip and EnergySolutions Inc. He is a member of the French Academy of Technologies. Mr Pascal Colombani is Officer of the *Légion d'honneur* and Officer of the National Order of Merit.

(\*) Listed company.

**JEAN-MARTIN FOLZ**

**Age:** 66.

**Nationality:** French.

**Principal function:** Director of companies.

**End of mandate:** AGM 2015.

**First mandate:** 26 June 2007 – 28 June 2011

*Independent Director.*

*Chairman of the Ethics, Compliance and Sustainability Committee.*

Holds 1,000 shares.

**Other current directorships and positions:**

**In France:**

Chairman of the Board of Eutelsat Communications (\*);

Director of Saint-Gobain (\*);

Director of Société Générale (\*);

Director of AXA (\*).

**In foreign countries:**

Director of Solvay (\*) (Belgium).

**Past directorships and positions (held during the past five years):**

**In France:**

Director of Carrefour (\*) (2007 – 2011);

Chairman of Association Française des Entreprises Privées (AFEP) (2007 – 2010).

**In foreign countries:**

–

**Biography:**

Mr Jean-Martin Folz is a graduate of *École polytechnique*. He started his career in the French Ministry of Industry where he served from 1972 to 1978. Then he joined the Rhône-Poulenc group in 1978. He became Deputy Chief Executive Officer and, then, Chairman and Chief Executive Officer of Jeumont-Schneider between 1984 and 1987. He then joined Pechiney as Chief Operating Officer up to 1991, and was appointed Chairman of Carbone Lorraine. He was Chief Executive Officer of Eridania Béghin-Say and Chairman of Béghin-Say from 1991 to 1995. In 1995, he joined PSA Peugeot Citroën group and was appointed Chairman of the group in 1997. He left the group in February 2007. He was Chairman of AFEP from 2007 to 2010.

**LALITA D. GUPTA**

**Age:** 64.

**Nationality:** Indian.

**Professional address:** Mhaskar Building, 153 C Matunga, Sir Bhalchandra Road – Mumbai 400019, India.

**Principal function:** Non-Executive Chairman, ICICI Venture Funds Management Company Limited.

**End of current mandate:** AGM 2014 (appointed on 22 June 2010).

*Independent Director.*

*Member of the Audit Committee.*

Holds 500 shares.

**Other current directorships and positions:**

**In France:**

–

**In foreign countries:**

Non-Executive Chairman of Swadhaar FinServe Pvt. Ltd, Mumbai (India);

Non-Executive Member of the Board of Bharat Forge Ltd (\*), Pune (India);

Non-Executive Member of the Board of HPCL-Mittal Energy Ltd, Delhi (India);

Non-Executive Member of the Board of Kirloskar Brothers Ltd (\*), Pune (India);

Non-Executive Member of the Board of Godrej Properties Ltd (\*), Mumbai (India).

She is also Non-Executive Member of Welham Girl's School and a Member of the CAPP (Center for Asia Pacific Policy) Board of RAND.

**Past directorships and positions (held during the past five years):**

**In France:**

–

**In foreign countries:**

Member of the Dean's Advisory Board of the Rotman School of Management, University of Ontario (2007 – 2013).

Non-Executive Member of the Board of Management of SVKM's NMIMS University (2003 – 2013);

Non-Executive Member of the Indian Advisory Council of Rothschild (India) Private Limited (2007 – 2012);

Non-Executive Member of the Board of Directors of Firstsource Solutions Ltd (\*)(India) (2006 – 2010);

Non-Executive Member of the Board of Nokia Corporation (\*)(Finland) (2007 – 2011).

**Biography:**

Mrs Lalita D. Gupta is currently Chairperson of ICICI Venture Funds Management Company Limited. She retired at the end of October 2006 as Joint Managing Director and Member of the Board of ICICI Bank Limited. Mrs Lalita D. Gupta was responsible for setting up the International business of ICICI Bank since 2001.

(\*) Listed company.

Beginning her career with ICICI Limited in 1971 in the project appraisal division, Mrs Lalita D. Gupte has held various leadership positions in areas of Corporate and Retail Banking, Strategy, Resources, and International Banking and other areas. She was instrumental in transforming ICICI Bank from a primarily term lending institution into a technology led diversified financial services group. Mrs Lalita D. Gupte was at the helm of ICICI Bank's global foray, which includes operations in over 17 countries.

Mrs Lalita D. Gupte joined the Board of ICICI Ltd in 1994 as Executive Director and remained on the Board including as Joint Managing

Director till 2002 when it merged with ICICI Bank and she became Joint Managing Director of ICICI Bank from 2002 – 2006.

Mrs Lalita D. Gupte has received numerous awards and recognitions.

Mrs Lalita D. Gupte holds a Bachelor's Degree in Economics (Hons) and a Master's degree in Management Studies. She did her Advanced Management Programme (AMP) from Insead.

#### GÉRARD HAUSER

**Age:** 71.

**Nationality:** French.

**Principal function:** Director of companies.

**End of current mandate:** AGM 2016.

**First mandate:** 11 March 2003 – 9 July 2004.

*Independent Director.*

*Member of the Nominations and Remuneration Committee.*

Holds 4,702 shares.

#### Other current directorships and positions:

##### In France:

Director of Technip (\*);  
Director of Ipsen (\*);  
Director of Delachaux;  
Chairman of Supervisory Board of Stromboli Investissement (SAS).

##### In foreign countries:

Director of Mecaplast (Monaco).

#### Past directorships (held during the past five years):

##### In France:

Chairman and Chief Executive Officer of Nexans (\*) (17 October 2000 – 26 May 2009) and Director of Nexans until October 2011;  
Director of Aplix (12 June 1998 – 14 January 2009);  
Director of Faurecia (\*) (22 July 2003 – 23 April 2009).

#### In foreign countries:

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#### Biography:

From 1965 till 1975, Mr Gérard Hauser covered several high-duty positions in the Philips Group. From 1975 till 1996, he worked for the Pechiney Group, as Chairman and Chief Executive Officer of Pechiney World Trade first and of Pechiney Rhénalu later; he was later appointed Senior Executive Vice President of American National Can and member of the Pechiney Group Executive Board. Mr Gérard Hauser joined Alcatel in 1996 and became President of its Cable and Component Sector in 1997. From October 2000 to May 2009, he was Chairman and Chief Executive Officer of Nexans.

#### KATRINA LANDIS

**Age:** 53.

**Nationality:** American.

**Professional address:** BP Alternative Energy – 1101 New York Avenue NW – Washington, DC, 20005 (USA).

**Principal function:** Executive Vice President BP.

**End of current mandate:** AGM 2014 (appointed on 22 June 2010).

*Independent Director.*

*Member of the Ethics, Compliance and Sustainability Committee.*

Holds 500 shares.

#### Other current directorships and positions:

##### In France:

–

##### In foreign countries:

Member of the Advisory Council of the American Center of Renewable Energy.

#### Past directorships (held during the past five years):

##### In France:

–

#### In foreign countries:

Chief Executive Officer and Group Vice President BP Alternative Energy (2009 – 2013);  
Chief Operating Officer and Group Vice President BP Alternative Energy (2008 – 2009);  
Group Vice President BP Integrated Supply and Trading (2006 – 2008);  
Member of the Board of Directors (Non-Executive Director) of Hydrogen Energy International Limited (2008 – 2009).

(\*) Listed company.

**Biography:**

Since 1 May 2013 Mrs. Katrina Landis assumes the role of BP Executive Vice President. Her portfolio of businesses is expanded to include BP Shipping, Integrated Supply and Trading, Group Technology, and Remediation Management, in addition to Alternative Energy Division of which she was the Chief Executive Officer since 2009.

Mrs. Katrina Landis joined BP Alternative Energy as Group Vice President in 2008 and was appointed CEO of the division in 2009. Prior to that she served in a variety of senior roles as the Chief Operating Officer of BP Alternative Energy from 2008 to 2009, Group Vice President of BP Integrated Supply and Trading from 2007 to 2008, and Chief Executive

Officer of BP Integrated Supply and Trading – Oils America from 2003 to 2006. Before joining the BP Group in 1992, Mrs. Katrina Landis owned and operated a consulting company.

Mrs. Katrina Landis serves on Earth Day Network's Global Advisory Committee for the "Women and the Green Economy"® programme, and was named as an Ambassador to the U.S. Department of Energy's U.S. Clean Energy Education & Empowerment. She holds a degree in Psychology from the University of Mary Washington and a degree in Computer Science from the University of Alaska. In addition, she has received executive level MBA training at the University of Michigan and Stanford.

**JAMES W. LENG**

**Age:** 67.

**Nationality:** British.

**Professional address:** AEA Investors (UK) Limited – 78 Brook Street – London, W1K 5EF (United Kingdom).

**Principal function:** Chairman of AEA Investors Europe.

**End of current mandate:** AGM 2015.

**First mandate:** 18 November 2003 – 26 June 2007.

*Independent Director.*

*Chairman of the Nominations and Remuneration Committee.*

Holds 1,150 shares.

**Other current directorships and positions:****In France:**

–

**In foreign countries:**

Director of Pregis Holding I Corporation;  
Director of Pregis Holding II Corporation;  
Non-Executive Chairman of HSBC Bank plc;  
Senior Independent Director of Genel Energy plc and Chairman of the Remuneration Committee;  
European Chairman of AEA Investors (UK) LLP.

Chairman of Doncasters Group Limited  
(20 December 2006 – 31 December 2009);  
Non-Executive Director of CforC Limited  
(29 April 2009 – 15 December 2010);  
Non-Executive Director of Vallares Holding Co. Limited  
(2 June 2011 – 21 November 2011);  
Non-Executive Director of TNK-BP Limited  
(15 January 2009 – 31 December 2011);  
Non-Executive Director to the Ministry of Justice  
(4 January 2011 – 2 August 2012);  
Non-Executive Director of JO Hambro Investment Management Ltd  
(12 October 2010 – 10 August 2012).

**Past directorships (held during the past-five years):****In France:**

–

**In foreign countries:**

Chairman of Corus Group plc  
(1 June 2003 – 23 January 2008);  
Chairman of Tata Steel UK Limited  
(21 January 2008 – 21 November 2008);  
Nominated Executive of Convenience Food Systems  
(7 July 2004 – 15 January 2009);  
Non-Executive Director of Rio Tinto plc  
(14 January 2009 – 7 February 2009);  
Non-Executive Director of Rio Tinto Limited  
(14 January 2009 – 7 February 2009);  
Chairman of Tata Steel Europe Limited  
(14 November 2008 – 31 March 2009);  
Deputy Chairman of Tata Steel Limited (\*)  
(17 May 2007 – 7 July 2009);

**Biography:**

Mr James W. Leng is a Non-Executive Director on the Board of ALSTOM, where he chairs the Nominations and Remuneration Committee, and European Chairman of AEA Investors (UK) LLP, a private equity partnership. He is a Non-Executive Chairman of HSBC Bank plc and a Senior Independent Director of Genel Energy plc. He is also Chairman of the Guyll-Leng Charitable Trust established in 2010 to assist young children from disadvantaged backgrounds. From 2003 to 2008 he was Chairman of Corus Group plc, a global steel company sold to Tata Steel of India where he was also Deputy Chairman until July 2009. Past Non-Executive Directorships include Chairman of Doncasters Ltd (Precision Engineering), TNK-BP (Oil & Gas), Pilkington plc (Glass), Hanson plc (Aggregates & Building Products), IMI plc (Engineering), JO Hambro Investment Management Ltd and Lead Non-Executive Director at the Ministry of Justice. In an executive capacity he was Chief Executive Officer of Laporte plc, an international speciality chemicals company and before that Low & Bonar plc a diverse materials and packaging company. His early business years were spent at John Waddington plc where he was Managing Director of a number of their subsidiaries including consumer goods and packaging companies.

(\*) Listed company.



**KLAUS MANGOLD****Age:** 69.**Nationality:** German.**Professional address:** Mangold Consulting GmbH – Leitz-Strasse 45 – 70469 Stuttgart (Germany).**Principal function:** Chairman of the Advisory Board of Rothschild GmbH (Frankfurt).**End of current mandate:** AGM 2015.**First mandate:** 26 June 2007 – 28 June 2011.*Independent Director.**Member of the Nominations and Remuneration Committee.*

Holds 20,000 shares.

**Other current directorships and positions:****In France:**

–

**In foreign countries:**

Vice-Chairman Europe of Rothschild, Paris/London;  
 Member of the Supervisory Board of Metro AG (\*);  
 Member of the Supervisory Board of Continental AG (\*), Hannover;  
 Germany;  
 Chairman of the Supervisory Board of TUI AG (\*), Hannover, Germany;  
 Chairman of the Supervisory Board of ALSTOM Deutschland AG,  
 Germany.

**Past directorships and positions (held during the past-five years):****In France:**

–

**In foreign countries:**

Member of the European Advisory Council of Rothschild, Paris/London;  
 Member of the Supervisory Board of Drees & Sommer AG, Stuttgart;  
 Member of the Supervisory Board of Universitätsklinikum, Freiburg  
 (until May 2011).

**Biography:**

Prof. Klaus Mangold is a former Member of the Board of Management of DaimlerChrysler AG, former Chairman of the Board of Management of DaimlerChrysler Services AG and former Executive Advisor to the Chairman of DaimlerChrysler AG. He studied law and economics at the Universities of Munich, Geneva, London, Heidelberg and Mainz and finished his studies with a law degree at Heidelberg University. After graduating, he held different functions in the German industry before being nominated a Member and Chairman of the Board of Management of Rhodia AG, a branch of the French Rhône-Poulenc group (1983 – 1990), and Chairman and Chief Executive Officer of Quelle-Schickedanz AG (1991 – 1994). He joined the Daimler-Benz group as a Member of the Board of Management in charge of its Services Division and Central and Eastern European markets (1995 – 2003). Prof. Mangold is Chairman of the Supervisory Board of TUI AG, Germany and member of a number of Supervisory and Advisory Boards, including those of Alstom, Ernst & Young, United States, Metro AG and Continental AG, Germany. He is also Chairman of the Supervisory Board of Rothschild GmbH, Frankfurt and Head of the Internationale Wirtschaftsberatungsgesellschaft mbH, which was founded in 2003. Until November 2010 he was Chairman of the Committee on Eastern European Economic Relations of German Industry. Klaus Mangold is Honorary Consul of the Russian Federation for Baden Württemberg since 2005. He is Commander of the *Légion d'honneur* in France.

**ALAN THOMSON****Age:** 66.**Nationality:** British.**Professional address:** HAYS plc – 250 Euston Road, London (United Kingdom).**Principal function:** Chairman of HAYS plc (\*).**End of current mandate:** AGM 2015.**First mandate:** 26 June 2007 – 28 June 2011.*Independent Director.**Member of the Audit Committee.*

Holds 1,500 shares.

**Other current directorships and positions:****In France:**

–

**In foreign countries:**

Chairman of Bodycote plc (\*) (UK).

**Past directorships and positions (held during the past-five years):****In France:**

–

**In foreign countries:**

Deputy Chairman of Bodycote plc (\*) (UK) (2007 – 2008);  
 Senior Independent Director of Johnson Matthey plc (\*) (UK) (2002 – 2011).

**Biography:**

Mr Alan Thomson studied Economics and History at Glasgow University graduating with a Master of Arts degree in 1967. He qualified as a Chartered Accountant in 1970 and became a member of the Institute of Chartered Accountants of Scotland. From 1971 until 1975, he was Audit Manager with Price Waterhouse in Paris. From 1975 until 1979, he was Financial Director then Chief Executive Officer of Rockwell International SA in Paris, and from 1979 until 1982, he was Financial Director in the Automotive Division of Rockwell International firstly in the USA (1979 – 1980) then in the United Kingdom (1980 – 1982). From 1982 until 1984, he was UK Financial Director of Raychem Ltd, a division of a US public Materials Science company. From 1984 until 1992, he was a Divisional Finance Director within Courtaulds plc, a UK quoted company. From 1992 to 1995, Mr Alan Thomson was employed as the Group Financial Director and Main Board Director

(\*) Listed company.



of The Rugby Group plc, a UK quoted Building Materials company and from 1995, until his retirement in September 2006, he held the position of Group Financial Director of Smiths Group plc a UK quoted engineering company. Mr Alan Thomson was elected Chairman of

Boycote plc, a quoted engineering company, in April 2008. Mr Alan Thomson was appointed in November 2010, Chairman of HAYS plc a listed recruitment company. Mr Alan Thomson served as President of the Institute of Chartered Accountants of Scotland in 2010 – 2011.

**PHILIPPE MARIEN**

**Age:** 57.

**Nationality:** French.

**Professional address:** Bouygues – 32, avenue Hoche – 75378 Paris Cedex 08 (France).

**Principal function:** Chief Financial Officer of Bouygues group.

*Member of the Audit Committee.*

Designated by Bouygues SA (\*) as its permanent representative.

End of Bouygues' mandate:

AGM 2014 (mandate renewed on 22 June 2010).

Bouygues SA

French *société anonyme* with a share capital of €319,157,468.

Head Office: 32, avenue Hoche – 75378 Paris Cedex 08 (France).

Holds 90,543,867 shares as of 6 May 2013.

**Other current directorships and positions of Bouygues SA:**

**In France:**

Director of Bouygues Construction;

Director of TF1 (\*);

Director of Colas (\*);

Director of Bouygues Telecom;

Director of C2S;

Director of Bouygues Immobilier;

Director of 32 Hoche;

Member of the Board of the managing entity of the Gustave Eiffel Center;

Member of the Board of the Dauphine Foundation.

Director of Bouygues Bâtiment Île-de-France

(28 May 2003 – 28 November 2008);

Director of CATC (21 May 1996 – 8 April 2008).

**Current directorships of Mr Philippe Marien within Bouygues SA:**

Permanent representative of Bouygues, Director of Bouygues Construction;

Permanent representative of Bouygues, Director of TF1 (\*);

Permanent representative of Bouygues, Director of Colas (\*);

Chairman and Director of Bouygues Telecom;

Permanent representative of Bouygues, Director of Bouygues Immobilier;

Director of Bouygues Europe (Belgium).

**Past directorships and positions of Bouygues SA (held during the past-five years):**

**In France:**

Director of Société Technique de Gestion (SOTEGI)

(14 April 2003 – 7 April 2008);

Director of Bouygues Bâtiment International

(10 June 1999 – 28 November 2008);

Director of Bouygues Travaux Publics

(10 June 1999 – 28 November 2008);

**Current directorships of Mr Philippe Marien outside Bouygues:**

Chief Executive Officer of SCDM;

Liquidator of Finamag.

**Past directorships of Mr Philippe Marien (held during the past five years):**

Permanent representative of Bouygues, Director of Bouygues Telecom (25 February 2008 – 18 February 2009).

(\*) Listed company.

## Absence of conflicts of interest or conviction

The present section is based on the information provided by the members of the Board in answer to the annual questionnaire sent to them by the Company.

To the Company's knowledge, no member of the Board of Directors:

- has been convicted for fraud during the last five years and/or has been the subject of any official public investigation and/or sanction by statutory or regulatory authorities;
- has been associated in his/her capacity of manager in any bankruptcy, receivership or liquidation for the past five years;
- has been disqualified by a court from acting as a member of an administrative, management or supervisory body of an issuer or from acting in the management or conduct of the business of any issuer for the past five years.

To the Company's knowledge there is no conflict of interest between any duty of the members of the Board of Directors and their private interests and/or other duties. The potential conflicts of interest are essentially those that could, as the case may be, originate from agreements that Bouygues and Alstom have entered into. Bouygues SA or companies of its group may be in a position to sign various contracts with Alstom or its subsidiaries pursuant, in particular, to the non exclusive cooperation protocol signed between both groups on 26 April 2006, and the purpose of which is the creation of infrastructures for transport or the production of electricity. It could also be the case with respect to service or financing agreements entered into between ALSTOM and BNP Paribas since Mr Georges Chodron de Courcel is also Delegated Chief Executive Officer of BNP Paribas.

In case of conflict of interest, according to the Director's Chart annexed to the Board of Directors' Internal Rules, any Director must inform the Board as soon as he/she is aware of any, even potential, conflict of interests and he/she must abstain from participating to discussions on the conflicting subject matter and from voting on the resolution thereby. In case of conflict of interest that cannot be resolved to the satisfaction of the Board, the Director must resign.

Besides, to the Company's knowledge:

- no settlement or agreement has been reached with shareholders, clients, suppliers or others to appoint a member of the Board of Directors;
- there is no family relationship among the members of the Company's Board of Directors;
- there is no service contract linking any members of the Board of Directors or to any of its subsidiaries and granting them any benefits.

## Evaluation of the Directors' independence

According to the AFEP-MEDEF Code and as set forth in the Board of Directors' Internal Rules, the Board of Directors re-examines annually the situation of each Director in the light of the independence criteria. The Board meeting of 6 May 2013 performed this review based on the proposals made by the Nominations and Remuneration Committee which the Board had accepted.

As in the previous year, the Board followed the definition contained in the AFEP-MEDEF Code and considered that a Director is independent when he or she has no relationship of any kind with the Company, its Group or its Management that could compromise the independence of his or her judgement.

The Board took into account all the criteria recommended by the AFEP-MEDEF Code to assess the independence of its members, which follow:

- a Director is not an employee or a Corporate Officer (*mandataire social*) of the Company or of one of its consolidated subsidiaries and has not been in such a position for the five previous years;
- a Director is not a Corporate Officer (*mandataire social*) of a company in which the Company holds, either directly or indirectly, a directorship, or in which a directorship is held or has been held within the past-five years by an employee or a Corporate Officer (*mandataire social*) of the Company;
- a Director is not either directly or indirectly, a significant customer, supplier, investment banker or commercial banker or for which the Company or its Group holds a material proportion of the entity's activity;
- a Director does not have any close family ties with a Corporate Officer (*mandataire social*) of the Company;
- a Director has not been an Auditor of the Company for the past five years;
- a Director has not been a Director of the Company for more than twelve years;
- a Director does not hold, control, or represent a shareholder who holds alone or in concert more than 10% of the Company's share capital or voting rights in Shareholders' Meetings.

Each Director is invited to transmit annually to the Company a statement with respect to each of these criteria.

In compliance with AFEP-MEDEF recommendation, the Board of Directors may consider that a Director may not be qualified as independent even though the criteria are satisfied and conversely.

On this basis, the Board of Directors decided to maintain its characterisations defined in 2012 and determined that nine members should be considered as independent Directors (Mr Jean-Paul Béchat, Mr Pascal Colombani, Mr Jean-Martin Folz, Mrs Lalita D. Gupte, Mr Gérard Hauser, Mrs Katrina Landis, Mr James W. Leng, Mr Klaus Mangold and Mr Alan Thomson) out of the fourteen members of the Board of Directors.

The Board's view that Mr Gérard Hauser should be considered to be independent took into account the fact that Mr Gérard Hauser is Non-Executive Director of a company in which another Company Director without executive function is a Non-Executive Director. This element was not considered of the type to affect his freedom of judgment.

After having taken into account the fact that Mr Pascal Colombani is Non-Executive Director of a company in which an ALSTOM Non-Executive Director is Non-Executive Director, the Board's opinion is that Mr Pascal Colombani should be considered to be independent. This element was not considered of the type to affect his liberty of judgment. The Board's view that Mr Jean-Martin Folz should be considered to be independent took into account the fact that in spite of the level of relationship between the Group and Société Générale, of which Mr Folz is a Director, Mr Folz does not have and never has had an executive position within Société Générale. In addition, no significant relationship was observed with AXA, of which Mr Folz is a Non-Executive Director.

The Board's view that Mr James W. Leng should be considered to be independent also took into account the fact that in spite of the relationship between the Group and HSBC Bank plc, of which Mr James W. Leng is a Non-Executive Chairman, Mr James W. Leng does not have and never has had an executive position within HSBC Bank plc.

The Board of Directors also considered that the nomination of Mr Klaus Mangold as Chairman of the Supervisory Board of a German subsidiary of the Group in order to benefit fully from his experience and skills, does not compromise his ability to maintain independence of judgment insofar as this nomination did not create any hierarchical relationship with the management of the Company. The Board of Directors noted that, to this day, Mr Mangold has not informed the Board of any existing or potential conflict of interest with respect to this mandate, and that he had undertaken to provide such information, as the case may be.

The Board also determined that Mr Jean-Paul Béchat, Mrs Lalita D. Gupte, Mrs Katrina Landis, and Mr Alan Thomson fulfilled each of the above criteria and should be considered to be independent. The Board of Directors acknowledged Mr Jean-Paul Béchat's decision to terminate his mandate after the end of the Shareholders' Meeting convened on 2 July 2013 (See page 167).

In addition to Mr Patrick Kron, Chairman and Chief Executive Officer of the Company, Mrs Candace K. Beinecke who is Chair of Hughes Hubbard & Reed LLP, one of the Company's legal advisors, Mr Olivier Bouygues who is Delegated Chief Executive Officer of the company Bouygues SA, Bouygues SA which holds on 31 March 2013 29.4% of the Company's share capital, and Mr Georges Chodron de Courcel who is Delegated Chief Executive Officer of BNP Paribas, one of the banks the Group does business with on a regular basis, are not independent Directors.

Thereby, the Board of Directors qualified nine members out of fourteen as independent (64%), which exceeds the proportion of one half recommended by the AFEP-MEDEF Code for those companies with a widely spread share capital and the rule adopted by the Board set forth in its Internal Rules.

## Rules of conduct

### Director's Chart

Attached to the Board of Directors' Internal Rules is the Director's Chart, defining the Directors' rights and obligations, and the content of which is for the most part compliant with the recommendations of the AFEP-MEDEF Code. This Charter has been modified on 3 May 2012 in order to formalise the practices and complement the provisions with respect to the prevention and management of conflicts of interests.

Before accepting her/his appointment, all Directors shall take cognisance of the legal and regulatory requirements relating to his office, as well as of the Company by-laws, the Group's Code of Ethics, the internal procedures for the Board of Directors, Board Committees and this Chart. Any Director can refer to the Secretary of the Board at any time, regarding the application of these rules and the rights and obligations of his role.

Any Director shall dedicate to her/his function all the required time and attention and shall attend – unless prevented to do so – all meetings of the Board of Directors and of the Committees which he is a member of, as well as all Shareholders General Meetings.

Pursuant to the Chart, each Director has a duty to inform the Board as soon as she/he is aware of a conflict of interest, even a potential one, and to abstain from attending discussions and from voting the resolution thereby. In the event of a conflict that cannot be resolved to the satisfaction of the Board, the Director must resign. Upon taking office, then once a year, the Director must submit a statement to the Company on the existence of or the potential for any conflicts of interest by answering to a questionnaire provided by the Company. She or he

must notify the Company if ever this submitted information changes, and is required to answer to the Chairman of the Board of Directors' information request at any time, in accordance with the Directors' Chart of which the section on conflicts of interest has been updated and supplemented.

Pursuant to the Chart, each Director is bound by professional secrecy and must personally protect the confidentiality of any information she/he obtains in connection with her/his office that has not been made public.

The Director's Chart also reminds the Directors' duty to comply with the Group's Internal Rules and, more generally, with the applicable legal or regulatory provisions regarding the Directors' abstention from dealing on the Company's securities, as set forth in the Group's Code of Conduct on the misuse of inside information designed to prevent insider trading.

### Code of Conduct on the misuse of inside information designed to prevent insider trading

The Company has been operating, since the time of its flotation in accordance with a Code of Conduct on the misuse of inside information designed to prevent insider trading (the "Code of Conduct") which defines the situations in which certain individuals must refrain from carrying out transactions involving the Company's securities. These principles are also contained in the Group's Code of Ethics presented in the second part of this report.

The Group's Code of Ethics and Code of Conduct are also delivered to each Director at the beginning of her/his mandate and following each amendment. Compliance with confidentiality rules is also among the essential rules of the Group's Code of Ethics.

The Code of Conduct for the prevention of insider trading, approved by Board of Directors, applies to the managers (Executive and Non-Executive Directors) and assimilated persons, and to employees of the Group who have regular or occasional access to inside information.

Following the 3 November 2010 recommendations of the AMF on the prevention of insider trading caused by managers of listed companies, the Board of Directors reviewed the Code of Conduct on 3 May 2011. Since then, such Code includes managers' ability to resort to trading plans managed by third parties (*mandats de gestion programmée*) and allows to continue the execution of such trading plans during the blackout trading periods provided for in the Code. To the Company's knowledge, as of today, there is no trading plan managed by third parties outstanding.

Pursuant to this Code, transactions involving the Company's securities are not allowed:

- during the 30 calendar days before Alstom first six-month and annual results are disclosed to the public and until the second trading day included after the date when the information has been disclosed to the public;
- during the 15 calendar days before the public disclosure of the sales and orders (or other results) for the first and third quarters of the financial year and until the second trading day included after the date when the information has been disclosed to the public, and in any case
- when inside information is held and until the second trading day included after the date when this information has been disclosed to the public.

The schedule of these blackout periods, like the Code of Conduct, can be accessed online on the Company's intranet site.

In addition, the opening of the black-out trading periods are notified by email to the interested persons and include an updated timetable of all such periods.

The prohibitions do not apply to the subscription of shares through the exercise of stock options so long they are not followed by the sale of such acquired shares.

The Board Internal Rules, as well as this Code of Conduct to which the Internal Rules of the Board refer, also remind the managers and persons assimilated to them of their legal obligations to **notify the transactions on the Company's securities** completed either by them or by persons close to them.

## Conditions of preparation and organisation of the work of the Board of Directors

### Organisation and functioning of the Board of Directors

#### Internal Rules

The procedures governing the organisation and functioning of the Board of Directors are defined by the Internal Rules of the Board and applicable laws and regulations.

The rules are regularly reviewed by the Board to determine whether its provisions need to be amended or detailed in order to better comply with regulations in force or to improve the efficiency and operation of the Board and its Committees. The last amendments made, aimed at specifying good governance practices were incorporated on 3 May 2012 in the Director's Charter appended to the Internal Rules upon recommendations of the Nominations and Remuneration Committee (see page 178).

#### The Internal Rules notably state that the Board of Directors:

- shall comprise at least half of the Board of independent members as determined and reviewed annually by the Board on the basis of a proposal to be made by the Nominations and Remuneration Committee;
- shall define, upon the proposal of the Chief Executive Officer, the Group's strategy, and shall regularly review the Group's strategic options as previously defined, supervise management and verify the quality of information supplied to shareholders and the financial markets;
- shall examine and approve the annual budget and the medium-term plan;
- shall consider prior to implementation, any operation that is not part of the Group's announced strategy or that could significantly affect it or materially modify the financial structure or results of the Group;
- shall approve before implementation any acquisition or divestiture insofar as the amount exceeds €250 million, any decision to set up a partnership or a joint venture where the contribution of the Group exceeds €250 million, as well as any financing operation which exceeds €1 billion;

- shall approve before implementation organic growth investments in an amount higher than €250 million and the significant internal restructuring undertakings in particular at the time of the annual review of the Group's budget and strategy;
- shall be kept regularly informed of developments in the Group's business activities and results, the Group's significant risks, its financial position, indebtedness, cash position and, more generally, any Group commitments, and may request information about the foregoing at any time;
- shall create one or more specialised Committees and shall define their composition and responsibilities;
- shall approve the composition of the Group's Executive Committee;
- shall set the remuneration of the Executive and Non-Executive Directors (*mandataires sociaux*) and assess each year the Chairman and Chief Executive Officer's performance outside of his presence;
- shall review and approve annually the information published in the Company's Annual Report on its practices and structure of corporate governance, including the presentation of the policy that is followed with respect to the remuneration of Executive and Non-Executive Directors.

The Board shall examine its operation at least once a year and implement a formal assessment every three years.

In practice, the Board implements a formal assessment of its functioning and of the Committees' functioning annually.

A minimum of six meetings are scheduled each year.

### Training of Directors

At the beginning of her/his mandate, each Director receive all information needed to perform her or his duties and may request any documents she or he considers appropriate.

Interviews with those responsible for the Group's main central functions are organised, as well as meetings in the Group's Sectors, with detailed presentation of the businesses and the visits of production site in order for the Directors to gain initial contact with management teams and develop a more thorough understanding of elements that are specific to the Company, its activities and the markets in which it operates.

Within the framework of the development of continuing training initiatives, it is also proposed to all Directors the option to participate in these induction and training programs intended for new Directors.

During the annual evaluations of the Board's operation, the members are requested to indicate whether they feel the need to update their knowledge or broaden their skills.

The Board's Internal Rules have been supplemented to clarify that any further training a Director may request, if she or he considers it necessary, may cover not only Group's activities and product lines, but also accounting and financial aspects.

Each year, one Board meeting is held on one of the main Group's sites and provides in depth presentations of the business concerned, visits of production sites and exchanges with operational executives.

## Information to be supplied to Directors

Prior to each Board or Committee meeting, the Directors shall receive, sufficiently in advance and with proper notice (of generally one week), a report on the agenda items which require prior examination and consideration.

In addition to Board meetings, the Chairman regularly informs the Directors of any event or development that may have a material impact on operations or on any information previously communicated to the Board or on any matters discussed during the meetings; the Chairman also regularly forwards to the Directors any material information regarding the Company. The Board Internal Rules, notably provide for the prior notice and data to be given to the Board for any acquisition, disposal or any decision to set up a partnership or a joint venture in excess of €100 million.

The Directors also receive copies of any press releases issued by the Company which have not been specifically approved by the Board, as well as the main articles appearing in the press and reports by financial analysts.

The Directors may at any time request further information from the Chairman of the Board, who shall assess the pertinence of the request. Any Director is also entitled to meet with the Group's Senior Executives outside of the presence of the "mandataires sociaux" of the Company.

The Directors can also be asked to join workgroups organised by the Company whose subject matters will then be presented to the Board.

## Board Committees

Since the Company's listing in 1998, the Board of Directors has operated two Committees, the Audit Committee and the Nominations and Remuneration Committee, invested with the responsibility to study and prepare the Board's main deliberations in order to improve the Board's efficiency, which is the only body duly authorised to make decisions.

In September 2010, the Board of Directors decided to establish a third Committee, the Ethics, Compliance, and Sustainability Committee (the "EC&S Committee").

Each Board meeting is generally preceded by a meeting of one or more of these Committees depending on the items on the Board meeting agenda. The Committees report to the Board on their work and observations, and submit their opinions, proposals or recommendations. Given the travelling requirements foreign Directors are faced with, Audit Committee meetings are usually held the day prior to Board meetings and not two days ahead as recommended by the AFEP-MEDEF Code, subject to certain exceptions, on the basis of documents that have already been sent to participants (a week before the meeting). However, with respect to the approval of the annual financial statements, it happened that the Audit Committee met several days before the Board meeting.

The composition, the powers and the procedures of each Committee are also defined by Internal Rules put forward by each Committee involved and approved by the Board of Directors. Each Committee reviews every year its Internal Rules to take into account the evolution of the regulations or recommendations and can submit any modifications that it considers appropriate to the Board.

In May 2011, the Board of Directors made a number of changes to the Internal Rules of the Audit Committee and the new EC&S Committee in order to detail their respective duties and interactions with respect

to the monitoring of risk management related to ethics, compliance, and sustainable development. The Audit Committee also took the opportunity to review the July 2010 report of the AMF workgroup on Audit Committees and considered that the definition of its duties and their execution were compliant with the recommendations made by the workgroup.

A Director's experience and skills are taken into account as selection criteria in deciding on his or her presence on a given Committee.

According to the Audit and EC&S Committees' Internal Rules, these Committees shall consist of at least three members of whom at least two-thirds must be independent Directors including the Chairman of the Committee. As for the Nominations and Remuneration Committee, the Rules recommend that it shall consist of at least three members and that at least a majority of the Committee's members are independent among whom the Chairman of the Committee who shall have a casting vote in case of a tie vote.

In the context of its work, each Committee can meet any Group executive it wishes, resort to the services of experts on its own initiative and ask for any information useful for it to perform effectively.

Moreover, each member of a Committee may propose that a meeting be held if he or she considers this necessary in order to discuss a particular issue.

Each Committee prepares a report presenting its work during the past fiscal year; this report is included in the Annual Report (see hereinafter).

The Internal Rules of the Board of Directors and its Committees and the Director's Charter appended to the Board Internal Rules of which large extracts are provided herein, as well as the Code of Conduct to which the Board Internal Rules refer, are available on the Alstom Internet site ([www.alstom.com](http://www.alstom.com), section "About us/ Corporate governance").

## Annual evaluation of the functioning of the Board and of the Committees and the follow up

Since 2004, the Board carried out annually a formal self-assessment of its organisation and functioning pursuant to its Internal Rules, based on a questionnaire prepared by the Nominations and Remuneration Committee addressed to each Director and independently verified.

These Board's evaluations cover notably the composition of the Board, the frequency and length of the meetings, the issues discussed and time devoted, the quality of the debates, the works of Committees, the information and the training provided to the members, their remuneration and their interaction with the Group's managers. Directors are also requested to give their opinion and proposals on each topic including on the individual contribution of members to the Board works.

A summary of the individual assessments collected by the Committee on an anonymous basis is prepared by the Committee and then discussed by the Board of Directors in May. A similar procedure is simultaneously conducted to evaluate the workings of each Committee.



These evaluations were conducted for the first time in May 2004.

Following the recommendation of the Nominations and Remuneration Committee, a review and evaluation of the operations of the Board of Directors and its Committees in the 2010/11 fiscal year were undertaken by external consultants selected by the Committee, namely Spencer Stuart. Their findings were presented and debated at the Board of Directors' meeting of 3 May 2011.

The report concluded that the Board's overall performance was most satisfactory. It underlined the high quality of the information made available to the Directors and confirmed the high standards of governance. It also highlighted the quality of the functioning of the Board Committees and the interaction with the Group's management.

Regarding the recommendations, the Board decided to continue its focus on strategic debates. The Board also decided to increase its exposure to the Group's executives when visiting facilities and ask them to participate in specific topics at Board meetings. Together, these initiatives resulted in adding another meeting to its annual programme, to be held in January of each year. These meetings held in the form of a day-long seminar are dedicated to discussing the strategy of the Group based on a meeting agenda set by the Directors.

In May 2013 as in May 2012, the Board resumed its annual self-assessment and concluded that the recommendations expressed during the previous assessment were properly implemented. It noted that the Board kept a strong focus on strategic priorities and review of succession planning for key executives of the Company.

### Activity report of the Board for fiscal year 2012/13

The Board of Directors met six times during the fiscal year (ten times during the previous fiscal year). The attendance was 99% (93% in 2011/12).

During the fiscal year 2012/13, the Board of Directors has continued to devote significant time to review various aspects of the Group's strategy at meetings attended by several Group's executives.

The Board debated the short term strategy within the Group's businesses during annual budget and planning meetings attended by the Sector's Presidents, the other Executive Committee's members and the Senior Vice President Group Strategy and Development. Within this framework, it also reviewed the market evolution, the Group's portfolio of business activities and the competitive environment, as well as the update of the risk map produced for each Sector and for the Group.

On the basis of an agenda which was set by all Board Members, the Board of Directors dedicated one day to reviewing in-depth the long term strategy, prospects and growth opportunities of one of the Group's Sectors and more generally the Group's other business activities portfolio.

A meeting held at La Baule also featured comprehensive presentations of Alstom's strategy, prospects and achievements in new energies and wind power, as well as in HVDC technologies. The meeting was followed by visits of the HALIADE™150 offshore wind turbine and of the Saint-Nazaire temporary workshop. Senior executives (*dirigeants*) of the Group attended these meetings.

The Board discussed and passed resolutions on all other main topics regarding the Group. During its meetings, the Board notably passed resolutions on the topics below.

The Board reviewed and approved the consolidated and parent company accounts for the fiscal year 2011/12, the consolidated accounts for the first half of the fiscal year 2012/13, as well as the related management reports. The Board reviewed the draft press releases on these accounts before their publication.

At the time it reviewed the half-year and full year accounts and also regularly, the Board continued to review the financial situation of the Group, the evolution of the cash flow, debt, liquidity position and its financial notation. The Board received information on the significant risks faced by the Group and the action plans launched and discussed and approved the description of the main risks faced by the Group which were included in the Company's 2011/12 Registration Document (*Document de Référence*).

A report on the development of the Group's activities has been presented at each meeting.

Regarding corporate governance, the Board discussed in May 2012 the application by the Company of the AFEP-MEDEF corporate governance principles during its review of the Chairman's report attached to the Management report. It reviewed and complemented the provisions of the Director's Charter on elements concerning the information and the management of conflicts of interest.

In May 2012, the Board also discussed and approved the results of the performance self-assessment of the Board and its Committees during fiscal year 2011/12, the Director's independence and the criteria applied, and more generally approved the Chairman's report pursuant to Article L. 225-37 of the French Commercial Code and the section "Corporate governance" of the 2011/12 Registration Document before its filing with the AMF (*Autorité des marchés financiers*). It also reviewed and approved the Sustainable Development section after having heard the Ethics, Compliance and Sustainability Committee's report.

In May 2012, the Board also determined the amount of the Chairman and Chief Executive's variable compensation for fiscal year 2011/12 based on the achievement of the financial and personal objectives and on the terms of calculation previously set by the Board. The Board also fixed the objectives for the determination of his variable compensation for fiscal year 2012/13 and the basis for its calculation depending on the achievements and fixed the annual fixed compensation of the Chief Executive Officer for fiscal year 2012/13 unchanged compared to the previous fiscal year.

In October 2012, upon proposal of the Nominations and Remuneration Committee, the Board reviewed the amount of the Director's fees and decided to increase the fixed part and the variable part per attendance to Board meetings.

The Board also seized the favourable market conditions and decided the principle of a capital increase in the form of a private placement to institutional investors in order to strengthen the Company's financial situation and balance sheet.

In November 2012, the Board also decided, as proposed by the Nominations and Remuneration Committee, the allocation of a new long term incentive plan combining the allocation of stock options and the free allocation of performance shares both fully conditional upon the achievement of the Group's financial objectives over three consecutive fiscal years. It specifically approved the allocation granted to the Chairman and Chief Executive Officer of which it determined the limits and conditions complementing the provisions applicable to the other beneficiaries of the plan.

During the fiscal year, the Board of Directors also:

- adopted the resolutions and the documents required by law concerning the Annual General Meeting;
- renewed the financial delegation of powers to the Chairman and Chief Executive Officer for the issue of bonds which was used in October 2012 to strengthen the Group's liquidity;
- authorised the implementation of a Company's share purchase programme;
- followed the evolution of the main ongoing investigations and disputes, and received, on a regular basis, information on the internal control and risk management systems through reviewing the Audit Committee's work reports, and on the procedures, actions, and organisation of the Group relative to ethics, compliance, and sustainable development through monitoring the work of the Ethics, Compliance and Sustainability Committee;
- noted the succession plans set up for the executives and senior executives of the Group;
- reviewed the Chairman and Chief Executive Officer's performance during its annual meeting outside of his presence held in March.

The Committees' Chairmen submitted their Committee work reports to the Board for discussion.

The Independent Auditors were invited to the two Board meetings dedicated to the review and approval of the annual and half-yearly accounts.

## Audit Committee

**The Audit Committee**, formed in 1998, is currently composed of six members: Mr Jean-Paul Béchat, Chairman of the Committee since 1 January 2004, Mr Georges Chodron de Courcel, Mrs Lalita D. Gupte, Mr Pascal Colombani, Mr Philippe Marien and Mr Alan Thomson.

**Four members out of six are independent**, including the Chairman. This corresponds to the two-thirds of Directors recommended by the AFEP-MEDEF Code.

Mrs Lalita D. Gupte, Mr Philippe Marien and Mr Alan Thomson have specific expertise in financial or accounting matters due to their qualification or professional expertise as set forth in their biographies. Mrs Lalita D. Gupte and Mr Alan Thomson are also independent members.

## Duties

Acting under the authority of the Board of Directors, the general purpose of the Committee is to assist the Board of Directors in overseeing issues relating to the development and management of financial and accounting information. In particular, the Committee is responsible for monitoring (i) the process according to which the financial information is developed, (ii) the efficiency of internal controls and risk management systems, (iii) the legal auditing of annual account statements and consolidated account statements as carried out by the External Auditors, and the independence of such External Auditors.

**In fulfilling its role, as stated in its Internal Rules as amended on 3 May 2011, the Committee is responsible for the following:**

- to review the scope of consolidation and examine all draft consolidated and corporate financial statements and related reports which will be submitted to the Board for approval and to discuss them with Management and the External Auditors;
- to review with Management and the External Auditors the generally accepted accounting principles used in the preparation of the accounts including the review of alternative accounting principles, as well as any change in accounting principles, methods or rules while monitoring that such principles are still relevant;
- to examine and monitor the production process and the treatment of financial and accounting information used in the preparation of account statements;
- to evaluate the validity of the methods chosen for processing significant transactions as well as those transactions through which a conflict of interest could have occurred;
- to examine Management's presentation on risk exposure (including legal risks) and significant off-balance sheet commitments and contingencies at the time of the Committee's review of the accounts;
- to review and evaluate at least annually, the efficiency of internal control procedures and risk management procedures in place, including those associated with the development and treatment of financial and accounting information; the Committee monitors that the main risks are identified and managed, and that it is kept informed of their existence and status, it being specified that it shall receive the opinion of the Ethics, Compliance, and Sustainability Committee on the risk map concerning ethics and compliance, social responsibility and sustainable development and on the procedures in place for preventing the identified risks;
- to examine and review, on an annual basis, the organisation and operation of the internal audit; the Committee approves the internal audit programme, monitors its development and the results of its plans of action;
- to review with the External Auditors the nature, scope, and results of their audit and work performed; and to review their comments and suggestions, in particular those relating to internal control and risk management procedures, to accounting practices and to the internal audit programme;
- to examine and provide the Board of Directors with its opinion on the Chairman of the Board of Director's draft report to shareholders at the general Shareholders' Meeting on the internal controls and risk management procedures implemented by the Company;
- to review and control the call for tenders procedure associated with the selection of External Auditors and provide the Board of Directors with a recommendation on the External Auditors proposed for appointment by shareholders at the general Shareholders' Meeting and on the amount of fees that the Company intends to pay them;
- to approve the External Audit Charter governing relations with the External Auditors and examine, on an annual basis, the amount of the fees paid by the Group to the networks to which such External Auditors belong, including fees that are not directly linked to the External Auditors' duties;



- to see to the External Auditors' independence, to examine with them, if applicable, the risks that are impacting such independence and the safety measures undertaken to mitigate these risks and grant its prior approval to any external audit performed that is accessory to or directly complementary to the audit of the accounts they are responsible for (excluding all other duties).

The Committee may also perform any other activities as the Committee or the Board of Directors deems necessary or appropriate. The Committee is entitled to seek any external assistance it may deem necessary.

Once a year, the Committee dedicates one of the items on its agenda to a debate concerning its functioning. Unless the Committee decides differently, the External Auditors will attend meetings.

### Activity report of the Audit Committee for fiscal year 2012/13

The Audit Committee met four times during fiscal year 2012/13 (four times during fiscal year 2011/12). The attendance level was 96% (92% for previous fiscal year).

The Chief Financial Officer, the Senior Vice President of Internal Audit, the Group Controller, the Group General Counsel and at least one representative of the two independent audit firms were in attendance at all four meetings. Other Senior Management including the Chief Information Officer, the Vice President of Tenders and Projects Control, the Vice President of Corporate Funding and Treasury, the Vice President of Tax and several representatives of Sectors' Financial Departments attended the Committee meetings.

The Committee reviewed the Statutory and Consolidated Financial Statements as of 31 March 2012 as well as the half-year consolidated accounts as of 30 September 2012 (financial statements, notes and management or activity reports) in May and November 2012 respectively. In May 2012, the Committee also reviewed the Registration Document (*Document de Référence*) for the fiscal year ended 31 March 2012 prior to its filing with the French Stock Market authority (*Autorité des marchés financiers*) and especially the section concerning risks as well as the section concerning the internal control and risk management procedures of the Chairman's Report, which the Committee has approved.

On the basis of the presentations produced by the General Management and the independent audit firms, the Committee checked the relevance of the accounting methods and treatments used in the financial statements.

As each year, the annual and half-year closing of accounts led to detailed presentations from the General Management and Financial Management of each Sector, of the Group's major risks (risks linked to the activity, to contract execution, to the main disputes), of cash-flow, of the off-balance sheet commitments and of provisions. The Chairman of the Committee met at each closing of accounts with the independent audit firms alone to examine how the financial statements have been prepared.

In October 2012, during a specific session, an Internal Audit/Internal Control update was presented by the Senior Vice President of Internal Audit. The Chief Information Officer also presented in detail the Alstom Information Systems and Technology. The Group Controller also presented with the Statutory Auditors the goodwill impairment test campaign as of 31 March 2012.

In March 2013, a detailed presentation of Pension was made by the Vice President of Corporate Funding and Treasury.

The Risk Mapping methodology – risk identification and follow-up tool embedded in the Budget/Three year plan – as well as the action plans implemented, were examined. The updated results were presented by the Senior Vice President of Internal Audit at Group and Sector levels in March 2013.

The Committee reviewed the existing internal control procedures put in place in the Group and the internal control evaluation done by the Company through an annual evaluation questionnaire. The Committee was informed of the detailed results of the annual internal control campaign and of the action plans aiming to improve internal controls and risk control, to eliminate weaknesses and to ensure compliance with applicable regulations. The results of the action plans were presented to the Committee. The Committee also heard the Statutory Auditors' observations and recommendations on internal control in March 2013.

The Senior Vice President of Internal Audit presented the Internal Audit half-year and full year activity reports for 2012 and the proposed internal audit plan for each of the next four years was reviewed and approved. As each year, the Chairman of the Audit Committee met individually with the Senior Vice President of Internal Audit.

The Committee examined the amount of fees paid out to the independent audit firms during the fiscal year 2012/13. The External Auditors' Charter includes the listing of pre-approved services that can be performed within defined limits by the independent audit firms. The Committee was informed twice of the work performed by the independent audit firms within its guidelines and the fees involved.

The members evaluated the functioning of the Committee during the fiscal year 2011/12 and the results were discussed during a Board meeting.

The Committee reported on its work, provided comments and gave proposals to the Board.

## The Nominations and Remuneration Committee

The Nominations and Remuneration Committee, formed in 1998, is currently composed of five members: Mr James W. Leng, Chairman of the Committee since 18 November 2003, Mrs Candace K. Beinecke, Mr Olivier Bouygues, Mr Gérard Hauser and Mr Klaus Mangold.

Three members of the Committee out of five are independent, including the Chairman, which corresponds to the AFEP-MEDEF Code's recommendation to have a majority of independent members in Remuneration Committees.

**Duties**

As stated in its Internal Rules, the Committee reviews and makes proposals or gives its opinion to the Board of Directors on the following subjects:

- the separation or combining of the functions of Chairman of the Board and Chief Executive Officer of the Company;
- the nomination (or revocation) of the Chairman of the Board and of the Chief Executive Officer;
- the nomination of new Directors including in case of unforeseeable vacancy; in particular, the Committee organises an appropriate procedure for selecting future independent Directors and makes its own independent research on potential candidates prior to their being approached;
- the nomination (or revocation), upon proposal of the Chief Executive Officer, of any other Executive Directors (*dirigeants mandataires sociaux*) and members of the Executive Committee;
- the succession plans for the Company's Executive Directors;
- the compliance by the Company with corporate governance principles that the Company abides by, notably regarding the policy with respect to the remuneration of the Executive Directors. The Committee advises the Board on the part of the Annual Report dedicated to the shareholders' information on these matters and on Board's work;
- the Board and Committees' composition and functioning (including the Nominations and Remuneration Committee);
- the Company's definition of an independent Director and the list of independent Directors to be inserted in the Company's Annual Report;
- the whole of the elements comprising the compensation to be paid to the Executive Directors of the Company, including any award of stock options or performance-based shares, as well as compensation and benefits of any kind (including pensions and termination benefits) also paid to them by the Company or companies belonging to the Group. The Committee notably reviews and defines the rules for determining the variable part of such compensation, ensures their coherence with the annual performance evaluation and the strategy of the Company, and thereafter controls the implementation of these rules;
- the Company's general policy relating to stock option plans including the granting, timing and frequency of allocations, and any proposed stock option plans including the proposed beneficiaries;
- the Company's general policy relating to employee share purchase schemes and any proposed schemes;
- the Directors' fees and the conditions for their award.

The Committee decides whether it will define, upon proposal of the Chief Executive Officer, the compensation and benefits of all or some of the members of the Executive Committee, including the principles and criteria used for their annual performance evaluation, in particular those for determining the variable part of their remuneration, or whether it will just be informed of these.

The Committee also develops and recommends to the Board for its approval, a formal process for evaluating the functioning of the Board and its Committees to be implemented at least every three years and, outside of the Directors concerned, prepares the annual performance evaluation of the Chairman of the Board and of the Company's Executive Directors based on the principles applied to other Senior Corporate Executives.

Once a year, the Committee dedicates one of the items on its agenda to a debate concerning its functioning.

The Committee performs any other related activities as the Committee or the Board deems necessary or appropriate.

### Activity report of the Nominations and Remuneration Committee for fiscal year 2012/13

The Nominations and Remuneration Committee met four times during fiscal year 2012/13 (five times during the previous fiscal year) and the Members' attendance rate at these meetings was 100% (88% for fiscal year 2011/12).

Within the context of its corporate governance work, the Committee undertook its annual review of the Company's practices and recommended for Board approval some adjustments to the Director's Charter appended to the Board internal rules to complement the provisions with respect to the prevention and management of conflicts of interests.

The Committee monitored the process of annual self-assessment of the functioning of Board and Committees during the fiscal year on the basis of detailed questionnaires. The outcome of the reviews was discussed by the Committee and the Board in May 2012.

It also reviewed the status of independent Directors and the criteria of evaluation retained, reviewed and approved the Chairman's draft report on the functioning of the Board and compensation of corporate officers and recommended it for Board's approval. The same process applied to the "Corporate governance" section of the 2011/12 Registration Document.

The Committee reviewed and endorsed the renewal of the mandates of three members of the Board of Directors.

The Nominations and Remuneration Committee discussed and proposed to the Board of Directors the Chairman and Chief Executive Officer's variable remuneration for 2011/12 and the objectives for his 2012/13 variable remuneration applying the same criteria and method as in preceding years. The Committee was informed of and approved the remunerations of the other members of the Executive Committee.

The Committee also examined and recommended to the Board the allocation within a new Long-Term Incentive Plan of a mix of fully conditional stock options and of performance shares and approved the performance conditions for three consecutive fiscal years determining the number of exercisable options and the number of performance shares to be finally delivered. It reviewed the characteristics of these grants as well as the list of beneficiaries. The Committee also reviewed and approved the proposed grants to the Chairman and Chief Executive Officer and the others members of the Executive Committee.

The Committee also recommended some changes in the distribution of the Director's fees.

In November 2012, the Committee re-examined the succession plans for the positions of senior managers and executives within the Group, including the Executive Committee. A general review of management Committees of each Sector and of the central staff also took place.

In March 2013, the Committee reviewed potential candidates for the appointment of a new independent Director and selected the candidate it recommended for Board approval.

According to its previous practices, the Committee prepared the annual assessment of the Chairman and Chief Executive Officer's performance and discussed it with the Directors outside the Chairman and Chief Executive Officer's presence. The outcome of the Directors' review was then discussed with the Chairman and Chief Executive Officer.

The Nominations and Remuneration Committee reported to the Board on its work and recommendations regarding all these matters.

## The Ethics, Compliance and Sustainability Committee ("EC&S Committee")

The EC&S Committee, created on 28 September 2010, consists of three members: Mr Jean-Martin Folz, Chairman of the Committee, Mrs Katrina Landis and Mr Pascal Colombani who is also a member of the Audit Committee.

All the three members of the Committee are independent.

### Duties

As stated in its Internal Rules amended on 3 May 2011, the Committee reviews and makes proposals or recommendations to the Board on the following subjects:

With respect to ethics and compliance, the Committee reviews and monitors the Company's policies on ethics and compliance matters and the systems and procedures in place to effectuate these policies and provides the Board of Directors with its views.

The Committee is responsible for the following:

- to review the definition of the Group's core values and ethics and compliance policy;
- to review the organisation of the Ethics and Compliance function and make recommendations if any;
- to review the Group's Code of Ethics, rules and procedures (including procedures with third parties); the Committee is informed of the plans for their promotion and implementation;
- to receive on an annual basis, the presentation of the Group's risk map concerning ethics and compliance; it reviews the risks thus identified and is kept informed of their evolution and of the characteristics of their management systems;
- to receive from the Head of Ethics & Compliance function the annual activity report on the Company's ethics and compliance policy and actions undertaken; to review and recommend the proposed compliance action plan for the following year and to monitor its development;

- the Committee is informed of any possible cases of non-compliance with respect to the ethics and compliance policy, and reviews the actions plans carried out as a result of such cases;

- to review the liaison with stakeholders over ethical issues.

With respect to the sustainable development, in fulfilling its role, the Committee is responsible for the following:

- to review the Group's environmental policies and management systems, the human resources policies, policies with respect to relationships with stakeholders (customers, suppliers, local communities);
- to receive on an annual basis, the presentation of the Group's risk map concerning social responsibility and sustainable development; it reviews the risks thus identified and is kept informed of their evolution and of the characteristics of their management systems;
- to review and assess the reporting and control procedures on non-financial indicators (environmental, health and safety, social reporting and indicators);
- to review the main lines of the Company's communication on corporate responsibility and sustainable development; the Committee also reviews the annual Board of Directors' draft report on the social and environmental impact of the Company's operations and provides the Board with its views on such report;
- to review and monitor the ratings received by the Group from non-financial rating agencies.

The Committee provides an opinion to the Audit Committee on the risk map for ethics, compliance, social responsibility, and sustainable development, and on the procedures for preventing such risks from occurring.

### Activity report of the EC&S Committee for fiscal year 2012/13

The EC&S Committee met three times during fiscal year 2012/13 (four times during the previous fiscal year). The attendance level was 100% as for the previous fiscal year.

The EC&S Committee reviewed and approved:

- the increasing of resources of the Ethics & Compliance Department especially in some countries. In the United-States, a full-time Compliance Officer was recruited in October 2012 to replace the part-time Compliance Officer. In February 2013, a Compliance Officer was appointed in Germany, in Mexico, in the United-Kingdom and will be recruited in Russia and appointed in South-Africa in 2013;
- the on-going risk-based approach, with the formalization of Ethics & Compliance rules with regards to acquisitions, joint venture and consortiums and the tendering process;
- the new training project called "Alstom Integrity Training" aiming at creating a new training curriculum on Ethics & Compliance matters for exposed populations and focusing on very concrete cases;
- new initiatives aiming at reinforcing the Alstom Integrity Programme.

The EC&S Committee was informed of the results of the Yearly Integrity Review for the fiscal year 2011/12. The Yearly Integrity Review intends to measure the efforts made by the approximately 600 Top Managers of Alstom to implement the Alstom Integrity Programme within the Group.

The EC&S Committee was provided at each meeting with updates on significant on-going investigations.

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It also reviewed and approved the new presentation of the Group's CSR programs structured around three main axes:

- *"Alstom Technologies and solutions"*: focusing on the contribution of Alstom to sustainable development via its product portfolio offered to the markets;
- *"Alstom partners and stakeholders"* addressing all the CSR actions towards the customers, suppliers and the local communities;
- *"the way Alstom operates"*: addressing the environmental performance of the operations, the Human Resources policy and the ethical principles.

The EC&S Committee has also received all the information about the specific actions of internal and external communication aimed at increasing the visibility of the function and improving the perception of the Group. The various communication support (monthly newsletter and pedagogic films) were systematically addressed to the members of the Committee.

The EC&S Committee received and reviewed the ratings received from non-financial rating agencies.

The EC&S Committee received detailed information on the functioning and objectives of the Alstom foundation and approved its extension for a five-year period decided during the fiscal year.

The EC&S Committee was regularly informed had a regular update of the Group's occupational safety performance which it continued to pay attention. More specifically, the implementation, execution and results of the plan against severe accidents (AZDP) were presented at each meeting of the Committee and were discussed.

The Committee received presentations of the Group's policy of equality between men and women.

The Committee also reviewed the main non-financial indicators used by the Group.

The EC&S Committee was informed of the appointment of a new head of Corporate Social Responsibility (CSR) function, with a hierarchical link remaining with the Corporate Strategy Department.

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The Committee received and discussed the Group's risk map concerning ethics and compliance, social responsibility and sustainable development and provided its opinion to the Board of Directors.

The EC&S Committee also approved its activity report for fiscal year 2011/12 and the Sustainable Development section of the Registration Document 2011/12 which includes the Board's report on social and environmental information and provides the objectives and indicators of the Group in these fields.

The Committee reported to the Board on its work regarding these matters.

## Combination of the positions of Chairman and Chief Executive Officer – Limitations on the Chairman and Chief Executive Officer's powers

The Board of Directors decided to keep the positions of Chairman and Chief Executive Officer combined as one and to renew the term of office of Mr Patrick Kron in his position as Chairman and Chief Executive Officer during its meeting held following the General Shareholders' Meeting dated 28 June 2011, which approved the renewal of his term of office as Director. This choice and its motivation were made known to the Shareholders during the Shareholders' Meeting.

In reaching this conclusion, the Board of Directors did not consider it necessary or appropriate to opt for the separation of the duties of Chairman and Chief Executive Officer to improve the management of the Group or the operation of the Board. It considered that this mode of governance, which has proved to be highly effective since its implementation in 2003, is still appropriate and should be retained in order to maintain the reactive and efficient structure as it faces the competitive environment of today and tomorrow.

The Board of Directors is responsible for determining the corporate governance format, due to the fact that it is best suited to decide on the appropriate governance method based on the results and challenges the Group faces, and to decide on the method of operation of the corporate bodies, which the Board of Directors evaluates on an annual basis.

Directors can provide an opinion on this subject at the time of each annual evaluation of the functioning of the Board of Directors and Committees.

Various factors contribute to achieving a balanced and controlled corporate governance, of which:

- a strong presence of independent Directors within the Board of Directors and the Committees, the chairing of which has been entrusted to independent Directors as from their creation;
- information updates and news disclosed on a regular basis to the Board of Directors, both at its meetings and outside of its meetings, detailing the business activities of the Group and any significant events;
- the developed practice of enabling all Directors to jointly participate in determining the agenda of a Board of Directors' meeting once per year;
- the development of interactions between the Board of Directors and the members of the Executive Committee or the functional or operational staff holding key positions within the Group, in particular in the context of their participation in and presentations given at Board of Directors and Committee meetings, or during worksite visits organized annually;
- an annual review of the corporate governance practices and of the operation of both the Board of Directors and the Committees, which enables the identification, on a regular basis, of the desired focus points for improvement and the priorities associated therewith, and to assess the follow up of the recommendations; the annual meeting of Directors who are external to the Company in order to assess the performance of the Executive Officer (*dirigeant*), as directed by the Chairman of the Nominations and Remuneration Committee;

- the availability of the Chairman and Chief Executive Officer and Chairmen of the Board of Directors Committees, independent Directors, in order to discuss with institutional investors regarding the key subjects of corporate governance of the Company and sustainable development;
- a routine review of the Internal Rules of the Board of Directors and the Committees, and the adaptation of their provisions, as the case may be.

The Internal Rules of the Board also indicate that the Board of Directors' prior approval is required for:

- any operation that is not part of the Group's announced strategy or that could significantly affect it;
- any operation that could materially modify the financial structure or results of the Group;
- any acquisition or divestiture insofar as the amount exceeds €250 million, any decision to set up partnership or joint company where the contribution of the Group exceeds €250 million, as well as any financing operation which exceeds €1 billion;
- organic growth investments in an amount higher than €250 million and the significant internal restructuring undertakings in particular at the time of the annual review of the Group's budget and strategy.

It also indicates that the Board of Directors examines and approves the annual budget and the medium-term plan.

## Compensation of Executive and Non-Executive Directors (*mandataires sociaux*)

ALSTOM's Executive and Non-Executive Directors are the fourteen members of the Board. The Chairman and Chief Executive Officer, is the only Executive Director of ALSTOM.

The information presented below also constitute the elements of the Board of Directors' report to the Shareholders' Meeting referred to in Article L. 225-102-1 (related to remuneration of Executive and Non-Executive Directors) and in Article L. 225-185 of the French Commercial Code (related to retention obligations applicable to stock options and performance shares).

The principles and rules set by the Board of Directors for the determination of Executive and Non-Executive Directors' compensation and benefits of any kind are as set out below.

### Remuneration of the Chairman and Chief Executive Officer

The remuneration of the Chairman and Chief Executive Officer is fixed by the Board of Directors upon the Nominations and Remuneration Committee's proposal and comprised of a fixed part and of a variable part linked to the performance of the Company. The remuneration policy and all the components of the Chairman and Chief Executive Officer's remuneration, including supplemental retirement scheme, are reviewed annually by the Nominations and Remuneration Committee and the Board of Directors and include an analysis prepared by an external consultant which includes market's practices.

#### Annual remuneration

The gross amount of the fixed part of the Chairman and Chief Executive Officer's remuneration in respect of fiscal year 2012/13 amounts to €1,130,000 unchanged compared to the previous financial year.

The variable part of the remuneration is a maximum percentage of the fixed part. It varies along with the achievement of objectives for the fiscal year predetermined by the Board of Directors upon proposal of

the Nominations and Remuneration Committee. These objectives are comprised of a number of the Group's financial objectives and specific qualitative objectives linked to the achievement of personal objectives. The achievement of these objectives and the amount of the variable part of the remuneration are then determined by the Board of Directors which approves the accounts for the fiscal year, upon the Nominations and Remuneration Committee's proposal after the evaluation of the Chairman and Chief Executive Officer's performance.

Since 1 April 2006, the Chairman and Chief Executive Officer's variable remuneration's range is between 0% and 160% of the annual base salary. The amount of the variable part linked to financial objectives can vary between 0% and 120% of the annual base salary and the amount of the variable part linked to specific objectives between 0% and 40%, depending on results achieved. In case the set objectives are met, the variable remuneration represents 100% of the annual base salary, with the amount of the variable part linked to financial objectives representing 60% of the annual base salary and the variable part linked to the specific objectives representing 40% of the annual base salary.

However, the Board reserves the right to adjust upwards or downwards the results of the calculation of this variable part within the above mentioned range, based on its global evaluation of the performance achieved.

For fiscal year 2012/13, the Group's financial objectives covered the operational margin, gross margin (both in absolute value and as a percentage) on orders received and the free cash flow. The qualitative objectives corresponded to the implementation of strategic and operational priorities agreed to with the Board of Directors and the general management initiatives of the Company.

The Chairman and Chief Executive Officer benefits from a Company's car representing a benefit in kind of €5,794 per year and, as other employees in France beyond a certain level of responsibilities, from supplemental medical, death and disability coverage, which costs are partly borne by the Company.

#### Annual fixed and variable remuneration in respect of fiscal year 2012/13

For fiscal year 2012/13, the fixed gross salary paid to Mr Kron amounted to €1,130,000 unchanged compared to the previous financial year.

His variable gross salary was €1,420,000 that is 125.7% of his fixed gross salary compared to a variable remuneration "target" of 100% (remuneration paid when the results are strictly in line with the objectives set). The variable part linked to the financial objectives was fixed at 89.3% by the Board of Directors within the range 0-120% (compared to 60% if the results achieved have been strictly in line with the objectives set). The part corresponding to the specific objectives was fixed at 36.4% in the 0-40% range.

For the previous fiscal year, his variable gross salary was €1,160,000 corresponding to 102.7% of his fixed gross salary for the said fiscal year. The variable part linked to the financial objectives was fixed at 64.2% within the range 0-120% and the part corresponding to the specific objectives was fixed at 38.5%.

#### Fiscal year 2013/14

In respect of fiscal year 2013/14, upon proposal of the Nominations and Remuneration Committee, the total fixed remuneration of Mr Kron was set at €1,200,000.



Based on the proposal submitted by the Nominations and Remuneration Committee, the Board of Directors set the performance objectives of the Group and the specific qualitative objectives associated with the achievement of personal objectives to be used as a basis for the calculation of the variable remuneration for the 2013/14 fiscal year. The respective proportions applicable to fixed and variable remunerations (target and maximum) as stated above remain unchanged since 2006.

For fiscal year 2013/14, the Group's financial objectives are related to the operational income (both in absolute value and as a percentage), the gross margin (both in absolute value and as a percentage) on orders received and the free cash flow. The qualitative objectives correspond to management initiatives and to the implementation of strategic and operational priorities agreed to with the Board of Directors which include, amongst other priorities, specific objectives related to the development of the Group in Asia.

### Allocation of conditional stock options and/or performance shares

The Chairman and Chief Executive Officer received an allocation of conditional stock options and performance shares under the plan implemented during fiscal year 2012/13 (plan LTI No. 15).

The overall amount of the allocation, as determined by the Board of Directors based on the Nominations and Remuneration Committee's proposal, takes into account all of the elements of compensation of the Chairman and Chief Executive Officer as well as market practices.

The main characteristics of the allocation policy applied to the Chairman and Chief Executive Officer comply with the recommendations of the AFEP-MEDEF Code and are the following:

- frequency: allocation usually carried out by end September unless exception;
- no discount: yes (stock options);
- performance requirements: yes (since fiscal year 2006/07, all of the options or shares are allocated subject to the satisfaction of Group performance conditions as of the third fiscal year or of each of the three fiscal years following the grant date);
- limits applicable to the allocation/purchase requirement: yes, since fiscal year 2009/10 (see hereafter);
- holding requirement: yes (see below);
- use of hedging instruments prohibited: yes;
- periods during which the exercise of options with sale of shares is prohibited: yes.

The general characteristics of the conditional stock options and performance shares allocated to the Chairman and Chief Executive Officer are identical to those offered in all other allocations made by the plan. To these general characteristics shall be added, the specific limitations or obligations fixed by the Board of Directors in compliance with the applicable regulations and recommendations of the AFEP-MEDEF Code on the remuneration of Executive Directors. These general characteristics, including the performance conditions, appear on pages 207 and 213 of the Registration Document for the 2012/13 fiscal year filed with the AMF.

Within the framework of these plans, which combine since fiscal year 2007/08, allocations of conditional stock options and of performance shares, the ratio of allocated stock options over the total number of

stock options and performance shares increases as one's hierarchical position in the Company increases. Consequently, the Chairman and Chief Executive Officer receives a larger percentage of stock options than performance shares as compared with other plan beneficiaries.

Pursuant to the recommendations of the AFEP-MEDEF Code, the Board of Directors on 4 October 2011 decided to apply the following principles to allocations for the Executive Officers (*mandataires sociaux dirigeants*):

- the IFRS 2 value of any allocation shall be capped at one year of fixed and targeted variable remuneration, the latter of which corresponds to the remuneration obtained when accomplishments are strictly compliant with set objectives;
- the aggregate amount of annual allocations granted to Executive Officers cannot exceed 2.5% of the overall amount authorised by the General Shareholders' Meeting for grants of stock options and free shares within the Group, or 5% of the aggregate annual allocation (calculated, as the case may be, based on stock option equivalents in the event of a combined allocation of stock options and performance shares);
- in consideration of any new allocation of performance shares, the Executive Officer must undertake the acquisition of a number of shares equivalent to 25% of the performance shares effectively delivered.

In accordance with the law and the AFEP-MEDEF Code, since 2007 the Board of Directors also sets, for each allocation, the number of shares that the Executive Officer must hold until he no longer exercises his duties. The Board of Directors has, in addition, extended this holding requirement by making it applicable to all of the members of the Executive Committee.

With respect to his allocations under the plans granted to him since 2007 and still outstanding (LTI plans No. 10, 12, 14 and 15), the Chairman and Chief Executive Officer shall comply with a requirement to hold shares resulting from the exercise of stock options and/or final allocation of performance shares until the expiry of his duties. Such requirement bears on a number of shares corresponding to 25% of the theoretical net gain (after taxes and social security withholdings) calculated on each date of exercise of stock options and on the effective date of allocation of the performance shares.

Moreover, Internal Rules of conduct of the Group in case inside information is held, prevent any sale of shares, during 30 calendar days before Alstom's first six-months and annual results are disclosed to the public (the period being reduced to 15 calendar days with respect to quarterly results) and up to the second trading day included after the date when this information has been disclosed to the public, and, in any case, when inside information is held until the second trading day after the date when this information has been disclosed to the public. During period where trading is not prohibited, these Internal Rules prescribed to consult the Group's legal counsel and the Chief Financial Officer in case of doubt on the ability to trade prior to any such transaction. It has not been considered appropriate to prohibit during these periods, the sole exercise of stock options as the acquisition of the shares is made at a price which has been predetermined on the grant date and the shares are not sold.

In accordance with the AFEP-MEDEF Code, the Chairman and Chief Executive Officer has committed himself to refraining from using hedging instruments, for his entire term in office, to cover the risks associated with the stock options or performance shares allocated to him. To the Company's knowledge, no hedging instrument is in place.

**Allocation in respect of fiscal year 2012/13**

The combined allocation received by the Chairman and Chief Executive Officer under the 2012 plan decided by the Board of Directors during fiscal year 2012/13, bears on 100,000 conditional stock options and 10,000 performance shares (same numbers as granted to him under the 2011 plan). It represents 0.04% of the share capital as of the grant date. It also represents approximately 2.9% of the total allocation of the plan (calculated according to a stock option equivalency, where one performance share is considered equivalent to five stock options) and 1.5% of the overall amount authorised by the Shareholders' Meeting dated 22 June 2010. See also Table 4 hereafter.

**Summary of long-term compensation plan linked to the Group's performance granted during the fiscal year ended 31 March 2011**

During the fiscal year 2010/11, upon the Nominations and Remuneration Committee's proposal, the Board of Directors held on 13 December 2010 decided to not allocate stock options or performance shares to the Chairman and Chief Executive Officer and to implement to his benefit a long term compensation plan conditional upon the achievement of Group's performance conditions over several years.

This plan aims to link his interests with those of the shareholders and takes into account all the components of the Chairman and Chief Executive Officer's remuneration. The full amount of the remuneration that could potentially be paid out in the future is subject to performance criteria that are both internal and external to the Company.

The par value amount of the remuneration, set at €2,200,000 (which corresponds to the sum of the fixed salary and the variable "target" remuneration for the 2010/11 fiscal year), will increase or decrease based on the successive application of the following criteria:

- performance of the price of the Alstom share compared to the performance of the Euro Stoxx Industrial Goods & Services Index measured by end December 2013, *i.e.* during the 2013/14 fiscal year.

The par value amount that can be acquired increases or decreases based on whether the performance of the share price is in the second, third, or fourth quartile of the share price performance of the securities in the index. No remuneration will be paid out under the plan if the performance of the share price of the Company is in the first quartile;

- Group's operating margin levels achieved at year-end of each of the three 2010/11, 2011/12, and 2012/13 fiscal years.

The amount calculated after applying the first criterion will be adjusted based on the achievement of predetermined operating margin levels for the Group corresponding to the performance criteria applied to the LTI No. 13 stock option and performance share plan granted to the managers of the Group;

- Total Shareholder Return (TSR) calculated over the period preceding the payment of the remuneration.

The amount resulting from the application of aforementioned criteria will be subject to upward or downward adjustment based on the yield recorded for shareholders since the grant date of the plan. This amount would be at most multiplied by 150% in the event that the TRS is higher than or equal to 15%. If the TSR is less than 5%, no Remuneration will be paid out under this plan.

The remuneration that could ultimately be paid out cannot exceed an amount equal to twice the par value amount of the plan. It can be paid out in 2014, 2015, or 2016, subject to the manager's continued employment with the Company.

The calculation of this deferred conditional remuneration, which will be carried out based on the above criteria, can be summarised as follows:

NOMINAL BONUS	X	EXTERNAL CRITERION	X	INTERNAL CRITERION	X	TSR CRITERION	=	FINAL RESULT
Fixed salary + variable portion of salary ("at target" amount) received in respect of fiscal year 2010/11		200% or 125% or 75% or 0		Operating Margin over the course of 3 fiscal years 0 to 100%		150% or 100% or 50% or 0		Capped at twice the fixed salary + variable portion of salary ("at target" amount) received in respect of fiscal year 2010/11

**Supplemental retirement scheme**

The Chairman and Chief Executive Officer also benefits from the supplemental collective retirement scheme implemented in 2004, and taken into account in the determination of his overall compensation. This scheme is composed of a defined contribution plan and a defined benefit plan.

The defined benefit plan covers all persons exercising functions within the Group in France whose base annual remuneration exceeds eight times the annual French social security ceiling. The rights under the plan are vested only if the beneficiary retires from the Company and after claiming his or her retirement rights. Even though the plan does not set any minimum seniority requirement to be met in order to benefit from it, the plan remains compliant with the intention behind the AFEP-MEDEF recommendation insofar as entitlements are acquired progressively per year of seniority, and only represent each year a limited

percentage of the compensation corresponding at maximum to a rate of 1.2% per year on a capped amount. The pension is determined by multiplying the replacement ratio based on the seniority by the fraction of the annual reference remuneration (*i.e.* the average of the last three fixed and variable annual remunerations) that exceeds eight times the annual French social security ceiling (€296,256 for the 2013 calendar year). The annual reference remuneration is capped at €2 million. Since 1 January 2008, this cap is subject to an annual revaluation in accordance with the evolution of the reference salary used to determine the AGIRC supplemental retirement scheme. As such, given his seniority within the Group, the Chairman and Chief Executive Officer could, when he retires, claim a replacement ratio of between 13% and 20% of this salary portion.

There has been no change to this supplemental collective retirement scheme during the fiscal year.



The defined benefit obligation for the defined benefits plan is equal to €8,425,000 as at 31 March 2013, including statutory retirement indemnities for retirement and an amount of €2,637,000 of taxes applicable to supplemental retirement schemes as increased since 1 January 2013.

The defined contribution plan complements the defined benefit plan. The rights are acquired annually and cannot exceed 16% of four times the annual ceiling of French social security. The amount of contributions paid by Alstom within the defined contribution plan, was €23,384 for fiscal year 2012/13.

### Severance payment and other benefits arising upon the termination of the mandate

At its meeting dated 28 June 2011, which took place after the General Shareholders' Meeting held on the same day, the Board of Directors that decided not to separate the functions of Chairman and Chief Executive Officer and to renew the term of office of Mr Patrick Kron as Chairman and Chief Executive Officer for the duration of his directorship, or until the end of the Ordinary Shareholders' Meeting called to approve the financial statements of the 2014/15 fiscal year, also decided that the commitments made to Mr Patrick Kron on 26 June 2007, as amended on 6 May 2008 and 4 May 2009 and approved by the General Shareholders' Meeting dated 23 June 2009, concerning benefits arising upon termination of the mandate, would be maintained without any change.

Consequently, the commitments discussed in Article L. 225-42-1 of the French Commercial Code, undertaken with regard to Mr Patrick Kron, Chairman and Chief Executive Officer, concern, as in the past, (i) the potential entitlement to the supplemental collective retirement pension scheme composed of a defined contribution plan and a defined benefit plan from which benefit all persons exercising functions within the Group in France, the base annual remuneration of which exceeds eight times the French Social Security cap, above mentioned, as well as (ii) the upholding, in the event of termination of his mandate as initiated by either the Company or himself, of only the rights to exercise the stock options and the rights to the delivery of the performance shares, that will have been definitively vested as of the end of his term of office following the fulfilment of the conditions set forth by the plans.

Since these commitments are the same as those granted on 26 June 2007, as amended on 6 May 2008 and 4 May 2009 and approved by the General Shareholders' Meeting dated 23 June 2009, concerning benefits arising upon termination of the mandate described in Article L. 225-42-1 of the French Commercial Code, the Board of Directors, at its meeting dated 28 June 2011, approved and authorised their renewal insofar as necessary. They were approved by the General Shareholders' Meeting on 26 June 2012 and are presented in the Statutory Auditors' special report.

TABLE FOR MONITORING THE IMPLEMENTATION OF THE AFEP-MEDEF CODE WITH RESPECT TO THE REMUNERATION OF EXECUTIVE DIRECTORS

Executive Directors as of 31 March 2013	Employment contract		Additional retirement pension scheme (*)		Indemnities or benefits owed or that could be owed due to termination or a change in work duties		Indemnities associated with a non compete clause	
	Yes	No	Yes	No	Yes	No	Yes	No
<b>Patrick Kron</b> Chairman and Chief Executive Officer Term of office began in: 2003 Term of office ends in: 2015		No	Yes			No		No
			(see above)			(see above)		

(\*) The additional pension plans in which the Executive Director (*dirigeant mandataire social*) participates are described above.

### Directors' fees paid to the Directors

The Directors do not receive any compensation other than an attendance allowance ("Directors' fees"). Since 1 April 2005, the Chairman of the Board of Directors waived his Directors' fees.

The Ordinary and Extraordinary Shareholders' Meeting of 22 June 2010 set at €900,000 the maximum annual amount of Directors' fees which can be distributed among the members of the Board of Directors. It will be proposed to the Ordinary and Extraordinary Shareholders' Meeting convened on 2 July 2013 to increase to €1,000,000 the maximum annual amount. This increase in the overall amount set three years ago is aimed at taking into account the evolution of the frequency of Board of Directors and Committee meetings, as well as the new terms and conditions affecting the allocation of Directors' fees applicable since 1 October 2012.

The Board of Directors sets the terms of granting the Directors' fees upon the Nominations and Remuneration Committee's proposal. The principles set in the Internal Rules of the Board is that the Directors' fees are made of a fixed part and of a variable part for attending the meetings of the Board or of the Committees and that the Chairmen of

the Committees are paid an additional fixed fee. Half of the fixed and variable parts are paid in the fiscal year concerned, while the balance is paid the following fiscal year.

According to the current terms of granting as modified by the Board of Directors as from 1 October 2012, the Directors' fees were made of a fixed part worth €27,500 paid to each Director (previously €22,500). The Chairman of the Audit Committee and each Chairman of the Nominations and Remuneration Committee and of the Ethics, Compliance and Sustainability Committee receive an additional amount of respectively €15,000 and €10,000 per year. In addition, each Director is paid €3,500 (previously €3,000) for attending the meetings of the Board and €3,000 for attending the meetings of the Committees of which she or he is a member.

Based on these terms, the total Directors' fees paid during fiscal year 2012/13 are €708,500 (€731,000 for the last fiscal year). The amount due in respect of the fiscal year represented approximately 86% (€773,000) of the maximum annual amount authorised. Half of the fixed and variable parts were paid in fiscal year 2012/13, while the balance was paid in fiscal year 2013/14.

## Summary tables of the remunerations of Executive and Non-Executive Directors pursuant to AFEP-MEDEF recommendations and to the AMF recommendations dated 22 December 2008

The whole gross compensation and benefits of any kind paid (or due) by the Company and the companies controlled by the Company to the Executive and Non-Executive Directors pursuant to Article L. 233-16 of the French Commercial Code as requested by Article L. 225-102-1 of the French Commercial Code are contained in the Tables 2 and 3 below:

**TABLE 1 – SUMMARY TABLE OF THE COMPENSATION, CONDITIONAL STOCK OPTIONS AND PERFORMANCE SHARES ACCRUING TO EACH EXECUTIVE DIRECTOR AS OF 31 MARCH 2013**

Patrick Kron Chairman and Chief Executive Officer	Fiscal year 2010/11 (in €)	Fiscal year 2011/12 (in €)	Fiscal year 2012/13 (in €)
Compensation due in respect of the fiscal year (detailed in table 2)	2,180,794	2,295,794	2,555,794
Valuation of the conditional stock options awarded during the fiscal year <sup>(1)</sup> (detailed in table 4)	- <sup>(2)</sup>	286,000	529,000
Valuation of the performance shares awarded during the fiscal year <sup>(1)</sup> (detailed in table 6)	- <sup>(2)</sup>	186,000	244,000
<b>TOTAL</b>	<b>2,180,794</b>	<b>2,767,794</b>	<b>3,328,794</b>

(1) These amounts correspond to the valuation of the stock options and performance shares according to IFRS 2, after taking into account a discount associated with the probability of presence within the Company and before taking into account the spread-out effect of the charge (see Note 21 to the consolidated financial statements as of 31 March 2013).

(2) The Chairman and Chief Executive Officer benefitted in fiscal year 2010/11 from a conditional long-term compensation plan determined on 13 December 2010 and linked to the Group's performances over several years (see page 189 above) for which an amount of €684,000 has been accounted for in the financial statements as of 31 March 2013.

**TABLE 2 – SUMMARY TABLE OF THE COMPENSATION OF EACH EXECUTIVE DIRECTOR AS OF 31 MARCH 2013**

Patrick Kron Chairman and Chief Executive Officer	Amounts for fiscal year 2010/11 (in €)		Amounts for fiscal year 2011/12 (in €)		Amounts for fiscal year 2012/13 (in €)	
	Due in respect of the fiscal year	Paid in during the fiscal year	Due in respect of the fiscal year	Paid in during the fiscal year	Due in respect of the fiscal year	Paid in during the fiscal year
• Fixed gross compensation	1,100,000	1,100,000	1,130,000	1,130,000	1,130,000	1,130,000
• Variable gross compensation <sup>(1)</sup>	1,075,000	1,000,000	1,160,000	1,075,000	1,420,000	1,160,000
• Extraordinary gross compensation	-	-	-	-	-	-
• Directors' fees <sup>(2)</sup>	-	-	-	-	-	-
• Fringe benefits <sup>(3)</sup>	5,794	5,794	5,794	5,794	5,794	5,794
<b>TOTAL</b>	<b>2,180,794</b>	<b>2,105,794</b>	<b>2,295,794</b>	<b>2,210,794</b>	<b>2,555,794</b>	<b>2,295,794</b>

(1) The variable compensation in respect of a fiscal year is paid on the following fiscal year. The criteria according to which the variable remuneration was calculated and the terms and conditions for setting the amount are described on page 187.

(2) Since 1 April 2005, the Chairman and Chief Executive Officer waived his Directors' fees.

(3) Company car.

TABLE 3 – NON-EXECUTIVE DIRECTOR'S FEES TABLE AS OF 31 MARCH 2013 <sup>(1)</sup>

Non-Executive Directors	Fiscal year 2011/12		Fiscal year 2012/13	
	Amounts due in respect of the fiscal year (in €)	Amounts paid in during the fiscal year (in €)	Amounts due in respect of the fiscal year (in €)	Amounts paid in during the fiscal year (in €)
Jean-Paul Béchat	76,500	70,500	72,000	67,500
Candace K. Beinecke	64,500	58,500	57,000	52,500
Olivier Bouygues	52,500	52,500	57,000	46,500
Georges Chodron de Courcel	49,500	49,500	54,000	46,500
Pascal Colombani	73,500	61,500	66,000	64,500
Lalita D. Gupte	61,500	51,750	57,000	52,500
Jean-Martin Folz	71,500	59,500	64,000	62,500
Gérard Hauser	58,500	58,500	57,000	46,500
Katrina Landis	61,500	48,750	51,000	49,500
James W. Leng	74,500	68,500	67,000	62,500
Klaus Mangold <sup>(2)</sup>	55,500	43,500	57,000	52,500
Alan Thomson	61,500	55,500	57,000	52,500
Bouygues <sup>(3)</sup>	58,500	52,500	57,000	52,500
<b>TOTAL</b>	<b>819,500</b>	<b>731,000</b>	<b>773,000</b>	<b>708,500</b>

(1) Gross amounts. The Non-Executive Directors do not receive any other compensation from the Company or companies of the Group, with the exception of Mr Klaus Mangold (see (2) below).

(2) Mr Klaus Mangold as Chairman of the Supervisory Board of a Group's German subsidiary since December 2010, is entitled to a gross annual remuneration set at €50,000.

(3) Director whose permanent representative is Mr Philippe Marien.

Half of the Director's fees distributed among the Non-Executive Directors are paid during the fiscal year (fees in respect of the first half of the fiscal year) and the remaining part during the following fiscal year (fees in respect of the second half of the fiscal year).

TABLE 4 – STOCK OPTIONS AWARDED DURING THE FISCAL YEAR 2012/13 TO EACH EXECUTIVE DIRECTOR AS OF 31 MARCH 2013 BY THE COMPANY AND BY THE GROUP

Options awarded to each Executive Director by the issuer or by the Group (nominative list)	Number and date of the plan	Nature of the options (purchase or subscription)	Valuation of the options according to the method used for the consolidated financial statements (in €)	Number of options awarded during the fiscal year	Exercise price (in €)	Exercise period
Patrick Kron Chairman and Chief Executive Officer	LTI plan No. 15 of 6 November 2012	Conditional stock options	529,000	100,000 <sup>(*)</sup>	27.70	From 10 December 2015 to 9 December 2020 (both dates included)

(\*) Entirely conditional allocation for which a portion of the shares to be subscribed is subject to a holding requirement until the expiry of Mr Patrick Kron's duties. As a result of the application of the first performance condition linked to the results of the 2012/13 fiscal year approved by the Board of Directors on 6 May 2013 (see Note 21 to the consolidated financial statements as of 31 March 2013), 10,000 stock options (10% of this initial number awarded) were cancelled and the final delivery of 30,000 options is as of today certain (i.e. 30% of the initial allocation). The remaining part will be subject to the results of fiscal years 2013/14 and 2014/15.

TABLE 5 – STOCK OPTIONS EXERCISED DURING FISCAL YEAR 2012/13 BY EACH EXECUTIVE DIRECTOR AS OF 31 MARCH 2013

Options exercised by the Executive Directors as of 31 March 2013 (nominative list)	Number and date of the plan	Number of options exercised during the fiscal year	Exercise price (in €)	Award year
Patrick Kron Chairman and Chief Executive Officer	None	-	-	-

The summary of the total number of stock options held by Mr Patrick Kron as of 6 May 2013 is the following:

	Number of options	Unit exercise price (in €)	Maturity date of options
Plan 2006 No. 9 <sup>(1)</sup>	240,000 <sup>(2)</sup>	37.33	27 September 2016
Plan 2007 No. 10 (LTI No. 10) <sup>(1)</sup>	115,000 <sup>(3)</sup>	67.50	24 September 2017
Plan 2009 No. 12 (LTI No. 12)	32,000 <sup>(3) (4)</sup>	49.98	20 September 2017
Plan 2011 No. 14 (LTI No. 14)	80,000 <sup>(3) (5)</sup>	26.39	3 October 2019
Plan 2012 No. 15 (LTI No. 15)	90,000 <sup>(3) (6)</sup>	27.70	9 December 2020

(1) Figures adjusted to take into account the two-for-one stock split completed on 7 July 2008.

(2) 144,000 options were conditional (condition completed as of 31 March 2008).

(3) 100% of the options are subject to Group's performance conditions and a portion of the shares subscribed as a result of these options are subject to a holding requirement until the expiry of Mr Patrick Kron's duties.

(4) Initially the allocation concerned 80,000 options. Following the closing of the 2011/12 fiscal year, 60% of these options were cancelled as a result of the application of the performance condition linked to the results of the 2011/12 fiscal year approved by the Board of Directors on 3 May 2012 (see Note 21 to the consolidated financial statements as of 31 March 2013). The number of remaining options is therefore equal to 32,000.

(5) Initially the allocation concerned 100,000 options. As a result of the application of the performance conditions linked to the results of the 2011/12 and 2012/13 fiscal years approved by the Board of Directors on 3 May 2012 and 6 May 2013 (see Note 21 to the consolidated financial statements as of 31 March 2013), 20,000 options (i.e. 20% of the initial allocation) were cancelled and 60,000 options (i.e. 60% of the initial allocation) are as of today vested. The remaining part will be subject to the results of fiscal year 2013/14.

(6) Initially the allocation concerned 100,000 options. As a result of the application of the first performance condition linked to the results of the 2012/13 fiscal year approved by the Board of Directors on 6 May 2013 (see Note 21 to the consolidated financial statements as of 31 March 2013), 10,000 options (i.e. 10% of the initial allocation) were cancelled and 30,000 options (i.e. 30% of the initial allocation) are as of today vested. The remaining part will be subject to the results of fiscal years 2013/14 and 2014/15.

The summary of all stock options plans appears on pages 209 and 210 of the Registration Document for the 2012/13 fiscal year filed with the AMF.

**TABLE 6 – PERFORMANCE SHARES AWARDED DURING THE FISCAL YEAR 2012/13 TO EACH EXECUTIVE DIRECTOR AS OF 31 MARCH 2013 BY THE COMPANY OR THE GROUP**

Performance shares awarded during the fiscal year to each Executive Director by the Company or the Group (nominative list)	Number and date of the plan	Number of shares awarded during the fiscal year	Valuation of the shares according to the method used for the consolidated financial statements (in €)	Acquisition date	Availability date
Patrick Kron Chairman and Chief Executive Officer	LTI plan No. 15 of 6 November 2012	10,000 <sup>(*)</sup>	244,000	The fifth business day following the day of publication of the 2014/15 consolidated accounts	2 years following the acquisition date subject to the holding requirement

(\*) Entirely conditional allocation for which a portion of the shares delivered is subject to a holding requirement until the expiry of Mr Patrick Kron's duties. As a result of the application of the first performance condition linked to the results of the 2012/13 fiscal year approved by the Board of Directors on 6 May 2013 (see Note 21 to the consolidated financial statements as of 31 March 2013), 1,000 rights to performance shares (10% of the initial number awarded) were cancelled and the final delivery of 3,000 shares is as of today certain (i.e. 30% of the initial allocation). The remaining part will be subject to the results of fiscal years 2013/14 and 2014/15.

The total numbers of rights to performance shares held by Mr Patrick Kron as of 6 May 2013 are as follows:

Plan	Number of performance shares	Valuation of the share (in €) <sup>(4)</sup>	Date of final delivery shares
Plan 2011 (LTI n° 14)	8 000 <sup>(1) (2)</sup>	18,60	The fifth business day following the day of publication of the 2013/14 consolidated accounts
Plan 2012 (LTI n° 15)	9 000 <sup>(1) (3)</sup>	24,40	The fifth business day following the day of publication of the 2014/15 consolidated accounts

(1) Entirely conditional allocations and a portion of the shares delivered is subject to a holding requirement until the expiry of Mr Patrick Kron's functions.

(2) As a result of the application of the performance conditions linked to the results of the 2011/2012 and 2012/13 fiscal years approved by the Board of Directors on 3 May 2012 and 6 May 2013 (See Note 21 to the consolidated financial statements as of 31 March 2013), 2,000 rights to performance shares (20% of the initial number) were cancelled and the final delivery of 6,000 shares (60% of the initial allocation) is as of today awarded. The remaining part will be subject to the results of fiscal year 2013/14.

(3) As a result of the application of the first performance condition linked to the results of the 2012/13 fiscal year and approved by the Board of Directors on 6 May 2013 (See Note 21 to the consolidated financial statements as of 31 March 2013), 1,000 rights to performance shares (10% of the initial number) were cancelled and the final delivery of 3,000 shares (30% of the initial allocation) is as of today awarded. The remaining part will be subject to the results of fiscal years 2013/14 and 2014/15.

(4) The amounts corresponds to the allocation of the performance shares according to IFRS 2, after taking into account a discount associated with the probability of presence within the Company and before taking into account the spread-out effect of the charge (see Note 21 to the consolidated financial statements as of 31 March 2013).

The summary of all performance shares plans appears on pages 212 and 213 of the Registration Document for the 2012/13 fiscal year filed with the AMF.

**TABLE 7 – PERFORMANCE SHARES THAT HAVE BECOME AVAILABLE DURING THE FISCAL YEAR FOR EACH EXECUTIVE DIRECTOR AS OF 31 MARCH 2013**

Performance shares that have become available for the Executive Directors (nominative list)	Number and date of the plan	Number of shares that have become available during the financial year	Acquisition terms	Delivery date
Patrick Kron Chairman and Chief Executive Officer	-	None	-	-

**Summary of the differences relative to the recommendations of the AFEP-MEDEF Code**

**Staggering the terms of office of Directors**

The Code states, *"The staggering of terms of office must be organized in such a way as to avoid a block renewal and to favour a harmonious renewal of Directors' terms of office."*

The terms of office have not been staggered as the renewal of such terms of office is distributed over three consecutive years.

(See paragraph Composition of the Board of Directors, page 167.)

**Time frame for the review of financial statements by the Audit Committee**

The Code states, *"The time frames for the review of the financial statements must sufficient (at least two days prior to their review by the Board of Directors)."*

This recommendation cannot be complied with. However, draft versions of the financial statements are sent to Directors very early in the review process.

Indeed "Given the travelling requirements foreign Directors are faced with, Audit Committee meetings are usually held the day prior to Board meetings and not two days ahead as recommended by the AFEP-MEDEF Code, subject to certain exceptions, on the basis of documents that have already been sent to participants (a week before the meeting). However, with respect to the approval of the annual financial statements, it happened that the Audit Committee met several days before the Board meeting."

(See paragraphs "Information to be supplied to Directors" and "Board Committees" pages 180.)

**Exercise of stock options by Executive Directors**

The Code states, *"Time frames preceding the publication of the financial statements must be set, during which stock options cannot be exercised."*

It has not been considered appropriate to prohibit during these periods, the sole exercise of stock options as the acquisition of the shares is made at a price which has been predetermined on the grant date and the shares are not sold.

(See paragraph "Allocation of conditional stock options and/or performance shares", pages 179 and 188.)

**Supplemental Retirement Scheme**

The Code states, *"...the beneficiaries must satisfy reasonable conditions of employee seniority within the Company, set by the Board of the Directors or the Management Board."*

Even though the plan does not set any minimum seniority requirement to be met in order to benefit from it, the plan remains compliant with the intention behind the AFEP-MEDEF recommendation insofar as entitlements are acquired progressively per year of seniority, and only represent each year a limited percentage of the compensation corresponding at maximum to a rate of 1.2% per year on a capped amount.

(See paragraph "Supplemental retirement Scheme" page 189.)

**Participation at Shareholders' Meetings**

Any shareholder has the right to participate at Shareholders' Meetings under the conditions set forth by law and in Article 15 of the Company's by-laws. The provisions of Article 15 of the By-laws appear on page 285 of the Registration Document for the 2012/13 fiscal year filed with the AMF and posted online on the Company's website.

Generally speaking, the members of the Board of Directors are present at Shareholders' Meetings.

**Elements that could have an impact in the event of a tender offer**

These elements of the Board of Directors' report to the Shareholders' Meeting set forth by Article L. 225-100-3 of the French Commercial Code appear on pages 298 and 299 of the Registration Document for the 2012/13 fiscal year filed with the AMF.

## INTERNAL CONTROL AND RISK MANAGEMENT PROCEDURES' REPORT

As part of its operational activities, the ALSTOM Group is confronted by a number of risks both external and internal, as stated in the Risks Factors section of the Registration Document 2012/13 filed with the *Autorité des marchés financiers* ("AMF") (see page 155).

It has therefore put in place an organisation, procedures and processes with the objective of identifying, quantifying and mitigating risks, and allocating resources to control risks in accordance with its business objectives both strategic and operational.

The present part of the report was prepared with the contributions from the Internal Audit and Internal Control Department, the Finance function including the Tenders & Projects Control Department, the Information Systems and Technology Department, the Human Resources Department, the Legal Department, the Ethics & Compliance Department, the Environmental, Health & Safety Department and the Sector Research & Development Departments.

### Perimeter of internal control

The internal control system described herein covers the parent company ALSTOM and all its consolidated companies (the "Group" or "Alstom").

### Reference framework

The Group has put in place a system of internal control procedures and evaluations initially based on control guidelines prepared by a recognised body, COSO (Committee of Sponsoring Organisations of the Treadway Commission).

The procedures are compliant with AMF "Reference Frame work" published in July 2010.

### Objectives

The system of internal control put in place provides reasonable assurance that:

- the Group's Internal Rules and instructions including applicable laws and regulations are complied with at all times;
- information is complete, accurate and to the required quality, particularly financial information;
- operations are completed in an optimal manner and internal control processes are effective, particularly those concerning the safeguard of assets;
- achievement of business objectives are reached with identification and control of risk;
- the risk of fraud is minimised; and
- controls, including controls over risks, are widely understood at all levels within the Group and appropriate actions are taken to mitigate and minimise these risks.

Internal control consists of five inter-related components, which have been implemented within the Group:

- control environment covering integrity, ethics, competencies, authorities, responsibilities and staff development;
- risk assessment including the identification, analysis and minimisation of relevant risks;
- control activities, namely policies and procedures that ensure that Management's instructions are applied;
- information and reporting: information must be identified, captured and communicated in a format and timeframe to enable the relevant persons to carry out their responsibilities; and
- monitoring, including internal check and internal control procedures as well as internal audit: a process that assesses the quality of the systems performance over time and within a defined schedule.

By essence, an internal control system cannot provide a guarantee that such risks have been totally eliminated. It must bring them down to an acceptable level.

### Components of internal control

#### Control environment

##### Organisation

The Group has put in place a structured organisation which is responsible for defining the internal control requirements, writing the Internal Control Manual, producing and updating as required the Internal Control Questionnaire and monitoring globally the results.

Where internal control weaknesses are identified, detailed action plans to correct the weaknesses in a timely manner are put in place with the support of the Sector Internal Control teams, and overseen by the central Internal Control team under the responsibility of the Senior Vice President of Internal Control.

A community of experts in internal control composed of the central and Sector Internal Control teams with relays in the reporting units ("unit") has been developed. This group communicates regularly to share good practices and drive the required change management. Moreover, each Sector President defines the internal organisation of his Sector in a way that ensures efficiency and performance of the businesses.

Businesses are themselves composed of a certain number of units each headed by a Managing and Finance Director responsible and accountable for their affairs including the control environment. In addition, a continuous improvement approach is taken with internal control regularly monitored at business review meetings.



### Group Instructions and codes

The Group's control environment is governed by a series of Group Instructions that constitute the body of Internal Rules (the "Group Instructions") and are posted on the Group's intranet website.

The Group Instructions deal with issues of importance throughout the Company and are mandatory for the whole Group, including Sectors, businesses, units, countries and functions. Once a Group instruction is issued, all units must ensure that any pre-existing procedures, policies, directives or other communications at any level are revised to comply with the said Corporate Instruction.

The Group Instructions define the Group's management organisation as well as the responsibilities and organisation of the various functions within the Group. They also require compliance with the Group's Code of Ethics, Internal Control Manual and Reporting and Accounting Manual.

Since its listing on stock exchange, the Group has implemented a Group Instruction which includes a Code of Conduct for preventing insider dealing. This code defines the situations where concerned persons must refrain from making any transactions on the Company's securities. In its appendix, this Code includes a reminder of the legal provisions and sanctions. The Code, which is regularly updated (most recently in May 2011), is applicable to all managers and employees of Alstom who have regular or occasional access to inside information (defined as "insiders").

It is available on the Group's intranet and sent to all new insiders of whom the Company keeps an updated list. These persons are kept informed and must confirm receipt of their registration on the list of insiders.

This information includes the Group Instruction and Code of Conduct, along with the schedule of the general blackout periods during which the securities cannot be traded. The persons are also kept informed when they are removed from the list.

The Group has a Code of Ethics that applies to every employee within the Group. The Code of Ethics was reviewed, updated and published in March 2010 and has been translated in 21 languages, English, French, Arabic, Chinese, Croatian, Czech, Dutch, Finnish, German, Greek, Hungarian, Indonesian, Italian, Japanese, Polish, Portuguese (Portugal and Brazil), Romanian, Russian, Spanish, Turkish. Additional languages can be added upon request. Its distribution targets each employee and the Group also promotes it to its external stakeholders.

It is designed to promote honest and ethical conduct with all stakeholders: customers, suppliers and sub-contractors, competitors, shareholders, governments, regulatory authorities and the public. Every employee within the Group is accountable for respecting the principles and rules of the Code of Ethics.

The Code of Ethics prescribes fundamental rules of conduct, relating in particular to:

- full compliance with laws, regulations and requirements in all countries where the Group operates;
- prevention of corruption and prohibition of all unlawful payments and practices;

- fair and open competition and prohibition of agreements with competitors; and
- internal control and disclosure of information, to ensure the quality and reliability of financial information.

The Code of Ethics prescribes essential rules of conduct with regards to the relationships with business partners, Alstom commitments as a socially responsible company, human resources policies and commitment in protecting the Group's assets.

Topics addressed include the way Alstom deals with customers, suppliers, business advisors, governments, export and trade controls, money laundering, conflicts of interest, gifts and hospitality, political contributions, charitable contributions, sponsorship, protection of the Environment, Health and Safety, security of employees, social relations, equal opportunity and diversity, career management of employees, data privacy, confidential information, intellectual property, use of communication resources, insider dealing and communication with the media and investors.

In addition, the Code of Ethics details the Alert Procedure which allows any employee to report violations of prevention of corruption, competition and securities and accounting laws and regulations.

It introduces the Alstom Integrity Programme, implemented and monitored throughout the Group under the responsibility of the Senior Vice President Ethics & Compliance.

It refers to the Group Instructions, which treat in more detail the defined rules and procedures put in place to ensure the compliance with its fundamental principles and values.

The Code of Ethics is available on Alstom's website ([www.alstom.com/ethics](http://www.alstom.com/ethics)).

### Internal Control Manual & Reporting and Accounting Manual

The Internal Control Manual defines the requirements, instructions and necessary practices to create and maintain a satisfactory control environment and covers over Group financial reporting. The Internal Control Manual is posted on Alstom's intranet site and is regularly updated.

The Internal Control Manual contains a number of principles that are mandatory and to be complied with at all times by all business units, notably:

- segregation of duties with internal check to be performed at all times;
- delegation of authorities, mandatory on all units.

The management of the respective entity, unit, business, Sector, country or Corporate is responsible for developing, implementing, operating and monitoring systems of internal control in compliance with the Internal Control Manual and for providing assurance that it has done so.

The Reporting and Accounting Manual defines the Group's policies and procedures regarding accounting and consolidation, definition of main financial indicators, reporting process and three-year plan, budget and forecasting processes.



## Training

As part of the Internal Control project initiated in 2005, approximately 1,500 persons were trained on internal control. An extensive communication exercise has been undertaken to ensure that the requirements and basics of internal control are widely understood.

In Latin America, five specific trainings on Internal Control trained a hundred of participants mainly from Shared Service Finance functions. Additional sessions on one day basis have been achieved in China, India and Malaysia.

The training sessions on internal control are part of a continuous improvement initiative which involves Sectors, including the Alstom International Network and Corporate personnel.

While the training programme on internal control has concentrated mainly on the finance community, an e-learning module specifically targeting the non-finance community has been developed.

## Risk assessment & risk management process

### Objectives

Since fiscal year 2006/07, a yearly risk assessment review is undertaken, as part of the annual budget and three-year plan process, to deepen the knowledge of risks of every nature within the Group and update the cartography of risks.

The objective is to identify, analyse and to anticipate, the significant risks of the Group, and measure their evolution. And to ensure that the main identified risks are taken into account by the Group and to be sure that the mitigation tools implemented are efficient in order to control and to reduce these risks.

The risk assessment review was prepared with the contributions of the four Sectors and of the Corporate functions including the Sectors' management teams, the internal audit and Internal Control Department, the finance function including the Departments Tenders & Projects Control, Information Systems and Technology, Human Resources, Legal, Ethics & Compliance and Environment Health & Safety.

Corporate role is to ensure overall coordination between risk assessment owners.

### Evaluation

The update of the cartography of risks and the main characteristics of the risk management system are presented every year to both the Audit Committee and the Board of Directors.

The Ethics, Compliance and Sustainability development Committee reviews the cartography of risks regarding ethics, compliance, sustainable development and social responsibility in order to advise Audit Committee about identified risks and existing risks prevention process.

The risk assessment process allows the Group to take into consideration the impact that potential events may have on the achievement of business objectives.

Such events are considered from two perspectives, likelihood and impact. Likelihood represents the possibility that a given event will occur and impact represents its effect. A combination of qualitative and quantitative methods is used in making the assessment.

The cartography of risks exercise also allows to confirm that the appropriate insurance have been subscribed with regards to the insurable risks (see "Insurance" in the Risks section of the Registration Document 2012/13 filed with the AMF).

By essence, risk assessment process cannot provide a guarantee that Group's objectives will be totally achieved.

## Risk management

Under the coordination of the Internal Control Department, Sectors and Corporate functions update the risk assessment as part of the budget and three-year plan process.

For each Sector, the risk assessment is approved by the management team under the control of the Sector President. Risk assessment for transverse Corporate activities is made by the relevant Senior Corporate officer.

Group, Sector and Corporate risk maps are reviewed and approved by the Risk Committee under the Chairmanship of the Chairman and Chief Executive Officer.

Each Sector President is responsible for the effective management of risks within his Sector. In addition, functional Vice Presidents (within finance, legal, human resources, ethics and compliance...) are responsible for managing risks pertaining to their own processes.

## Monitoring of internal control

Unit Management has the responsibility of maintaining internal control at all times. An Internal Control Questionnaire (or "self-assessment questionnaire") has been developed which differentiates requirements to units based on their contribution to the Group's financial statements, using a risk based approach and covering the Group consolidation perimeter.

Where the results of the self-assessment questionnaire indicate that controls are not at the required level, corrective action plans are required to be put in place. The progress of action plans is regularly followed up. The self-assessment questionnaire results are approved by unit Management (Finance and Managing Directors) and are subject to review both by quality reviewers at Sector level and by Internal Audit. The results are presented annually to the Audit Committee.

Good practices identified during this self-assessment process are promoted and broadcasted on intranet Sectors sites in order to ensure a large information coverage to the units.

During October 2012 self-assessment questionnaire review, more than 5,000 users have been mobilised and also Internal Control Department comprised of 36 persons including 4 IT specialists brought support to the units.

## Main actors of internal control and risk management

### Main actors of internal control

#### Senior Management

The Chairman and Chief Executive Officer is responsible for the internal control and risk management systems and for ensuring that internal control and risk management procedures are designed and operated effectively within the Group. Management is responsible for developing, operating and monitoring the systems of internal control and for providing necessary assurance that it has done so.

#### Audit Committee

The Audit Committee reviews and evaluates twice a year the internal control procedures including those relating to financial information, contributing to the preparation of the financial statements of the Group. A review and evaluation of the cartography of risks, including risk assessment and risk management is also made.

Within the Audit Committee, the scope of planned internal audit activities is reviewed in advance and the Internal Audit Department develops a multi-year plan and determines the allocation of resources.

The Audit Committee provides a report to the Board of Directors. For more information regarding the Audit Committee, see the first part of the corporate governance report.

### Disclosure Committees

The Chairman and Chief Executive Officer and the Chief Financial Officer have established Disclosure Committees at Corporate and Sector levels in order to assist them in evaluating the effectiveness of the Group's disclosure controls and procedures that are designed to ensure that material financial and other information required to be disclosed is recorded, processed, summarised and reported on a timely basis and that appropriate information is communicated to Management to allow timely decisions.

The Corporate Disclosure Committee is composed of the Chief Financial Officer, the General Counsel, the Senior Vice President of Internal Control, the Group Controller, the Vice President Tenders & Projects Control, and a member of each of the Sector Managements.

Each Sector has established its own Disclosure Committee, which reports to the Corporate Disclosure Committee as to the results of its review of the disclosure controls and procedures, and on its evaluation of the effectiveness within its Sector.

The Group Corporate Disclosure Committee met twice during fiscal year 2012/13 under the Chairmanship of the Chief Financial Officer. The consolidated financial statements for the fiscal year ended 31 March 2012 and the Management and other financial information disclosed in the Annual Report were reviewed. The interim consolidated financial statements for the six-month period to 30 September 2012 were reviewed.

In the reviews of the consolidated financial statements the Committee considered the disclosures made to determine and confirm their relevance, accuracy, completeness and presentations.

### Finance function

The finance function controls business, operations and projects to optimise the Group's profitability and cash generation whilst providing internal and external stakeholders with reliable information including financial information.

The finance function defines the Group's principles and financial policies in terms of tenders and projects control, funding, treasury, internal control, accounting, tax and management control, designs and leads key financial processes.

More specifically, the Accounting and Management Control Department is responsible for designing and issuing the relevant accounting procedures, ensuring that they are in compliance with accounting principles and policies, analysing Group performance and forecast, and producing consolidated and parent company financial statements, as well as financial information for external stakeholders.

The Tax Department defines the overall tax policy and planning for the Group and ensures proper compliance with regard to tax returns and payments.

### Internal Audit Department

The Senior Vice President of Internal Audit, who is in charge of a 28-member Department, reports to the Chairman and Chief Executive Officer and works in close cooperation with the Chief Financial Officer, the General Counsel and with the Senior Vice President Ethics and Compliance.

Since 2009, competencies in information systems have been developed, and since 2009 the headcount of the second office in Kuala Lumpur (Malaysia) has been reinforced. Since 2008, the Internal Control function is under the supervision of the Senior Vice President of Internal Audit to increase synergies between internal control and internal audit.

The main role of the Internal Audit Department is to advise the Chairman and Chief Executive Officer and the Audit Committee on the adequacy and effectiveness of the internal control system in all phases of the Group's business. The Internal Audit Department operates in accordance with the terms of an Internal Audit Charter approved by the Audit Committee and has authority to examine any and all aspects of operations.

In particular, the Internal Audit Department evaluates controls that promote:

- compliance with applicable laws and with internal policies and procedures;
- physical safeguarding of assets including risk identification;
- availability, reliability, integrity, confidentiality of information and reporting; and
- efficiency of business processes, functions, and activities.

Internal Audit may participate in specific assignments such as acquisition and disposal operations, information system implementation, assistance mission or investigations. An additional role is to recommend improvement in Group's procedures and whenever possible promote good practices.

The Internal Audit Department takes into account the cartography of risks and risk profiles in assessing its audit programmes.

After each internal audit assignment, a report is issued setting out the audit findings and recommendations. The results are also summarised in the bi-annual internal audit reports, which are presented to the Audit Committee on the overall results of the internal audits as well as on any other matter which affects internal control. These reports provide the basis for the Audit Committee to review the effectiveness of the Internal Audit Department work.

ALSTOM Internal Audit was awarded IFACI certification in October 2007 which was renewed in December 2010 for a 3-year period. IFACI is the French branch of the international Institute of Internal Auditors (IIA). The certification demonstrates that Alstom Internal Audit is compliant with the IIA standards, including independence and objectivity, proficiency and due professional care, quality assurance and improvement programme, nature of work, communication of results.

### Internal Control Department

The Internal Control function at Group level is responsible for promoting and coordinating all actions and projects aiming at defining the Group's requirements in terms of internal control, and updating the Internal Control Manual and Internal Control Questionnaire. It is also in charge of following the global results of the self-assessment campaigns, the main deficiencies identified in the Group's internal control and their respective action plans.

The Group Internal Control Department is relayed in each Sector by a team of professionals in internal control.

The Sector Internal Control teams assist unit and business management in implementing internal control rules and instructions, remediating deficiencies, and improving in general the internal control level. They closely follow the results of the self-assessment campaigns, participate to the major projects of their respective Sector (such as the implementation of a new information system or integration of new entities) in order to bring in their expertise, and propose various initiatives to address internal control challenges specific to their Sector.

In December 2010, the Internal Control Department was awarded on behalf of Alstom the "Great Prize of Internal Control" by IFACI.

### Ethics & Compliance Department

Ethics and Compliance stands as a top priority for Alstom, and the Department has the responsibility of the Alstom Integrity Programme aiming at implementing the culture of integrity as well as the application of all the rules in relation to Business Ethics and Personal Integrity.

In September 2010, the Board of Directors created the Ethics, Compliance and Sustainability Committee ("EC&S Committee"). Since its creation, it is comprised of three independent Directors.

The EC&S Committee reviews Alstom's policies on ethics and compliance matters and the systems and procedures in place to effectuate these policies and provides the Board of Directors with its views. Alstom Senior Vice President Ethics & Compliance is secretary for the Ethics and Compliance part.

The main role of Ethics & Compliance at Group and Sector level is to:

- promote and explain Alstom's culture of integrity ensuring that the highest standards of integrity and ethics are applied throughout the Group;
- ensure compliance with international and national laws and regulations, and with Alstom policies;
- prevent all illegal activities and unlawful payments;
- control the process of qualification of business advisor proposed by the Sectors in relation to the development of business and sales, and monitor the corresponding due diligence;
- implement all necessary rules and policies; and
- monitor the performance of the Alstom Integrity Programme on a continuous basis.

The Ethics & Compliance Department comprises 34 people. Ethics & Compliance has full authority and independence through its reporting to the Group General Counsel. Moreover, the Senior Vice President Ethics & Compliance has a direct access to ALSTOM Chairman and Chief Executive Officer and to the EC&S Committee. The Senior Vice President Ethics & Compliance is then fully independent and has an unfiltered access to the governing authorities of Alstom.

In addition to the Senior Vice President Ethics & Compliance, the Ethics & Compliance Department comprises a Compliance Officer in charge of the Alstom Integrity Programme Development, a Compliance Officer in charge of the Due Diligence and a Compliance Officer in charge of Checking & Control of the payment to business advisors.

The Sector Compliance Officers in charge of the application of the Ethics & Compliance policy in their Sectors report directly to the Senior Vice President Ethics & Compliance with a functional reporting to the respective Sector General Counsel. Compliance Officers are also appointed in countries where Group activities are important. In 2013, three new Compliance Officers have been appointed respectively in Germany, Mexico and the United-Kingdom.

The Sector Compliance Process Managers, dealing with the process in relation to the qualification of business advisors and resellers, report functionally to their respective Sector Compliance Officer.

To reinforce the resources of Ethics & Compliance, a community of approximately 300 Ethics & Compliance Ambassadors as of today, all volunteers to promote the integrity culture of the Group, exists since May 2010.

The Ethics & Compliance Ambassadors have a direct contact to Ethics & Compliance, who provides them with the appropriate support and tools in their mission. All the E&C Ambassadors were trained. Since 2010 they animated E&C Awareness sessions, gathering more than 2,500 people and have launched many initiatives contributing to the promotion of ethics and compliance in their respective countries.

Ethics & Compliance liaises regularly with Alstom Corporate functions in particular Legal, Finance, Internal Audit, Human Resources and Communication to better determine and promote Alstom ethical principles throughout the whole organisation.

During fiscal year 2012/13, approximately 2,200 employees have been trained on ethics and compliance, bringing the total population trained worldwide to approximately 9,500 people since the launch of the training programme in 2006. In addition, 700 employees selected by the Sectors and Corporate have also completed the e-learning modules on both Prevention of Corruption and Competition Law during the past fiscal year.

To ensure that all Managers and Professionals in the Group understand and adhere to the principles expressed in the Code of Ethics, the e-learning module called e-Ethics has been launched in all countries. The completion of the module is mandatory for all Managers & Professionals. In March 2012, it was officially deployed within Grid Sector. As of end of March 2013, approximately 49,500 employees have completed e-Ethics. In addition, meetings with small groups of people animated by the Senior Vice President E&C and the Sector Compliance Officers have been developed to discuss the ethical challenges they face, share ideas to solve them and thus reinforce the integrity culture of Alstom.

Extensive communications have been deployed for employees and external stakeholders.

For employees:

- a dedicated, and regularly updated section on Altair, Alstom's intranet, called "Ethics & Compliance", containing not only the E&C Instructions but also information on Prevention of Corruption and Competition Law compliance, and a monthly Newsletter;
- regular news in Alstom's weekly newspaper, Newsflash and articles in local internal newspaper, whether at country or site levels; and
- posters displayed in all locations.

For external stakeholders:

- a dedicated section, entitled "Ethics" on Alstom's internet web site, [www.alstom.com](http://www.alstom.com). In this section, all the versions of the Code of Ethics are available and can be downloaded, and the E&C Principles relating to Gifts & Hospitality, Political Contributions, Charitable Contributions, Sponsorship, Conflicts of Interests, Consulting companies, business advisors and resellers.

On 12 September 2011, the Alstom Integrity Programme received from ETHIC Intelligence a valid two years certificate, see paragraph "Risk in relation with internal trade" hereafter.

### Information Systems function

The Information Systems and Technology (IS&T) function is composed of Group and Sectors Information Systems (IS) Departments and Information Technology Shared Service Centers (ITSSC). Its main mission is to provide IS&T solutions and services aiming to:

- support Alstom businesses, operations and projects;
- meet the strategic evolution of the Group, support business efficiency, process excellence and overall Sectors productivity using optimised and innovative technology in a cost effective, secure and compliant way.

In October 2012, the Chief Information Officer (CIO) and IS&T Executive Committee launched the IS&T 2015 Programme. The IS&T 2015 Programme aims at making IS&T solution integrator and innovative business partner for the Group by focusing on three main pillars: added value to the businesses, quality of service and IS&T cost efficiency. As part of this programme, some initiatives have been launched to reinforce IS&T internal control:

- IT assets management centralisation;
- infrastructures upgrade (WAN, LAN, telephony);
- decommissioning of legacy systems;
- new tool deployment for shared drive access; and
- segregation of duties mitigation through GRC software package (Governance Risk and Compliance) deployment.

In terms of organisation, ITSSC is now covering all Sectors (including Grid) and countries where Alstom operates.

The new governance bodies reinforce the Group's ability to address the IS&T risk through a central monitoring of Group systems and Infrastructure, and a better control of IS&T activities. A Strategy and Transformation Department assists the CIO to control Company-wide elements, to set IS&T principles, architecture, processes and rules, and to enforce common practices, services and standards.

## Management of specific risks

### Risks in relation to contracts

#### Corporate Risk Committee

The Corporate Risk Committee is chaired by the Chairman and Chief Executive Officer and aims to report on the main project risks both at tender stage and during execution, as well as internal audit results and other specific matters.

The Corporate Risk Committee is composed of the Chairman and Chief Executive Officer, the Sectors' Presidents, the Chief Financial Officer, the General Counsel, the Senior Vice President of Internal Audit, the Senior Vice President Alstom International Network, the Senior Vice President Project and Export Finance and the Vice President Tenders and Projects Control, and meets on a monthly basis in order to:

- highlight risks essentially from major tenders reviewed in the preceding month and exceeding €50 million or deviating from defined criteria. The tenders reviewed by the Tenders & Projects Control Department are required to be approved by the Chairman and Chief Executive Officer or the Chief Financial Officer before the bid date;
- be briefed on the project reviews particularly those attended by the Tenders & Projects Control Department during the preceding month;
- review matters reported by Internal Audit, the International Network Department; and/or Project and Export Finance Department;
- be briefed on specific concerns and topics (e.g. cartography of risks, bidding policy for specific sensitive countries) which may arise from time to time and have an impact on the Sectors activities.

As the Internal Control Manual specifies that the Sectors project reviews held must be minuted and held every three months for contracts which could have a major effect on the relevant unit's financial performance, or every six months in other circumstances.

In a similar way, each Sector has established risk review procedures, which are consistent with the Group's principles. In particular, the relevant Sector's Management must be advised of:

- important changes occurring after tender submission regarding tender assumptions and of the related impact on the assessment of relevant risks;
- material changes within project execution which could impinge significantly on the project result.

The Sector risk review procedures on tenders include a checklist of major risk elements to be systematically addressed. These elements include in particular, but are not limited to: customer profile, project contractual organisation and partnership, supplier/subcontracting risk, technical & technology risk, costs solidity, project schedule, contract terms & conditions, payment security, bank guarantees, foreign exchange exposure, country risk, tax aspects, bid financials (selling price, margins, risks & opportunities, provisions, project cash profile, etc.).

The implementation of the procedures and the formalisation of the review and approvals are supported in each Sector by a specific reporting and validation tool.

### Risks in relation to financial markets

#### Corporate funding & treasury

The Funding and Treasury Department defines rules and procedures regarding cash management, currency risk hedging, as well as bonds and guarantees. In addition, it manages the related risks (market, liquidity, foreign exchange and interest rate), the relationships with subsidiaries, the cash pooling structure and the netting process.

The central organisation facilitates the financial risk management as all financial transactions are performed or at least supervised by the Corporate front-office and under the control of a strictly independent middle office. The Funding and Treasury Department is solely entitled to raise loans and invest cash surplus except when local regulations do not permit it. In such cases, the involvement and approval from the Funding and Treasury Department remain mandatory before any commitment.

It has also defined a detailed list of authorised banks which the units are allowed to deal with. For further information regarding the management of financial risk, see Note 25 to the consolidated financial statements for the fiscal year ended 31 March 2013.

#### Corporate Pension Committee

Pensions and other employee benefits are governed and monitored by the Corporate Pension Committee which is composed of the Corporate Treasury, Consolidation and Compensation & Benefits functions, according to the following principles:

- assets/liabilities management approach so that only risks necessary to cover Alstom's liabilities are taken;
- simplicity in the investment strategy to ensure visibility on the portfolio risk;
- a global policy on employee benefits to address principles for pension plan design, funding & investment, administration and governance;
- a responsibility chart whereby changes to plan design, funding & investment and administration must be authorised by designated Corporate officers.

The Committee holds quarterly meetings to monitor the schemes' evolution.

#### Risks in relation to international trade

##### Ethics & Compliance Department

The Group may use business advisors in order to build competitive sales offers.

Such a diversified company as Alstom, serving complex worldwide markets, cannot only rely on its own sales resources. Depending on the circumstances, the Sectors may need to complement their knowledge, their expertise and/or their sales resources by hiring reputed lobbyists or business advisors who are committed to act with integrity and to comply with Alstom rules as well as the international and local laws.

To be in a position to control the relationship between a business advisor and a Sector, Group Instructions have been established and are checked by the Ethics & Compliance Department. Alstom has deployed all its efforts since early 2000 to strengthen its internal procedures, increasing centralisation of control. In this respect the Ethics & Compliance Department has introduced and implemented clear and transparent procedures, ensuring they are strictly applied in the operational Sectors and ensuring the use of external investigation tools and means to check the integrity and competence of appointed business advisors.

The rules and procedure to manage the relationship with business advisors were granted a certificate in March 2009 by the company ETHIC Intelligence after an audit conducted by the Swiss company SGS.

As a next step, three certifications have been undertaken in 2011 by ETHIC Intelligence:

- the renewal of the certification of the procedure for business advisors for Thermal Power, Renewable Power and Transport, granted for two years in March 2009. The certificate was awarded on 8 April 2011;
- the certification of the "sales intermediaries" policy for Grid. The certificate was awarded on 17 May 2011; and
- the certification of the Alstom Integrity Programme as a whole, started in June 2011. The certificate was awarded on 12 September 2011.

In December 2011, to have a comprehensive and harmonised policy to deal for all Sectors, after Grid's integration, an updated version have been published and widely communicated in the Group.

#### Legal risks

##### Legal function

The Legal Function is responsible for monitoring and mitigating risks arising out of the activities of the Group, as well participating in the Group's efforts to ensure full compliance with applicable laws and the Alstom Code of Ethics. Legal is comprised of Sector Legal Departments, Country Counsels and the Corporate Legal Department.

The Sector Legal Departments are headed by a General Counsel, who report functionally to the Group General Counsel and operationally to his Sector President. The Sector Legal Departments are responsible for handling legal matters for their Sector. They are in particular involved in the negotiation of contracts, from tendering to signature. They also participate in contract management risks and legal support throughout the project execution.

The main risks in relation to contract performance are presented in the Risks Factors section of the Registration Document 2012/13 filed with the AMF.

The Country Counsels, appointed in several countries where the Group is present, provide legal support to one or more Sectors and are responsible for corporate law matters in their country. The Country Counsels report functionally to the Group General Counsel and to senior members of the legal function and operationally to their Country President.

The Corporate Legal Department is headed by the Group General Counsel, reporting to the Chief Executive Officer. The Corporate Legal Department provides legal assistance to the Board of Directors and senior management, to other corporate functions, Sectors and Countries, as appropriate, in dispute resolution, acquisitions and disposals of businesses, finance and stock market law, insurance, intellectual property, competition law, sourcing and criminal law. The Ethics & Compliance Department reports to the Group General Counsel.

The Group General Counsel attends all Board, Audit, and EC&S Committees meetings to which he provides on a regular basis an update on ongoing legal proceedings and investigations.



The Corporate Legal Department handles notably major disputes affecting the whole Group and compliance matters involving criminal investigations. It monitors the Group exposure reporting relating to disputes and prepare the Group Annual Litigation Report concerning the status of the main potential and pending law suits which is submitted annually to the Corporate Disclosure Committee, the Audit Committee and the Group Statutory Auditors. Legal provides at all levels of the Group (Sector, Country, Corporate) training on the management of legal risks.

The major legal risks and disputes are presented respectively in the Risks Factors section and Note 28.2 to the Consolidated Financial Statements of Registration Document 2012/13 filed with the AMF.

### Risks in relation to Environment, Health and Safety (EHS)

The Corporate Environment, Health, Safety (EHS) Department is responsible for defining and following environment, health and working safety policy. It is supported in its mission by EHS managers network at Sectors, businesses and sites levels to ensure deployment of the policy.

Based on the Group EHS roadmap internal and external assessors network validate EHS actions and advice on deployment plans.

Through the programme the Group seeks to:

- ensure high standard level of monitoring industrial risks at least equal or above local regulations;
- evaluate environment and employee health impact of new industrial processes prior implementation, as well as, discontinuation of existing processes;
- develop a continuous improvement process to reduce energy consumption and natural resources and to minimize risks related to waste and pollution;
- ensure to its employees, suppliers and contractors, involved in contract execution the best protection regarding safety and health.

A particular attention is given to high risks activities performed by Group employees, suppliers or contractors during contracts execution. A specific prevention plan is supervised by the Group VP EHS aiming to reduce the occurrence of severe accidents. This plan is regularly reported to the Executive Committee and the EC&S Committee of the Board ("Zero deviation plan").

The assets & business interruption management is designed to minimise exposure to loss or damage and to ensure business continuity. This includes exposure to fire, breakdown, and natural catastrophes, as well as theft or deliberate damage.

External specialized assessors are regularly proceeding to audit and self-evaluation of fire prevention and natural disasters.

The EHS coordination guarantees the consistency of the prevention programmes at a central level and the EHS Roadmap update. The EHS performance indicators are gathered on a regular basis by a reporting system covering all the business and operational centres in order to guide the risk management approach.

During fiscal year 2012/13, 263 EHS audits were performed, of which 154 were made in the plan to reduce serious accidents and control of high-risk activities: "Zero Deviation Plan" and conducted by internal auditors specifically trained. In addition, each site has achieved a monthly self-evaluation based on the safety guidelines of the plan.

By 31 March 2013, 97% of the industrials sites over 200 people have been ISO 14001 certified.

### Risks in relation to the design and use of complex technology

The management of risks related to the design and use of complex technology is governed by an instruction that defines how Alstom manages development of goods and services, in particular the mandatory gate reviews to be held along each development phase from technology to product development and contract execution.

Each Sector has developed and implemented its own procedures and organisation to manage the R&D process in compliance with the Group instruction.

In Transport Sector, the Technology Approval Board validates new technologies and new architectures to be employed in the development of a product/system.

The Development Review Board governs up-stream product development for Platforms, ensuring that product/system developments meet quality/cost/delivery performances. All gate reviews of the technology and product phases are validated by the above Boards. A Gate Review Dashboard allows to monitor the progress of the gate reviews through a centralised tool.

In Thermal Power and Renewable Power Sectors, an R&D Investment Board is in charge that the Power development portfolio is reviewed and controlled.

The Technology function is responsible for deploying and implementing processes to make sure that R&D programs are executed timely achieving the specified performance and within budget and that appropriate reporting is done.

In Grid Sector, each Business is responsible for identifying the risks associated with the projects, as well as defining the means used to mitigate and eliminate these risks, in respect of Grid Quality processes.

Technology Development Quality process, which applies to new technologies, is supervised by Steering Committees involving R&D and Marketing management at the Sector, Business and Product Line levels.

### Main identified risks related to use of complex technology

The use of complex technologies exposes the Group to a number of risks, and functions as R&D and Engineering implemented mitigation plans to reduce, anticipate and contain their effects.

In the Thermal Power Sector, industrial & technology risk related to turnkey plants is mainly emphasized by the:

- use of mature technology but evolving in a specific configuration where operation and performance require an adaptation of the components;
- choice of new suppliers which requires confirmation of technology mastering;
- risk exposure of major component failure or low performing equipment delivered by external suppliers, several approaches have been put into place aiming to reduce probability of risk occurring and potential impact.

The response to risk regarding the use of complex technology has been also differentiated based on the type of component involved.

New developments and upgrades have been validated throughout testing in our laboratories, test centres and on sites as scaled and full size models: model test for steam turbines and test power plant for the large gas turbine products is available. Tests are accomplished to validate the performance defined by the client.

A platform and modularisation initiative is being established to substantially increase the reuse of subsystems and modules to improve quality, reduce costs and lead time, resulting in lower overall risk.

In the Renewable Sector, in the area of hydraulic components supply, the main risk is generated by the environment and the way water flows to the equipment. In such unsteady conditions the turbine has to deliver a specified performance.

In order to reduce that risk, model processes have been put in place to optimise the hydraulic shape with the aim to obtain a validation of the prototype by the client. This reduces the risk of technology problems further into project execution. Mechanical elements are designed following mature technologies, and the design evolves based on the contract performances defined by the contract. Quality tests are performed on the electrical systems at the various manufacturing steps.

In the Grid Sector, R&D processes are based on several steps (pre-studies, R&D and validation) closed by a gate review achieved by the product line management and Sector for major projects. This reduces the risk from complex and new technologies. A R&D white book gathering tools, controls and good practices has been implemented.

Risks related to conception and use of complex technologies have been managed at several levels:

- standards are designed and applied by the competency centres across the product and production sites;
- identification process to manage the risk during the development and engineering phase.

In the Transport Sector, risks occurring due to complex technologies are evaluated during each step of the R&D process. The validation steps of the new technologies allow the creation of new standards that reduce risks arising in new projects.

Concerning Transport Information Systems (TIS) Activity risks can be related to availability of the new systems and the products sold to customers, or can be related to the performance of delivered security systems such as high density traffic management systems. In order to meet the situation TIS has put in place, a strict methodology of development, validation qualification and certification of its products which aims to ensure integrity and safety of operation for products.

Technological, industrial, and contractual risks can occur when R&D competencies are commonly executed with a third party mainly during two main steps:

- innovative technology collaboration;
- licensing on technologies and products.

In both cases the choice of the scientific, technical, or manufacturing third party partner is significant and is subject to a strict evaluation.

All Sectors are managing the risks of complex technologies through various mechanisms across all stages of technology and R&D development through to project execution. This is an ongoing improvement process. However, the risk assessment process in place is not a full guarantee that all objectives of managing risk at Group level can be achieved.

## Procedures for the production of the Group financial statements and other accounting and financial information

The accounts of reporting units are prepared in accordance with the Group's accounting policies. The data is then adjusted, where necessary, to produce the local statutory and tax accounts. An integrated consolidation software is used for both management reporting purposes and also to produce the Group financial statements. The 2008 release of the consolidation software further facilitates the reconciliation between contract data and financial reporting.

The main reporting processes facilitate consolidation of financial data to produce the consolidated financial statements and forecast data, as well as regular management information.

### Accounting standards

The consolidated financial statements are prepared in accordance with IFRS as adopted by the European Union. The consolidated financial statements comply with accounting policies as detailed in Note 2 of the consolidated financial statements at 31 March 2013.

### Accounts closing process

The reporting units produce monthly statements which are used to determine the Group's monthly operating income, cash flow and balance sheet.

### Role of the Group's Accounting and Management Control Department

The list of entities to be accounted for by the equity or proportionate methods or fully consolidated is drawn up by the Group's Accounting and Management Control Department. This Department also checks the quality of the reporting packages submitted by the units, focusing primarily on inter-company eliminations, and the accounting treatment of non-recurring transactions for the period, and movements between the opening and closing balance sheet used to prepare the statement of cash flows and reconciliations between legal entities and reporting entities.



The Department also checks the results of procedures, including foreign exchange, inter-company eliminations, transfers to minority interests and recognition of the effects of changes in scope of consolidation.

The Group's consolidated financial statements are also analysed in detail, to understand and check the main contributions by Sectors, businesses or subsidiaries, as well as the transactions reflected in the accounts.

### Financial information and reporting

Application and compliance with these principles, rules and procedures are under the direct responsibility of each unit Finance Director. All Finance Directors report directly to the financial officers of the relevant business and Sector and ultimately to the Group Chief Financial Officer. Unit Finance Directors must ensure that information provided via the Group accounting and reporting information system covering the complete Group perimeter; reflects required disclosures, the results of the period and the financial position at the end of the period.

The preparation of the consolidated financial statements in conformity with IFRS requires management to make various estimates and use assumptions regarded as realistic and reasonable. These estimates or assumptions could affect the value of the Group's assets, liabilities, equity, net profit and contingent assets and liabilities at the date of the

financial statements. Management reviews estimates on an on-going basis using currently available information. Actual results may differ from those estimates, due to changes in facts and circumstances. For more information regarding the use of estimates and critical accounting policies, see Note 2.2 to the consolidated financial statements for the fiscal year ended 31 March 2013.

Estimates of future cash flows reflect Management's current best estimate of the probable outflow of financial resources that will be required to settle contractual obligations. The estimates are therefore subject to change, due to changes in circumstances surrounding the execution of contracts.

Management regularly reviews the effectiveness of internal control over financial reporting, in particular to ensure the timeliness and accuracy of accounting for transactions and assets in circulation, it verifies that transactions have been recorded consistently, in accordance with IFRS as applied by the Group and as set out in the Reporting and Accounting Manual.

Levallois-Perret, 6 May 2013  
The Chairman of the Board of Directors

# EXECUTIVE COMMITTEE

## COMPOSITION AS OF 6 MAY 2013

The Executive Committee is composed of the following persons:

	Main Function	Entered Executive Committee Date	Age
Patrick Kron	Chairman and Chief Executive Officer	January 2003	59
Philippe Cochet	Executive Vice President; President of Thermal Power Sector	July 2011	53
Jérôme Péresse	Executive Vice President; President of Renewable Power Sector	July 2011	46
Henri Poupart-Lafarge	Executive Vice President; President of Transport Sector	October 2004	44
Grégoire Poux-Guillaume	Executive Vice President; President of Grid Sector	July 2011	43
Nicolas Tissot	Chief Financial Officer	May 2010	45
Keith Carr	General Counsel	July 2011	47
Bruno Guillemet	Senior Vice President Human Resources	July 2011	56

The Executive Committee met 11 times during the fiscal year.

## COMPENSATION OF MEMBERS OF THE EXECUTIVE COMMITTEE

The compensation of the Executive Committee members, excluding the Chairman and Chief Executive Officer, is decided annually by the Chairman and Chief Executive Officer and reviewed by the Nominations and Remuneration Committee. It consists of a fixed component and a variable component tied to the realisation of performance objectives determined at the beginning of the fiscal year.

For fiscal year 2012/13, the variable compensation is tied on the one hand, to the realisation of Group objectives related to free cash flow, operational margin and the level of margin in the backlog and also to the same objectives related to their only Sector for Sectors' Presidents, and on the other hand, to the realisation of specific objectives for each Sector or function. These specific objectives refer to the programmes of priority actions included in the budgets and strategic plans, and are evaluated by the Nominations and Remuneration Committee.

For Sector Presidents, if the set objectives are met, the financial objectives represent 36% and the specific objectives 24% of the annual base salary. The financial objectives can vary in a 0-72% range, and the specific objectives can vary in a 0-24% range, depending on performance. Therefore, their variable salary varies in a 0-96% range of their annual fixed salary.

For functional officers, if the set objectives are met, the financial objectives represent 30% and the specific objectives 20% of the annual base salary. The financial objectives can vary in a 0-60% range, and the specific objectives can vary in a 0-20% range, depending on performance. Therefore, their variable salary varies in a 0-80% range of their annual fixed salary.

Total compensation packages are tied to both the Company's financial performance and individual and team contributions. They are based on best practices within the industry, compensation surveys and advice from specialised international counsels.

The overall amount of the gross compensation due to the members of the Executive Committee, excluding the Chairman and Chief Executive Officer's remuneration detailed on page 187, by the Company and the companies controlled by the Company within the meaning of Article L. 233-16 of the French Commercial Code in respect of fiscal year 2012/13 amounted to €5,377,000. The fixed component represents €3,157,000 (seven members of the Executive Committee concerned as of 31 March 2013, excluding the Chairman and Chief Executive Officer) and the variable component linked to the results of fiscal year 2012/13 represents €2,220,000 (seven members of the Executive Committee concerned as of 31 March 2013, excluding the Chairman and Chief Executive Officer).

The total corresponding amount paid in respect of fiscal year 2011/12 to the members of the Executive Committee (seven members of the Executive Committee concerned as of 31 March 2012 of which two were present in the Group for nine months only, excluding the Chairman and Chief Executive Officer) was €4,532,000.

The members of the Executive Committee benefit from supplementary retirement schemes (defined contribution plan and defined benefit plan). The total amount of the defined benefit obligation as of 31 March 2013 for the members of the Executive Committee (except for the Chairman and Chief Executive Officer) is €3,871,000 including the legal retirement indemnities plus the taxes applicable to supplemental retirement schemes as increased since 1 January 2013. The total amount of contributions paid by the Group, within the defined contribution plan, was €124,620 for the fiscal year 2012/13 (excluding the Chairman and Chief Executive Officer).

There are no amounts set aside or accrued to provide specific benefits to members of the Executive Committee (including the Chairman and Chief Executive Officer) other than amounts to provide pension or similar benefits.

# STATUTORY AUDITORS' REPORT PREPARED IN ACCORDANCE WITH ARTICLE L. 225-235 OF THE FRENCH COMMERCIAL CODE ON THE REPORT PREPARED BY THE CHAIRMAN OF THE BOARD OF ALSTOM

Year ended 31 March 2013

*This is a free translation into English of the Statutory Auditors' report issued in the French language and is provided solely for the convenience of English speaking readers. This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.*

To the Shareholders,

In our capacity as Statutory Auditors of Alstom, and in accordance with Article L. 225-235 of the French Commercial Code, we hereby report to you on the report prepared by the Chairman of your Company in accordance with Article L. 225-37 of the French Commercial Code for the year ended 31 March 2013.

It is the Chairman's responsibility to prepare, and submit to the Board of Directors for approval, a report describing the internal control and risk management procedures implemented by the Company and providing the other information required by Article L. 225-37 of the French Commercial Code in particular relating to corporate governance.

It is our responsibility:

- to report to you our observations on the information set out in the Chairman's report on internal control and risk management procedures relating to the preparation and processing of financial and accounting information; and
- to attest that the report sets out the other information required by Article L. 225-37 of the French Commercial Code, it being specified that it is not our responsibility to assess the fairness of this information.

We conducted our work in accordance with professional standards applicable in France.

## Information concerning the internal control and risk management procedures relating to the preparation and processing of financial and accounting information

The professional standards require that we perform procedures to assess the fairness of the information on internal control and risk management procedures relating to the preparation and processing of financial and accounting information set out in the Chairman's report. These procedures mainly consisted of:

- obtaining an understanding of the internal control and risk management procedures relating to the preparation and processing of financial and accounting information on which the information presented in the Chairman's report is based, and of the existing documentation;
- obtaining an understanding of the work performed to support the information given in the report and of the existing documentation;
- determining if any material weaknesses in the internal control procedures relating to the preparation and processing of financial and accounting information that we may have identified in the course of our work are properly described in the Chairman's report.

On the basis of our work, we have no matters to report on the information given on internal control and risk management procedures relating to the preparation and processing of financial and accounting information, set out in the Chairman of the Board's report, prepared in accordance with Article L. 225-37 of the French Commercial Code.

## Other information

We attest that the Chairman's report sets out the other information required by Article L. 225-37 of the French Commercial Code.

Neuilly-sur-Seine and Courbevoie, 7 May 2013

The Statutory Auditors

PricewaterhouseCoopers Audit  
Olivier Lotz

Mazars  
Thierry Colin

# INTERESTS OF THE OFFICERS AND EMPLOYEES IN THE SHARE CAPITAL

## STOCK OPTIONS AND PERFORMANCE SHARE PLANS

### Granting policy

Generally every year, the Company sets up a stock options plan in France and outside France within the framework of the authorisation granted by the General Shareholders' Meeting.

The Board of Directors grants stock options plans upon the proposal of the Nominations and Remuneration Committee, which reviews all terms of these plans, including the granting criteria. The awards are made with a regular frequency, at the end of September each year. Exceptionally, the awards of the 2010 plan (LTI plan No. 13) and 2012 plan (LTI plan No. 15) were allocated in December due to the matters on the agenda of the end September Board meetings.

Through the Long-term Incentive Plans that were put in place starting in the 2007/08 fiscal year, the Board of Directors wanted to combine the allocation of stock options with the free allocation of shares and subject the exercise of all stock options and the delivery of all shares to identical performance conditions and attendance requirements (please refer to the characteristics of these plans, as set forth in subsequent pages).

The respective proportions of stock options and performance shares allocated vary according to beneficiaries' level of responsibility, it being specified that the proportion of stock options increases as responsibility levels increase. With respect to the lowest hierarchical positions, only performance shares are allocated in this way within the framework of the LTI plans offered since fiscal year 2008/09.

Beneficiaries of stock options and performance shares are generally selected among the executives of profit centres, functional executives, country presidents, managers of large projects and, more generally, holders of key salaried positions in the Company and its subsidiaries, which have made a significant contribution to the Group's results.

For the LTI plan No. 15 allocated during fiscal year 2012/13, the number of beneficiaries (1,763 people) corresponds to around 2% of total Group's employees (same rate since 2004).

Apart from the members of the Executive Committee, the choice of beneficiaries and the number of options and performance shares granted are based on the level of responsibilities and job performance of each person. Individual grants of members of the Executive Committee are based on the level of responsibilities and are in line with market practice. Their grants are made within the plan put in place annually; the characteristics of the options and/or performance shares granted to members of the Executive Committee are similar to those of all the other grants.

The long term incentive plan (LTI No. 15) of 6 November 2012 granted on 10 December 2012 bears on a total amount of conditional stock options (1,312,690 stock options granted) and free performance shares (781,540 allocation rights granted) corresponding to respectively 0.43% and 0.25%, of the share capital as of the grant date, and a total of 0.68% of the share capital.

The previous long term incentive plan (LTI No. 14 of 14 October 2011) bears on a total amount of conditional stock options (1,369,180 stock options granted) and rights to performance shares (804,040 allocation rights granted) corresponding to respectively 0.46% and 0.27% of the share capital as of the grant date, and a total of 0.74% of the share capital.

Executive Committee's members (excluding the Chairman and Chief Executive Officer) received in 2012, 240,000 conditional stock options and 33,000 free performance shares representing 13% of the total number of options and free performance shares granted.

For information on the allocation to the Chairman and Chief Executive Officer, see section Compensation of Executive and Non-Executive Directors of the Chairman's report (see pages 188 and 189).

The Company reserves the right to set up new plans in the future combining allotment of stock options and free shares, for amounts based on the level of responsibilities and job performance of the beneficiaries. As done in the past, the Company may continue to make the exercise of all or part of the future grants conditional to the achievement of performance conditions linked to the Group's financial objectives.

### Main characteristics of the stock options

- Frequency: annual allocation at the end of September or early October of each year. In 2010 and 2012, the allocations have been exceptionally completed in December.
- No discount: yes.
- Term of the options: 8 years (since the LTI plan No. 12).
- Exercise deferral: 3 years.
- Shares can be sold: at expiration of a 4-year period for French residents (3-year period for non French residents).
- Performance conditions: yes (since fiscal year 2006/07, all options are granted subject to Group performance conditions to be met as of the end of the third fiscal year or of each of the three fiscal years – the latter applies to the three last plans – ended following the grant date).
- Holding requirement: yes, for the members of the Executive Committee since fiscal year 2007/08 (see below).

For each plan, the options' subscription price, determined by the Board when the Board of Directors grants the options, has no discount. It corresponds to the average price of the shares during the twenty trading days preceding the day when the Board of Directors grants the options.

The option life of the plans was ten years and has been reduced to eight years as from the LTI plan No. 12 granted on 21 September 2009. The options are generally exercisable at the expiry of a vesting period of three years as from the grant date. In France, beneficiaries shall also keep the shares subscribed up until the expiry of a four-year period following the grant date of the plan.

Since 2006, all the options granted are conditional and submitted to the achievement of demanding and pre-determined internal performance conditions set forth in the table below.

The performance condition retained since 2006 is the future operating margin level of the Group, which is the same criterion used for performance shares and the objectives of the Group.

For the long term incentive plan (LTI No. 15) granted during fiscal year 2012/13, the requirement to achieve predetermined Group operating margin levels for fiscal years 2012/13, 2013/14 and 2014/15, which are set to improve gradually over the 3-year period and are coherent with the Group's three-year plan, has been complemented by the requirement to preclude any negative free cash flow in respect of each three of the fiscal years (See Note 21 to the consolidated financial statements for fiscal year 2012/13).

As of today, it was not considered appropriate to add to these internal performance criteria, an external criteria based on the performance of the Group compared to those of competitors whose scopes are not directly comparable.

The exercise of options is also subject to the beneficiary's presence within the Group, with some exceptions.

## Main characteristics of the performance shares

- Frequency: annual allocation at the end of September of each year. In 2010 and 2012 the plans have been exceptionally completed in December.
- Performance requirement: yes, the final allocation of all shares is contingent upon the satisfaction of Group performance requirements as of the end of the third fiscal year or of each of the three fiscal years – the latter applies to the three last plans – ended following the grant date.
- Final allocation: once in full at expiration of approximately a 3-year term for French residents and of a 4-year term for non French residents.
- Holding requirement: 2 years for French residents.
- Specific holding requirement for members of the Executive Committee: yes since fiscal year 2007/08 (see below).

Generally speaking, the shares are allocated following an acquisition period of around three years following the date upon which the Board of Directors allocated the shares in France or four years outside of France, subject to satisfying performance requirements linked to the Company. These are new shares to be issued at the moment of their final allocation by deduction from the reserves.

The definitive allocation of the performance shares to beneficiaries within the LTI plans granted since 2007, is subject to the same conditions

associated with the Group's performance at the end of or over a three-fiscal year period as the exercise of the conditional stock options. The definitive allocation is also subject to conditions associated with the executive's presence within the Group, save in exceptional cases as provided for in the plan.

The LTI plan No. 15 granted on 10 December 2012 renders the percentage of effective allocation of the shares subject to the achievement of predetermined Group's operating margin levels for the fiscal years 2012/13, 2013/14 and 2014/15 and requires the absence of a negative free cash flow for each fiscal year, as for the conditional stock options (see Note 21 to the consolidated financial statements for fiscal year 2012/13).

While subject to these set conditions being satisfied, the definitive allocation of shares under the LTI plan No. 15 can occur (with the exception of the occurrence of an early definitive allocation) following an acquisition period ending, for beneficiaries residing in France, on the day the Group's consolidated financial results for the 2014/15 fiscal year are published and, for the beneficiaries who do not reside in France, four years following the date upon which the Board of Directors allocated the shares, subject to the beneficiaries' presence within the Group, save in exceptional cases as provided for in the plan.

## Requirement to hold the shares applicable to members of the Executive Committee – Rules of conduct

For each plan since the 2007 plan (LTI No. 10), the Board of Directors determines the custody requirements applicable to executive and Non-Executive Directors (*mandataires sociaux*), which have also been made applicable to beneficiaries who are members of the Executive Committee.

Therefore, for the entire period of time during which they perform their duties, such beneficiaries must hold, in registered form, a number of shares resulting from the exercise of options and the free allocation granted within these plans and corresponding to 25% of the theoretical net gain (after taxes and social security withholdings) calculated on each date of exercise of options and on the effective date of allocation of the performance shares.

Moreover, rules of conduct applicable within the Group in case inside information is held, prevent any sale of shares during periods preceding the approval of the Group's results and more generally when inside information is held. Any request to exercise stock options is subject to prior authorisation of the Human Resources Department in order to monitor compliance with the blackout trading periods by beneficiaries registered on the Group's insiders lists (see also pages 178 and 179). In addition to this lock-up requirement applicable only to insiders, specific legal obligations are also applicable to all recipients of performance shares, irrespective of whether or not they hold the status of insider. Such obligations preclude them from selling any performance shares during certain periods determined by law.

## Summary of the main characteristics of the stock options plans granted outstanding at the end of fiscal year 2012/13

The total number of options that could be exercised according to the outstanding plans corresponds to 2.72% of the share capital as of 31 March 2013 (subject to achievement of the performance conditions linked to fiscal years 2013/14 and 2014/15 – see Note 21 to the consolidated financial statements as of 31 March 2013).

The main characteristics of all stocks option plans implemented by the Company and outstanding as of 31 March 2013 are summarised below. No other company of the Group has implemented stocks option plans giving right to the Company's shares.

	Plan No. 7 (conditional options)	Plan No. 8	Plan No. 9 (conditional options)	Plan No. 10 included in plan LTI No. 10 (conditional options)	Plan No. 12 included in plan LTI No. 12 (conditional options)	Plan No. 13 included in plan LTI No. 13 (conditional options)	Plan No. 14 included in plan LTI No. 14 (conditional options)	Plan No. 15 included in plan LTI No. 15 (conditional options)
Date of Shareholders' Meeting	9 July 2004	9 July 2004	9 July 2004	26 June 2007	26 June 2007	22 June 2010	22 June 2010	22 June 2010
Date of Board meeting	17 Sept. 2004	27 Sept. 2005	28 Sept. 2006	25 Sept. 2007	21 Sept. 2009	13 Dec. 2010	4 Oct. 2011	6 Nov. 2012
Initial exercise price <sup>(1)</sup>	€17.20	€35.75	€74.66	€135	€49.98	€33.14	€26.39	€27.70
Adjusted exercise price <sup>(2)</sup>	€8.60	€17.88	€37.33	€67.50	-	-	-	-
Beginning of stock options exercise period	17 Sept. 2007	27 Sept. 2008	28 Sept. 2009	25 Sept. 2010	21 Sept. 2012	13 Dec. 2013	4 Oct. 2014	10 Dec. 2015
Expiry date	16 Sept. 2014	26 Sept. 2015	27 Sept. 2016	24 Sept. 2017	20 Sept. 2017	12 Dec. 2018	3 Oct. 2019	9 Dec. 2020
Number of beneficiaries	1,007	1,030	1,053	1,196	436	528	514	538
Total number of options (adjusted if any) <sup>(2)</sup>	5,566,000	2,803,000	3,367,500	1,697,200	871,350 <sup>(4)</sup>	1,235,120 <sup>(5)</sup>	1,369,180 <sup>(6)</sup>	1,312,690
Total number of exercised options	4,707,109	1,834,271	526,967	1,000	-	-	-	-
Total number of cancelled options <sup>(2)</sup>	417,200	268,500	388,744	226,500	552,570	281,039	267,652	6,910
Number of remaining options to be exercised as of 31 March 2013 <sup>(2)</sup>	441,691	700,229	2,451,789	1,469,700	318,780	954,081 <sup>(7)</sup>	1,101,528 <sup>(7)</sup>	1,305,780 <sup>(7)</sup>
Percentage of capital as of 31 March 2013 that may be created	0.143%	0.227%	0.796%	0.477%	0.103%	0.31% <sup>(7)</sup>	0.357% <sup>(7)</sup>	0.424% <sup>(7)</sup>
Number of shares that may be subscribed as of 31 March 2013 by members of the Executive Committee <sup>(2) (3)</sup>	9,572	8,000	325,000	171,100	50,100	120,735 <sup>(7)</sup>	337,500 <sup>(7)</sup>	340,000 <sup>(7)</sup>
of which number of shares that may be subscribed by Mr Patrick Kron as of 31 March 2013	-	-	240,000	115,000	32,000	-	90,000 <sup>(7)</sup>	100,000 <sup>(7)</sup>

(1) Subscription price without discount corresponding to the average opening price of the shares during the 20 trading days preceding the day on which the options were granted by the Board. For plan No. 7, the initial exercise price has been multiplied by 40 to take account of the Company's share consolidation of 3 August 2005.

(2) Option plan No. 7 have been adjusted to consider the Company's share consolidation of 3 August 2005: a new share with a nominal value of €14 for 40 old shares with a nominal value of €0.35. Then option plans No. 7, 8, 9 and 10 have been adjusted to take into account the two-for-one split in the par value from €14 to €7 as of 7 July 2008.

(3) Refers to members of the Executive Committee as of 31 March 2013 and not to members as of the grand date.

(4) 60% of the options initially granted were cancelled upon application of the performance condition linked to the results of the 2011/12 fiscal year (see Note 21 to the consolidated financial statements as of 31 March 2013).

(5) 10% of the options originally granted were cancelled upon application of the performance conditions linked to the results of fiscal years 2010/11 and 2011/12.

(6) 10% of these options were cancelled upon the application of the performance condition linked to the results of the 2011/12 fiscal year (See Note 21 to the consolidated financial statements as of 31 March 2013).

(7) After the 2012/13 fiscal year ended, 10% of these options were cancelled upon the application of the performance condition linked to the results of the 2012/13 fiscal year approved by the Board of Directors on 6 May 2013 (See Note 21 to the consolidated financial statements of 31 March 2013).

TERMS OF EXERCISE/PERFORMANCE CONDITIONS <sup>(8)</sup> <sup>(9)</sup>

Plan No. 7 (conditional options)	Plan No. 8	Plan No. 9 (conditional options)	Plan No. 10 included in plan LTI No. 10 (conditional options)	Plan No. 12 Included in plan LTI No. 12 (conditional options)	Plan No. 13 Included in plan LTI No. 13 (conditional options)	Plan No. 14 included in plan LTI No. 14 (conditional options)	Plan No. 15 included in plan LTI No. 15 (conditional options)
<ul style="list-style-type: none"> <li>100% of options can be exercised from 17/09/2007, upon the following conditions being met: the exercise of 50% of options granted was conditional to two targets being met at the 2005/06 financial year closing; the targets have been met: a positive free cash flow of the Group and a Group operating margin above or equal to 5% as per IFRS rules.</li> </ul>	<ul style="list-style-type: none"> <li>100% of options can be exercised from 27/09/2008.</li> </ul>	<ul style="list-style-type: none"> <li>100% of options can be exercised from 28/09/2009 if the 2007/08 Group operating margin (the "2007/08 Margin") is equal or above 7.5%.</li> <li>80% of options can be exercised if the 2007/08 Margin is between 7% (included) and 7.5% (excluded).</li> <li>40% of options can be exercised if the 2007/08 Margin is below 7%.</li> </ul> <p><b>Performance condition met:</b> 100% of the options exercisable as from 28/09/2009.</p>	<ul style="list-style-type: none"> <li>100% of options can be exercised from 25/09/2010 if the 2009/10 Group operating margin (the "2009/10 Margin") is equal or above 8.5%.</li> <li>80% of options can be exercised if the 2009/10 Margin is between 8% (included) and 8.5% (excluded).</li> <li>40% of options can be exercised if the 2009/10 Margin is between 7.5% (included) and 8% (excluded).</li> <li>No option can be exercised if the 2009/10 Margin is below 7.5%.</li> </ul> <p><b>Performance condition met:</b> 100% of the options exercisable as from 25/09/2010.</p>	<ul style="list-style-type: none"> <li>100% of options can be exercised from 21/09/2012 if the 2011/12 Group operating margin (the "2011/12 Margin") is equal or above 8.7%.</li> <li>80% of options can be exercised if the 2011/12 Margin is between 8.2% (included) and 8.7% (excluded).</li> <li>60% of options can be exercised if the 2011/12 Margin is between 7.2% (included) and 8.2% (excluded).</li> <li>40% of options can be exercised if the 2011/12 Margin is between 6.5% (included) and 7.2% (excluded).</li> <li>No option can be exercised if the 2011/12 Margin is below 6.5%.</li> </ul> <p><b>Performance condition met:</b> Only 40% of the options initially granted are exercisable as from 21/09/2012.</p>	<ul style="list-style-type: none"> <li>The percentage of options which can be exercised from 13/12/2013 will vary according to predetermined levels of the Group's operating margin for the 2010/11, 2011/12 and 2012/13 fiscal years (the "Margins").</li> <li>100% of options can be exercised if the Margins are equal or above 7.5%.</li> <li>No option can be exercised if the Margins are below 6.5%.</li> </ul> <p>For more details, refer to Note 21 to the consolidated financial statements as of 31 March 2013.</p> <p><b>Performance conditions met:</b> Only 80% of the options initially granted will be exercisable as from 13/12/2013.</p>	<ul style="list-style-type: none"> <li>The percentage of options which can be exercised from 04/10/2014 will vary according to predetermined levels of the Group's operating margin for the 2011/12, 2012/13 and 2013/14 fiscal years (the "Margins").</li> <li>100% of options can be exercised if the Margins are equal or above 7.5%.</li> <li>No option can be exercised if the Margins are below 6.5%.</li> </ul> <p>For more details, refer to Note 21 to the consolidated financial statements as of 31 March 2013.</p> <p><b>Status of achievement:</b> As of today 60% of the options are vested and 20% are cancelled based on the performance condition linked to the results of fiscal years 2011/12 and 2012/13. The remaining options will be subject to the results of fiscal year 2013/14.</p>	<ul style="list-style-type: none"> <li>The percentage of options which can be exercised from 10/12/2015 will vary according to predetermined Group's operating margin levels for the 2012/13, 2013/14 and 2014/15 fiscal years (the "Margins") and requires a free cash flow ("FCF") above or equal to 0 for each fiscal year.</li> <li>100% of options can be exercised if the Margins are equal or above predetermined levels and the FCF is above or equal to 0 for each fiscal year.</li> <li>No option can be exercised if the Margins are below 7% or the free cash flows are negative.</li> </ul> <p>For more details, refer to Note 21 to the consolidated financial statements as of 31 March 2013.</p> <p><b>Status of achievement:</b> As of today 30% of the options are vested and 10% are cancelled based on the performance condition linked to the results of fiscal year 2012/13. The remaining options will be subject to the results of fiscal years 2013/14 and 2014/15.</p>

(8) The exercise is also subject to employment condition within the Group unless exception.

(9) The thresholds of the operating margin for fiscal year 2011/12 referred to in LTI No. 12 have been adjusted by the Board of Directors to take into account the temporary dilutive impact of the integration of Grid (see Note 21 to the financial statements as of 31 March 2011).



Plans No. 3 and No. 5, granted in 2001 and 2005 respectively, expired during fiscal year 2009/10. No option was exercised under these plans. Plan No. 6 granted in 2003 expired during fiscal year 2010/11. Plan LTI No. 11 became entirely null and void as the performance conditions linked to the results of fiscal year 2010/11 were not achieved. No option has been exercised under this plan.

Only 40% of the stock options offered under LTI plan No. 12 are exercisable upon application of the performance condition of the plan.

After the 2012/13 fiscal year-end, 10% of the stock options offered in the context of LTI plans No. 13, No. 14 and No. 15 were cancelled following application of the performance condition linked to the results of the 2012/13 fiscal year approved by the Board of Directors on 6 May 2013 (see Note 21 to the consolidated financial statements as of 31 March 2013). As a result, only 80% of the stock options offered in the context of LTI plan No. 13 will be exercisable as from 13 December 2013.

### Conditional stock options granted to Alstom's Executive and Non-Executive Directors (*mandataires sociaux*) during fiscal year 2012/13 and options exercised by them

The total number of options granted during fiscal year 2012/13 under plan LTI No. 15 to Mr Patrick Kron, Chairman and Chief Executive Officer of the Company and the only Executive Director (*dirigeant mandataire social*) of the Company as of 31 March 2013, is provided in the Compensation of Executive and Non-Executive Directors (*mandataires sociaux*) section of the Chairman's report (see pages 189 and 192). No options were exercised by him during fiscal year 2012/13.

The Company has granted no options to any other *mandataire social* during fiscal year 2012/13.

### Stock options exercised during fiscal year 2012/13 by the ten employees who are not Alstom's Executive or Non-Executive Directors and who exercised the largest number of options

	Number of shares subscribed (*)	Average share price (*) (in €)
Total number of options exercised during the fiscal year by the ten first employees who are not Executive or Non-Executive Directors and who exercised the largest number of options	240,912	€11.91

(\*) Relates to exercise of options of plan No. 8 and No. 9. Figures have been adjusted to consider the two-for-one stock split as of 7 July 2008.

### Conditional stock options granted during fiscal year 2012/13 to the ten employees who are not Alstom's Executive or Non-Executive Directors and who received the largest number of options

A total of 286,210 conditional options was granted to the ten employees who received the greatest numbers of options (other than *mandataires sociaux*) under plan LTI No. 15.

## Summary of the main characteristics of the free performance share allocation plans outstanding as of the end of fiscal year 2012/13

The total number of performance shares that could be delivered according to the performance share plans during fiscal year 2012/13 and not already finally delivered corresponds to 0.59% of the share capital as of 31 March 2013 (subject to achievement of the performance conditions linked to fiscal years 2013/14 and 2014/15 – see Note 21 to the consolidated financial statements as of 31 March 2013).

	2009 plan (LTI No. 12) (performance shares)	2010 plan (LTI No. 13) (performance shares)	2011 plan (LTI No. 14) (performance shares)	2012 plan (LTI No. 15) (performance shares)
Date of Shareholders' Meeting	26 June 2007	22 June 2010	22 June 2010	22 June 2010
Date of Board meeting	21 September 2009	13 December 2010	4 October 2011	6 November 2012
Initial number of beneficiaries	1,360 beneficiaries	1,716 beneficiaries	1,832 beneficiaries	1,763 beneficiaries
Initial number of rights entitling their holders to an allocation of shares	522,220 shares <sup>(4)</sup>	740,860 shares <sup>(5)</sup>	804,040 shares <sup>(6)</sup>	781,540 shares
Number of remaining rights as of 31 March 2013 entitling their holders to an allocation of shares	100,304 shares	588,645 shares <sup>(7)</sup>	663,858 shares <sup>(7)</sup>	772,040 shares <sup>(7)</sup>
Final delivery of the shares (subject to performance conditions)	<ul style="list-style-type: none"> <li>• For beneficiaries of French companies: 79,648 shares were delivered on 14 May 2012.</li> <li>• For beneficiaries of companies outside France: 23 September 2013.</li> </ul>	<ul style="list-style-type: none"> <li>• For beneficiaries of French companies: the fifth business day following the day of publication of the consolidated accounts for fiscal year 2012/13 (e.g. May 2013).</li> <li>• For beneficiaries of companies outside France: 15 December 2014.</li> </ul>	<ul style="list-style-type: none"> <li>• For beneficiaries of French companies: the fifth business day following the day of publication of the consolidated accounts for fiscal year 2013/14 (e.g. May 2014).</li> <li>• For beneficiaries of companies outside France: 5 October 2015.</li> </ul>	<ul style="list-style-type: none"> <li>• For beneficiaries of French companies: the fifth business day following the day of publication of the consolidated accounts for fiscal year 2014/15 (e.g. May 2015).</li> <li>• For beneficiaries of companies outside France: 12 December 2016.</li> </ul>
Percentage of capital that may be created (calculated on the capital as of 31 March 2013)	0.033%	0.191% <sup>(7)</sup>	0.215% <sup>(7)</sup>	0.251% <sup>(7)</sup>
Number of shares as of 31 March 2013 that may be delivered to members of the Executive Committee <sup>(1)</sup>	320 shares	10,341 shares <sup>(7)</sup>	38,700 shares <sup>(7)</sup>	43,000 shares <sup>(7)</sup>

	<b>2009 plan (LTI No. 12) (performance shares)</b>	<b>2010 plan (LTI No. 13) (performance shares)</b>	<b>2011 plan (LTI No. 14) (performance shares)</b>	<b>2012 plan (LTI No. 15) (performance shares)</b>
Performance conditions <sup>(2)</sup> <sup>(8)</sup>	<ul style="list-style-type: none"> <li>• 100% of the shares delivered if the 2011/12 Group operating margin (the "2011/12 Margin") is equal or above 8.7%.</li> <li>• 80% of the shares delivered if the 2011/12 Margin is between 8.2% (included) and 8.7% (excluded).</li> <li>• 60% of the shares delivered if the 2011/12 Margin is between 7.2% (included) and 8.2% (excluded).</li> <li>• 40% of the shares delivered if the 2011/12 Margin is between 6.5% (included) and 7.2% (excluded).</li> <li>• No shares delivered if the 2011/12 Margin is below 6.5%.</li> </ul> <p><b>Performance condition achieved:</b> Only 40% of the shares initially granted have been or will be finally delivered as a result of the achievement of the performance condition.</p>	<ul style="list-style-type: none"> <li>• The percentage of shares to be delivered will vary according to the levels of the Group's operating margin for the 2010/11, 2011/12 and 2012/13 fiscal years (the "Margins").</li> <li>• 100% of the shares can be delivered if the Margins are equal or above 7.5%.</li> <li>• No share can be delivered if the Margins are below 6.5%.</li> </ul> <p>For more details, refer to Note 21 to the consolidated financial statements as of 31 March 2013.</p> <p><b>Performance condition achieved:</b> 80% of the shares initially granted will be delivered based on the achievement of the performance conditions.</p>	<ul style="list-style-type: none"> <li>• The percentage of shares to be delivered will vary according to the levels of the Group's operating margin for the 2011/12, 2012/13 and 2013/14 fiscal years (the "Margins").</li> <li>• 100% of the shares can be delivered if the Margins are equal or above 7.5%.</li> <li>• No share can be delivered if the Margins are below 6.5%.</li> </ul> <p>For more details, refer to Note 21 to the consolidated financial statements as of 31 March 2013.</p> <p><b>Status of achievement:</b> As of today, delivery of 60% of the shares is certain and 20% of the award is cancelled based on the performance condition linked to the results of fiscal years 2011/12 and 2012/13. The remaining shares will be subject to the results of fiscal year 2013/14.</p>	<ul style="list-style-type: none"> <li>• The percentage of shares to be delivered will vary according to the levels of the Group's operating margin for the 2012/13, 2013/14 and 2014/15 fiscal years (the "Margins").</li> <li>• 100% of the shares can be delivered if the Margins are equal or above predetermined levels and the free cash flow ("FCP") of each fiscal year is equal or above 0.</li> <li>• No share can be delivered if the Margins are below 7% or the free cash flows are negative.</li> </ul> <p>For more details, refer to Note 21 to the consolidated financial statements as of 31 March 2013.</p> <p><b>Status of achievement:</b> As of today, delivery of 30% of the shares is certain and 10% of the award is cancelled based on the performance condition linked to the results of fiscal year 2012/13. The remaining shares will be subject to the results of fiscal years 2013/14 and 2014/15.</p>
Shares retention period	<ul style="list-style-type: none"> <li>• 2 years, except for shares to be delivered on 23 September 2013 unless exception set forth by the plan <sup>(3)</sup>.</li> </ul>	<ul style="list-style-type: none"> <li>• 2 years, except for shares to be delivered on 15 December 2014 unless exception set forth by the plan <sup>(3)</sup>.</li> </ul>	<ul style="list-style-type: none"> <li>• 2 years, except for shares to be delivered on 5 October 2015 unless exception set forth by the plan <sup>(3)</sup>.</li> </ul>	<ul style="list-style-type: none"> <li>• 2 years, except for shares to be delivered on 12 December 2016 unless exception set forth by the plan <sup>(3)</sup>.</li> </ul>

(1) Refers to the Executive Committee as of 31 March 2013. The numbers of rights to which Mr Patrick Kron is entitled under LTI plan Nos. 14 and 15 are presented in the section Compensation of Executive and Non-Executive Directors of the Chairman's report (see page 193).

(2) Final allocations are also contingent upon attendance requirements within the Group unless an exception is made within the plan.

(3) A specific holding requirement applies to the beneficiaries who are members of the Executive Committee (see page 208).

(4) 60% of the rights to the grant of free shares initially offered have been cancelled upon application of the performance condition linked to the results of the 2011/12 fiscal year (see Note 21 to the consolidated financial statements as of 31 March 2013).

(5) 10% of rights to the grant of free shares initially offered have been cancelled upon application of the performance condition linked to the results of the 2010/11 and 2011/12 fiscal years (see Note 21 to the consolidated financial statements as of 31 March 2013).

(6) 10% of the rights to the grant of free shares initially offered have been cancelled upon application of the performance condition linked to the results of the 2011/12 fiscal year (see Note 21 to the consolidated financial statements as of 31 March 2013).

(7) After the fiscal year 2012/13 ended, 10% of these rights were cancelled upon application of the performance condition linked to the results of the 2012/13 fiscal year approved by the Board of Directors on 6 May 2013 (See Note 21 to the consolidated financial statements as of 31 March 2013).

(8) The thresholds of the operating margin for fiscal year 2011/12 referred to in LTI No. 12 have been adjusted by the Board of Directors to take into account the temporary dilutive impact of the integration of Grid. (See Note 21 to the consolidated financial statements as of 31 March 2011).

The plan LTI No. 11 became entirely null and void as the performance conditions linked to the results of the fiscal year 2010/11 were not reached. No performance share was delivered under this plan. Only 40% of the rights to the grant of free shares offered under LTI plan No. 12 have been or will be finally delivered upon application of the performance condition of the plan.

After the 2012/13 fiscal year-end, 10% of the rights to the grant of free shares offered in the context of LTI plans No. 13, No. 14 and No. 15 were cancelled upon application of the performance condition linked to the results of the 2012/13 fiscal year approved by the Board of Directors on 6 May 2013 (See Note 21 to the consolidated financial statements as of fiscal year 2012/13). As a result, only 80% of the rights to the grant of free shares offered under LTI plan No. 13 will be finally delivered upon application of the performance conditions of the plan.

### Free allocation of shares to Alstom's Executive and Non-Executive Directors (*mandataires sociaux*) during fiscal year 2012/13

The total number of performance shares allocated under plan LTI No. 15 to Mr Patrick Kron, Chairman and Chief Executive Officer of the

Company and the only Executive Director (*dirigeant mandataire social*) of the Company as of 31 March 2013, is indicated in the section of the Chairman's report related to the compensation of Executive and Non-Executive Directors (see pages 189 and 193).

The Company has granted no performance share to any other *mandataire social* during fiscal year 2012/13 or under plans previously implemented by the Company.

### Free shares allocated during fiscal year 2012/13 to the ten employees who are not ALSTOM's Executive or Non-Executive Directors and who received the largest number of free shares

A total of 40,970 rights to performance shares was granted to the ten employees who received the greatest numbers of rights to performance shares (other than *mandataires sociaux*) under plan LTI No. 15.

Moreover, a total of 7,552 performance shares was finally delivered to the ten employees who were finally delivered the greatest numbers of performance shares (other than *mandataires sociaux*) under plan LTI No. 12.

## FREE SHARES PLANS FOR THE SUBSCRIBERS OUTSIDE FRANCE TO "ALSTOM SHARING" OFFERS

Within the employee share purchase schemes called "Alstom Sharing 2007" and "Alstom Sharing 2009" (described hereafter page 216) reserved for Group employees and former employees participating in the Group's savings plan in 19 and 22 countries respectively including France, implemented during the fiscal years 2007/08 and 2008/09, the Board of Directors decided that the employees outside France subscribing to the "structured" formula will receive, instead of the employer company match offered to the subscribers to this formula in France, shares allocated for free by Alstom. These are new shares to be issued at the moment of their final allocation by deduction from the reserves.

### Alstom Sharing 2007

After having acknowledged the completion of the capital increase reserved for members of the *plan d'épargne Groupe Alstom* (the "Alstom Group Savings Plan", or "PEG") and of the capital increase reserved for the Company "Sharing Plus" proposed within the framework of the Alstom Sharing 2007 offering, the Board of Directors, acting pursuant to the powers granted to it by the Shareholders' Meeting held on 26 June 2007, decided on 18 March 2008 to carry out this free allocation, the principle of which was agreed to on 25 September 2007. The Board consequently, decided that a maximum number of 51,336 new shares of par value €14 each to be issued by the Company (or 102,672 shares of par value €7 each following the two-for-one split in the par value of the share dated 7 July 2008), would be allocated for free to subscribers of the "leverage" formula of the Alstom Sharing Plus 2007 offering in Australia, Belgium, Brazil, Canada, China, Germany, India, Italy, Malaysia, Mexico, The Netherlands, Poland, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the United States, on the basis of one free share for each FCPE unit or share subscribed (depending on the case) by a given

participant under the "leverage" formula, up to a maximum of four free shares per participant.

These free shares will be issued and delivered in one time to the participants on 1 July 2013, after the acquisition period ending on 30 June 2013 (unless early delivery events) provided that the employee is still part of the Alstom Group, save in exceptional cases as provided for in the plan. At that time, participants may sell the free shares freely, except for beneficiaries residing in France or subject to a French social security regime as of the date the shares are delivered. Indeed, following the acquisition period, these latter beneficiaries will be subject to a two-year period during which the shares cannot be sold.

### Alstom Sharing 2009

Within the framework of the Alstom Sharing 2009 offering, after having acknowledged the completion of the capital increase reserved for members of the Alstom Group Savings Plan (*plan d'épargne Groupe*) and of the capital increase reserved for Sharing Plus, the Board of Directors, acting pursuant to the powers granted to it by the Shareholders' Meeting dated 26 June 2007, decided on 4 May 2009 to carry out the free allocation, the principle of which had been decided on 23 September 2008. Consequently, the Board of Directors decided that a maximum amount of 137,817 new shares to be issued by the Company of par value €7 each would be allocated for free to subscribers of the offering known as Two for One 2009 residing outside of France in Australia, Belgium, Brazil, Canada, the Czech Republic, China, Germany, India, Indonesia, Italy, Malaysia, Mexico, the Netherlands, Poland, Portugal, Romania, Spain, Sweden, Switzerland, the United Kingdom, and the United States within the proportions set by the terms of the offering and up to the limit of a maximum amount of 15 free shares per participant.

These free shares will be issued and delivered to the participants in one time on 1 July 2014, after the acquisition period ending on 30 June 2014 (unless early delivery events) provided that the employee is still part of the Alstom Group, save in exceptional cases as provided for in the plan. At that time, participants may sell the free shares freely, except

for beneficiaries residing in France or subject to a French social security regime as of the date the shares are delivered. Indeed, following the acquisition period, these latter beneficiaries will be subject to a two-year period during which the shares cannot be sold.

## Summary of the characteristics of the outstanding free share allocation plans carried out within the framework of the “Alstom Sharing” offerings

	Alstom Sharing 2007 plan	Alstom Sharing 2009 plan
Date of Shareholders' Meeting	26 June 2007	26 June 2007
Date of Board meeting	26 September 2007 – 18 March 2008	23 September 2008 – 4 May 2009
Initial number of beneficiaries	13,400 beneficiaries exclusively outside France	11,068 beneficiaries exclusively outside France
Initial number of rights entitling their holders to an allocation of shares (adjusted) <sup>(*)</sup>	102,672 shares	137,817 shares
Number of remaining rights as of 31 March 2013 entitling their holders to an allocation of shares	94,158 shares	131,886 shares
Issue and final delivery of the shares	1 July 2013	1 July 2014
Percentage of capital as of 31 March 2013 that may be created	0.03%	0.04%
Number of shares that may be delivered to members of the Executive Committee	-	-
Performance conditions	N/A	N/A
Shares retention period	None (unless exception set forth by the plan)	None (unless exception set forth by the plan)

(\*) Alstom Sharing 2007 plan has been adjusted to consider the two-for-one stock split as of 7 July 2008.

The total maximum number of shares that can be delivered according to the two outstanding “Alstom Sharing” share plans corresponds to 0.07% of the share capital as of 31 March 2013.

## EMPLOYEE PROFIT-SHARING

### Profit sharing

All the French subsidiaries of the Group to which the French law of 7 November 1990 applies have entered into employee profit sharing agreements. An exceptional profit-sharing scheme (*accord de participation dérogatoire*) benefiting at least 90% of the employees of the French companies of the Group took effect on 30 September 2011. The amounts paid in respect of the French statutory employee profit sharing agreements over the last three years are as follows:

Fiscal year ended 31 March (in € million)	2010	2011	2012
Statutory employee profit sharing agreements	22.6	20.3	18.9

### Specific profit sharing

As of today, more than 98% of employees in the Group's French subsidiaries benefit from a specific profit sharing plan (*accord d'intéressement*). The amounts paid in respect of fiscal year 2012/13 are not yet known to date, because they depend on a series of criteria defined in profit sharing plans applicable for each subsidiary, the final result of which are known within six months as from the end of fiscal year, i.e. 30 September of each year. The amounts paid in respect of specific profit sharing plans for the past three fiscal years are as follows:

Fiscal year ended 31 March (in € million)	2010	2011	2012
Specific employee profit sharing plans	29.2	44.2	19.7

## Employee savings plan and retirement savings plan

Today, Alstom's French employees can invest their savings resulting from profit-sharing, specific profit-sharing, or voluntary savings in the Group Savings Plan not invested in the Company securities or in a collective savings and retirement plan ("PERCO"). This latter plan receives an employer matching contribution from the Company in the maximum amount of €500 for €1,500 contributed over the year. In 2012, the French employees contributed €10.5 million in the Group Savings Plan and €8.3 million in the PERCO savings plan. These contributions to the PERCO triggered an employer matching contribution of €2.0 million paid by Alstom.

## Employee shareholdings within the Group savings plan

Within the Group Savings Plan, employee savings can also be invested in the Company securities.

Since its initial public offering and first listing, the Company implemented five share capital increases reserved for the employees participating in the Group Savings Plan. For the first one realised concurrently with the first listing in 1998, a total of 2,941,869 shares were issued at a price of FRF167 per share (corresponding, after the share consolidation of 3 August 2005, to the equivalent of 73,546 new shares issued at the price of €1,018.36 per share).

In August 2000, a capital increase reserved for employees of the Company and its subsidiaries participating in the Group Savings Plan was approved for fiscal year 2000/01. As a result of this share capital increase, 1,689,056 new shares, with a nominal value of €6 per share, were issued at €24 per share (i.e., after stock split, 84,452 new shares at €480 per share). These two operations have been directly subscribed by the employees.

In November 2004, a new capital increase was offered to the Company's employees (as well as to its former employees) in eight countries including France. Around 13,000 employees have subscribed this capital increase through a mutual fund in France and directly in the other countries. The capital increase brought in the subscription of 49,814,644 shares at a nominal value of €0.35 each and issued at €0.35 per share (equivalent to, after the par value split, 2,490,732 new shares at a price of €7 per share); the shares were offered with an employer matching contribution (for employees only) of €0.135 per old share with a maximum amount of €810 per subscriber.

## Alstom Sharing 2007

During fiscal year 2007/08, an employee share purchase scheme called "Alstom Sharing 2007" reserved for Group employees (and former employees) with three months' seniority was offered in 19 countries including France. A total of 1 million shares were offered under both a formula known as "leverage" formula and a "classic" formula and this offering for the subscription of shares was conducted within the framework of the Group Savings Plan (hereinafter referred to as the "PEG").

Approximately 32% of the Group's eligible permanent employees (or approximately 18,800 employees) have subscribed to this capital increase, either through direct shareholding or via a *fonds commun de placement d'entreprise* (French employee shareholding vehicle, or "FCPE"), depending on the countries. The capital increase brought in the subscription of 350,012 shares with a par value of €14 each (or 700,024 shares of par value €7 each following the two-for-one par value split), corresponding to a capital increase par value amount of

€4,900,168 and issued at a price of €113.93 per share (or €56.97 following the par value split) which includes a 20% discount relative to the average of the first prices of the Alstom share during the twenty trading days preceding the fixing of the price.

The shares or FCPE units subscribed will remain locked up to 30 June 2013, with the exception of the occurrence of early exit events.

In France, the employees subscribing to the "leverage" formula benefited from an employer matching contribution in an amount corresponding to the amount of their own personal contribution, which was limited to the subscription of four shares at the subscription price (or eight shares of par value €7 each following the split). Outside of France, this employer matching contribution has been replaced by shares allocated for free by the Board of Directors in its meeting of 18 March 2008 (see page 214 on this free allocation of shares).

Within the framework of the "leverage" formula, the leverage mechanism offered by the partner bank in certain cases took the form of an allocation of Stock Appreciation Rights (SARs) by the employer. Consequently, the transaction gave rise to a capital increase reserved for Sharing Plus, a company held by the credit institution participating in the offering, at the Company's request, for the implementation of the "leverage" formula in certain countries outside of France. This capital increase bears on the subscription of 256,808 shares of a par value of €14 each, issued at the unit price of €113.93, and representing a par value capital increase amount of €3,595,312 (corresponding to an amount of 513,616 shares at a price of €56.97 each following the par value split).

## Alstom Sharing 2009

During fiscal year 2008/09, an employee share purchase scheme called "Alstom Sharing 2009" reserved for Group employees (and former employees) with three months' seniority was offered within the PEG in 22 countries including France through an offer called "Two for One 2009" and a "classic" offer. Approximately 28% of the Group's eligible permanent employees (or approximately 18,400 employees) have subscribed to this capital increase.

On 30 April 2009, the capital increase brought in the subscription of 743,606 shares with a par value of €7 each, corresponding to a capital increase par value amount of €5,205,242 (i.e. 0.26% of the share capital as of 31 March 2009) and issued at a price of €30.84 per share, which includes a 20% discount relative to the average of the first prices of the Alstom share during the twenty trading days preceding the fixing of the price. The shares or FCPE units subscribed will remain locked up to 30 June 2014, with the exception of the occurrence of early exit events.

In addition, outside of France, the employer matching contribution offered within the framework of the "Two for One 2009" offering was replaced by a free allocation of shares implemented by the Board of Directors held on 4 May 2009 (see page 214 for information on this free allocation).

The transaction also gave rise, on 30 April 2009, to a capital increase reserved for Sharing Plus, a company held by the credit institution participating in the offering at the Company's request for the implementation of the protection of the subscriber's personal contribution in the "Two for One 2009" offer, in certain countries outside of France which took the form of an allocation of Stock Protection Rights by the employer. This capital increase bears on the subscription of 348,505 shares of a par value of €7 each, issued at the unit price of €30.84, and representing a par value capital increase amount of €2,439,535.

As of 31 March 2013, the Group's employees and former employees hold approximately 1.30% of the Company's share capital, either directly or through a fund ("FCPE") (see page 295).

## SUMMARY OF THE OPERATIONS OF EXECUTIVE AND NON-EXECUTIVE DIRECTORS OR PEOPLE MENTIONED IN ARTICLE L. 621-18-2 OF THE FRENCH MONETARY AND FINANCIAL CODE ON THE SECURITIES OF THE COMPANY PERFORMED DURING FISCAL YEAR 2012/13

The following transaction has been declared to the AMF by the person concerned:

Notifying person	Financial instrument	Type of operation	Number of operations	Amount of operations
G�rard Hauser, Director	Shares	acquisition	1	�11,987.00

## RELATED-PARTY AGREEMENTS AND COMMITMENTS

See the Statutory Auditors' special report to the Shareholders' Meeting convened on 2 July 2013 (page 153).

## STATUTORY AUDITORS

### STATUTORY AUDITORS

#### PricewaterhouseCoopers Audit

represented by Mr Olivier Lotz  
63, rue de Villiers  
92200 Neuilly-sur-Seine

#### Mazars SA

represented by Mr Thierry Colin  
61, rue Henri Regnault  
92400 Courbevoie

The Statutory Auditors were appointed by the Ordinary General Meeting held on 23 June 2009 for six fiscal years expiring when the Ordinary General Meeting will be called to review the accounts for fiscal year 2014/15.

PricewaterhouseCoopers Audit and Mazars SA belong to the "Compagnie r gionale des Commissaires aux comptes de Versailles".

### DEPUTY STATUTORY AUDITORS

#### Mr Yves Nicolas

Deputy Auditor of PricewaterhouseCoopers Audit  
63, rue de Villiers  
92200 Neuilly-sur-Seine

#### Mr Patrick de Cambourg

Deputy Auditor of Mazars SA  
61, rue Henri Regnault  
92400 Courbevoie

The deputy Statutory Auditors were appointed by the Ordinary General Meeting held on 23 June 2009 for six fiscal years expiring when the Ordinary General Meeting will be called to review the accounts for fiscal year 2014/15.



## STATUTORY AUDITORS' FEES FOR FISCAL YEAR 2012/13

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The Statutory Auditors' fees for fiscal year 2012/13 are included under Note 30 to the consolidated financial statements for fiscal year 2012/13.

## EXTERNAL AUDIT CHARTER

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In March 2010, Alstom and its new Statutory Auditors formalised, following the Audit Committee's approval, the new Audit Charter applicable until 31 March 2015 when the current Statutory Auditors' engagement comes to an end.

This charter defines the Group's external audit process under the various applicable laws and rules. By formalizing it, the parties officially commit themselves to respecting the said charter and to aiming for more transparency and efficiency.

The main rules defined apply to the following topics:

- principles on fee and assignment split between both auditing firms;
- work process between the two audit firms and relationship with Alstom, notably with the Internal Audit function;
- relationship between the Statutory Auditors and the Audit Committee;
- defining the allocation principles of assignments accessory to the audit mandate;
- reminder of pre-approval procedure of these assignments and of pre-approved assignments;
- reminder of prohibited assignments.

# 6

# SUSTAINABLE DEVELOPMENT

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## SUSTAINABLE DEVELOPMENT AND ALSTOM'S SOCIAL RESPONSIBILITY

### ALSTOM'S CONTRIBUTION TO SUSTAINABLE DEVELOPMENT: A PROACTIVE POLICY OF CORPORATE SOCIAL RESPONSIBILITY

#### Addressing global challenges as strategic opportunities

2012 was declared "Year of Sustainable Energy for All" by the United Nations General Assembly. The same year the United Nations Conferences on Sustainable Development (Rio+20) and on Climate Change (COP18) were held in Rio de Janeiro, Brazil, and in Doha, Qatar.

As a matter of fact, energy, environment and development are interlinked:

- world population is expected to reach over 9 billion people in 2050. As a consequence, global energy demand and infrastructure needs will grow. By 2035, the global energy demand is anticipated to rise by more than one-third, while 60% of the infrastructures which will supply the world's electricity are yet to be built <sup>(1)</sup>;
- furthermore, over 70% of the world population will live in urban areas by 2050. Driven by economic growth, mobility will increase; both passenger travel distance and commuting time per capita are expected to double <sup>(2)</sup>;
- with demographic and economic growth pushing up greenhouse gases (GHG) and the pressure on natural resources, the climate is substantially changing. The global average temperature is likely to become 3 to 6°C higher than pre-industrial levels by the end of the century <sup>(3)</sup>.

The interaction between energy, environment and development concerns blurs responsibilities. One of the priorities at Rio+20 was to involve the civil society in the debates, decision-making and responsibilities. It succeeded in bringing together world leaders from governments, the private sector and groups of the civil society.

The action is in fact increasingly bottom-up:

- states are making their own commitments – energy intensity targets and carbon trading schemes are emerging all over the world;
- funding and financing are being made available voluntarily;
- corporate action is increasingly becoming a driver for change.

As a global player of economic and social development, Alstom moves forward: it provides a wide range of innovative and environmental-friendly technologies and solutions to meet energy and mobility needs through a socially responsible business model.

Alstom's long-term vision consists in seizing the global challenges as a strategic opportunity to position the Group as a proactive player in the global environmental shift.

Alstom considers that catching the early warning signs announcing megatrends is a key competitive advantage, driving profitable, long-term growth and allowing the Group to sustain its leadership. In that way, Corporate Social Responsibility (CSR) is key to anticipate and actively manage the risks and opportunities they entail.

Moreover, this transversal approach enables the Group to:

- avoid defensive costs – for instance, by non-compliance with international or local legislations and standards, or with expectations emerging from customers, investors and the civil society;
- strengthen its reputation and mobilise its internal human resources;
- generate product and process efficiency gains;
- identify and assess future and emerging markets.

It involves driving progress by staying one step ahead to better grasp the Group's sustainability issues. This position gives Alstom the means to define and implement an integrated CSR policy.

#### Defining an integrated Corporate Social Responsibility (CSR) policy

Alstom's CSR policy is based around three main axes, guided by quantified and assessed objectives, which are to:

- help customers effectively limit their environmental impact, and make sure Alstom's solutions combine sustainable growth and social progress;

(1) World Energy Outlook 2012.

(2) UN World Urbanization Prospects, World Business Council for Sustainable Development.

(3) Under the OECD Environmental Outlook to 2050 Baseline scenario.

- work together and develop effective partnerships with external bodies, customers and suppliers;
- respect the highest environmental, safety and ethical standards for the Group's own operations.

These objectives have been translated into action plans, which create a virtuous circle of progress in economic, social and environmental fields with a view to their reinforcing each other to an optimum effect.

Alstom's way to CSR is thus to "shape the future responsibly":

- with its technologies and solutions:
  - providing new planet-conscious products and solutions, in order to allow affordable access to electricity and mobility, whilst reducing environmental footprint,
  - proposing new solutions or improvements to reduce the environmental footprint of existing equipment,
- with its partners and stakeholders:
  - committing to identify and satisfy customer needs,
  - selecting suppliers and developing with them an active partnership to achieve sustainable value chains,
  - being involved in the life of surrounding communities, supporting their development and improving their living conditions,
- with the way it operates in sites and on projects:
  - caring for people:
    - ensuring the best and safest working conditions for employees and contractors,
    - giving every employee the opportunity to fully achieve his/her professional potential, regardless of origin, gender, nationality,
    - easing insertion of people in difficulty and leave no employee alone to cope with an employment problem in case of restructuring,
  - enforcing any employee to work ethically, with zero tolerance on any deviation from the Group's Code of Ethics,
  - reducing the environmental footprint of operations and mitigating the impact on people and their surroundings.

The action plans related to this policy are outlined both in the Sustainable Development Strategy in Sectors described hereafter, and in subsections "Environmental performance", "Social performance" and "Relationships with external stakeholders".

The Group commits to implement this policy and ensure compliance with its internal rules across the full range of its operations.

## Implementing the CSR policy: organisation and performance measurement

### Integrating CSR into the Group's strategy

At Group level, the CSR policy is under the responsibility of the Senior Vice President Strategy and Business Development.

The central team is supported in each Sector by a dedicated team in charge of implementing the Group's policies and setting programmes related to the Sector's activity. The aim is to spread the Group's CSR vision throughout the organisation, so that employees know it, understand it, commit to it and actively take part in it.

The Ethics, Compliance and Sustainability (ECS) Committee has been closely following the Group CSR policy and actions since 2010. This Committee, composed of three independent Directors belonging to the Alstom Board, meets three times a year to review and assess the Company's strategy, policies and procedures on topics related to corporate responsibility and sustainable development (see Chapter on Corporate Governance – Chairman's report – Board Committees).

In order to support and reinforce the implementation of the CSR policy at local level, the Group relies on the Alstom International Network, with 56 Country Presidents covering 179 countries. The role of the Country Presidents is to represent the Group locally and to develop relations with local institutions, organisations and communities.

The Group's CSR actions are more and more expected by:

- its employees (outcome of the opinion survey conducted in 2011);
- its customers (increased use of CSR criteria in tenders);
- public authorities (emergence of new CSR regulations);
- its shareholders and potential investors.

In addition, Alstom sees local CSR initiatives as an opportunity to better motivate its people, to take into account the cultural differences of the very diverse countries where it operates and to strengthen the win-win relationships with the local communities with the aim to support current and future business.

As a consequence, Alstom decided in 2012/13 to reinforce its CSR policy at country level in two ways:

- during the UN Rio+20 Summit in June 2012, Alstom took the commitment to engage actively on education and skills in all the countries where it employs more than 1,000 employees;
- Alstom communicated widely about this reinforced CSR policy with corporate guidelines, requesting Country Presidents to turn them into CSR Country Action Plans for the next financial year. This CSR Country Action Plan is based on three pillars: improving impact on local communities, reducing the environmental impact of operations and improving employees' life at work (more information in section "Relationships with local communities").

A lot of valuable CSR work is already undertaken at local level. However, Alstom's reputation in the citizenship field deserves a special attention. Therefore, a more formal CSR Country Action Plan should encompass the current initiatives and map out a vision for future work, giving Alstom's CSR performance more visibility.

## Monitoring the Company's progress in achieving its goals

The Group has established internal milestones to measure its progress in relation to its goals and address any adjustments of existing business practices.

### Steering the environmental, health and safety (EHS) policy

Alstom has set up an organisation with follow-up tools and indicators to implement its environmental policy, as well as health and safety prevention for its employees and contractors:

- a network of 502 managers and experts, coordinated and animated at Group level, has been set up in each Sector;
- a management system for EHS, relying on a referential (EHS reference standard) called "EHS Roadmap", covers such items as environmental management, water, ground and air pollution, waste production and recycling. It also deals with health and occupational safety management, prevention, etc. This referential is in line with ISO 14001 and OHSAS 18001 requirements. All units are requested to conduct self-assessments using this roadmap. These evaluations are checked through formal audits by either external assessors or in-house specialists (accredited assessors). ★ 263<sup>(1)</sup> formal assessments were conducted over fiscal year 2012/13, largely made up of specific audits on high-risk activities (see section related to Social performance);
- Health and Safety indicators are reported monthly to the Group's Executive Committee and the Management and cover over 90% of all employees and contractors worldwide;
- environmental indicators are reported quarterly and cover all permanent Alstom facilities worldwide.

### Steering the social policy

- A network of around 1,230 HR managers is coordinated and animated by the Human Resources (HR) Department at Group level.
- A policy called "It's all about people" and mandatory HR processes are summarised in a brochure, available on the intranet site of the Company.
- A single Human Resources Information System (HRIS) covers the whole Group.
- A dashboard with indicators is used (reported in this Registration Document, section dedicated to Relations with Stakeholders/Local communities).

### Steering the policy regarding communities

Alstom's policy towards communities is based on the Group's approach to be a local player, and in that sense, the Group relies on its International Network via the Country Presidents.

To better strengthen its action towards local communities, Alstom elaborated in January 2013 a policy based both on the Group's commitment and local management's initiatives. This Community Investment Policy focuses on three priorities: education, local economic development and social expectations (see section dedicated to Relationships with external Stakeholders/Local communities)

## Using indicators

Relevant indicators are key to assess a situation and measure the distance covered so far and the one which still needs to be considered. These indicators come from different sources, depending on the topics:

- for social aspects, the indicators come from the Group HRIS or from a social survey conducted in 24 countries on the figures of calendar year 2012 – Algeria, Australia, Belgium, Brazil, Canada, Chile, China, Croatia, Finland, France, Germany, India, Italy, Malaysia, Mexico, Poland, Russia, Singapore, Spain, Sweden, Switzerland, Turkey, the United Kingdom (UK), the United States of America (USA) – representing 90% of Alstom's workforce;
- for health and safety aspects, 18 indicators are reported monthly in the global EHS reporting platform and allow the Group to generate 12 additional indicators;
- for environmental aspects, 39 indicators are reported quarterly and 16 annually, which allow the Group to generate 12 additional indicators.

These indicators refer to the "Global Reporting Initiative" (GRI). However, some indicators are not yet available on a consolidated basis or have been considered irrelevant, either with regard to the Group's diversified operations or due to difficulties in adopting standard definitions for all sites worldwide. In such cases, they are not mentioned or limited in scope, which is then specified.

A synthesis of indicators/key figures is available in a dedicated section at the end of this chapter; it includes information as per Article L. 225-102-1 of the French Commercial Code and the decree and order – as well as per the decree No. 2012-557 dated 24 April 2012 related to the obligation of companies' transparency in environmental and social matters.

## Assessing the Group's CSR performance by third parties

Alstom's Corporate Social Responsibility performance is measured by various rating agencies with different methods and criteria, such as, in 2012 RobecoSAM (ex-SAM – Sustainable Asset Management), Oekom, Sustainalytics, Ecovadis, as well as the Carbon Disclosure Project (CDP). These assessments help identify and assess the areas of improvement.

As a result:

- Alstom was selected in September 2012 for the second time (first in 2011) as an index component on the Dow Jones Sustainability Index (DJSI) – World & Europe indexes -, through its assessment by RobecoSAM, the Switzerland-based rating agency with this year a sustainability performance at 69/100, with a particular good rating on the economic dimension.
- Since 2010, Alstom has been assessed by the CDP for its approach to the disclosure of climate change information; in December 2012, the Group received a disclosure score of 97 out of 100 (versus 88 last year); this score ranked the Group as part of the Carbon Leadership Index for French companies and first in the industry category.

(1) ★ This indicator has been reviewed by PriceWaterhouseCoopers.



## SUSTAINABLE DEVELOPMENT STRATEGY IN THE POWER SECTORS

Today the global population is estimated to exceed 7 billion people and it is expected that this figure will reach 9 billion by 2050. As a consequence:

- the demand in electricity, as a key enabler for economic and social development is rising along a similar trend;
- in addition, high inequalities in the world are leading to a heterogeneous electricity distribution and it is estimated that today, 1.5 billion people do not yet have access to electricity <sup>(1)</sup>;
- for social and economic development to be sustainable, delivery of power services needs to be secure and have low environmental impacts. It requires reliable and affordable access to power.

Alstom is committed to Corporate Social Responsibility, the Thermal Power and Renewable Power Sectors are applying this commitment to integrate sustainable development in the power markets and countries they serve. This vision was translated in 2009 into a sustainable development strategy and programmes for both Power Sectors, structured around three scopes:

- **implementing sustainable operations "Our Own Footprint"**: focusing on Alstom Power Sectors' direct contribution to limiting the environmental footprint of their own operations and by improving social and societal impacts on employees and local communities. Alstom Power Sectors' contribution has been consolidated with the other Sectors' efforts and the results can be found in this Registration Document, chapter 6, in "Environmental performance" and "Social performance";
- **designing environmentally-conscious technology solutions "Our Product Footprint"**: driving projects that aim to improve Alstom products footprint at each stage of their life cycle. In particular Life Cycle Assessments (LCAs) are conducted and an Eco-design process is being developed to be implemented in the design activities as early as possible;
- **contributing to the sustainable development objectives of Alstom's customers "Our Offering Footprint"**: measuring and monitoring the contribution of Alstom new build and service projects to support the different sustainable development objectives of customers. It aims to provide data from recently completed projects on the impact of Alstom's commitment to promote sustainable development in the global power industry. It also provides the Power Sectors with a measured base of the successful deployment of the "Clean Power Offering" (described hereafter).

### Monitoring and optimising the footprint of Alstom products throughout their life cycle

In order to limit the environmental impacts from products throughout their entire life cycle, Alstom is implementing an Eco-Design process. To do so a baseline has to be defined to monitor progress and to define further improvement objectives. To reach this first requirement Thermal Power and Renewable Power Sectors are using the Aveny Life Cycle Assessment (LCA) software that has been customised to the power generation equipment needs.

In the different Power Sectors, training on how to use the Aveny LCA tool has been organised and each Business has selected at least one core product to pilot the implementation.

Among the different Life Cycle Impact Assessments (LCIA) methodologies available in the software, impacts have to be assessed with at least two main universal methods: IPCC <sup>(2)</sup> (2007) for impact on climate change and ReCiPe for impacts on the ecosystem, resources and health. For example:

#### In the Thermal Power Sector

- In the Gas Business, all turbines have been assessed and for all new developments the comparison with the former version has to be carried out. For instance, the GT24 Upgrade 2011 gas turbine is emitting around 4% kg CO<sub>2</sub> equivalent per MWh produced, less than the former version (GT24 Upgrade 2006) according to IPCC methodology.

#### In the Renewable Power Sector

- In the Wind Business, two of the three most recent platforms were assessed: the ECO 100 platform for the 3 MW-rated wind turbines and the wind off-shore platform concerning wind turbines producing 6 MW.
- In the Hydro Business, preliminary studies were conducted on Francis turbines which represent about 60% of the hydro turbine world market.

The process is more and more systematic and the baseline is being established step by step by monitoring Thermal & Renewable Power products, thanks to life cycle assessments. The objective is to benefit from innovation to ensure the positive impact on the products' footprint and to head towards continuous improvement.

Although Alstom believes that reducing environmental impact can be attained at each step of products' life cycle, the Life Cycle Assessments confirm that highest effect generated by the Power Sectors' products occurs during their use phase, when operated by customers. This is why dedicated follow-up projects are launched, in particular on Climate Change and Water topics – see chapters below. This is also the reason underlying the development of a targeted Clean Power Offering Strategy.

(1) Source: "Achieving Universal Energy Access" – United Nations Foundations ([unfoundation.org](http://unfoundation.org)), 2012.

(2) IPCC: Intergovernmental panel on climate change.

## Managing the impact of Alstom offering on the sustainability of its customers

### Clean Power Offering Strategy

The United Nations General Assembly has declared 2012 as the “Year of Sustainable Energy for All”. The World Energy Council (WEC) defines energy sustainability as a country’s ability to provide stable, affordable and environmentally-sound energy. The societal dimensions of access to electricity include the same core dimensions: affordable access to electricity for all, environmental sustainability of electricity generation and energy security.

The Alstom Clean Power Offering Strategy is designed to first serve Alstom customer needs, while ultimately fulfilling the society sustainability objectives. It is based on three essential levers of product development:

- **reducing the cost of electricity** generation, by providing competitive assets to Alstom customers;
- **lowering the environmental footprint** of assets, to allow for the clean generation of electricity;
- **increasing flexibility and reliability**, to ensure that customer’s assets can adapt to fluctuating electricity & fuel market conditions and provide dependable operations to generate the required electrical load at all times.

The Alstom Clean Power Offering Strategy is shaped to answer the base social call for Sustainable Energy along these three undisputed core dimensions.

Alstom has developed strong capabilities for the integration of solar power into existing steam plants. Those “solar boost” retrofit solutions allow for additional solar steam and electricity production. Integrated Solar Combined Cycle (ISCC) technologies allow for up to 20% solar based output in a gas Combined Cycle Power Plant (CCPP). Integrating solar energy in an existing steam cycle is the most cost effective solution to harness renewable power from the sun.

### Feeding Power Sectors’ product development processes

The three levers are key product development “drivers” across all Power Sectors’ Businesses. For major development programmes, related customer benefits are identified and validated through customer surveys. The new product and services offering include the three levers in its business plans and product development gate reviews, so that clear qualitative and quantitative customer benefit targets drive product portfolio management. With this approach, the progress of the three levers against targets is also reported in the regular overview of key R&D programmes.

### The three Levers and the Thermal Power Sector

In the Thermal Power Sector, for both the new equipment and the installed base offering, the cost of electricity is driven down through:

- optimised plant integration;
- higher plant net efficiency to reduce customers’ fuel bill and environmental impact (per MWh produced);

- larger plant size mainly to decrease capital cost per MW installed;
- reduced operating and maintenance costs and shorter lead time to quickly turn customers’ investment into positive cash flow.

Other elements like the product platform approach for rational product development and manufacturing, and efforts to find appropriate locations for manufacturing plants and service shops, are key elements of lead-time and cost reduction.

Environmental Footprint reduction is well illustrated by – but not limited to – Alstom offering to efficiently limit and capture emissions of all kinds – including SO<sub>x</sub>, NO<sub>x</sub>, Particulate, Mercury or CO<sub>2</sub> – while minimising the negative impact on the cost of electricity. To know more about these technologies including Carbon and Capture Systems, please refer to chapter 1 of this Registration Document, Thermal Power Sector, Steam offering. Footprint optimisation also comes from increased design efforts to reduce water intensity, land use, visual impact or noise disturbance. Health and social impacts are also important factors taken into account in the global sustainability of Thermal Power offering. The progressive introduction of the comprehensive LCAs of products as described above, also contributes effectively to reduce the offering footprint to a minimum.

Increasing the flexibility and reliability of thermal power plants allows high penetration of intermittent renewable power into the grid: it is a must to ensure thermal asset profitability through changing market conditions. Rapid load change and high turn-down capability, quicker ramp-up and smarter control systems, but also fuel change adaptations are essential for the highest possible operational flexibility. Specific designs are developed throughout the Thermal Power offering spectrum, like welded rotors or lifetime optimisation, to ensure high levels of reliability, availability and maintainability of products and make sure power plants will deliver the requested power, when and as needed.

### The three Levers and the Renewable Power Sector

For the Renewable Power Sector, continuously driving down the cost of electricity generated from Alstom Wind, Solar or Ocean offering is the path towards “grid parity” – i.e. to progressively make the offering competitive with conventional technologies. This is achieved, in particular, through product and plant scaling-up as a driver to decrease capital cost per MW installed and through the capacity factor and efficiency gains to maximise generation output for a given availability of wind or solar energy. Similarly, the increased efficiency of hydro turbines and generators for new plants, or for existing plants through retrofit, is the main way to reduce the cost of electricity while maximising plant output and customer’s revenue from a given water flow. Each Hydro Power Plant is unique and requires a dedicated study. Potential gain can reach up to 5% in efficiency and/or up to 30% in output. Other elements like the platform approach for rational product development and manufacturing, and efforts to find appropriate locations for manufacturing plants and service shops are key elements of lead-time and cost reduction.

With zero emissions in operation, the whole spectrum of the Power Sectors’ renewable offering is in itself a major lever to reduce the environmental footprint of Alstom’s customer portfolio. The Power Sectors’ Renewable offering increasingly mitigates other environmental impacts through eco-design features such as noise and land use, removal of oil lubrication, or designs of fish-friendly hydro turbines.



Alstom supports the Hydro Sustainability Assessment Protocol, defined by the hydropower industry – represented by the International Hydropower Association (IHA), project contractors, governments and non-governmental organisations – and commercial and development banks. It encourages best practice in hydropower development projects and assesses projects at given milestones (early stage, preparation, implementation and operation) against a range of social, political and environmental criteria. Alstom's efforts focus on deploying the wide application of the Protocol to encourage global recognition and develop the capacity of key internal staff to use the Protocol. In October 2012, Alstom Hydro and IHA organised a seminar on the Protocol gathering more than 30 top managers from Alstom and commercial and development banks, Export Credit Agency, French administration, consultant engineers.

Renewable power development requires storage solutions: storage hydropower and pumped-storage plants (PSP) offering is the most economical way to storing large amounts of energy, providing a dependable spare capacity ready for dispatch when needed. Variable speed pumped-storage further increases flexibility. It offers partial load capability and a reduced number of starts and stops to help regulate the network frequency or voltage in pumping mode. Alstom renewable offering towards more dependable power is also achieved by developing thermal storage capability on Concentrated Solar thermal Plants (CSP), as well as hybrid concepts with Gas Turbine Combined Cycles. The enlargement of the Group's portfolio to geothermal, biomass, tidal and wave energy brings also totally predictable and base load renewable energy. Increasing reliability, availability and maintainability is a strong differentiator on the highly competitive wind market and well-illustrated by the ALSTOM PURE TORQUE® concept reducing wind turbine drive train breakdowns, thus increasing reliability levels and reducing maintenance outage.

## Measuring the impact on Climate Change Mitigation

### 2002-2011: Ten years of commitment avoiding over 200 million tons of CO<sub>2</sub> emissions by Alstom customers

In order to assess the impact of Alstom's existing solutions on GHG emission reduction paths, Alstom has developed an innovative approach on the basis of the international standard "GHG protocol". The objective of this approach is two-fold: first, monitor and estimate the emission

factors of the different "Business-as-usual" scenarii, at country level, and second, quantify the resulting yearly emission reductions at project level. Emission reductions from new build and retrofit projects commissioned in 2011 by Alstom Power Sectors have been estimated and added to the 2002-2010 projects, to provide a complete picture of the achievements over the last ten years (2002 to 2011). As for previous years, the results are verified by PricewaterhouseCoopers Audit in accordance with the ISO standard 14064-3. The corresponding "Reasonable Assurance Report" on 2011 projects, issued in March 2013, is available from Alstom Power Sectors.

1,445 power projects were successfully completed between 2002 and 2011. This project list includes new equipment projects with a major Alstom involvement (turbine and/or steam generator) and service projects impacting the efficiency or the generation capacity of existing power plants. By the end of 2011, the corresponding plant owners were able to avoid a cumulated figure of 207 million tons CO<sub>2</sub> per year, resulting in a Compound Annual Growth Rate (CAGR) of more than 25% over the ten years of the analysis. From a different perspective, this figure is equivalent to the total power generation related CO<sub>2</sub> emissions in Latin America in 2010 <sup>(1)</sup> or to the yearly total emissions of 36 million average-size vehicles on the US roads <sup>(2)</sup>.

The analysis shows that all project types and fuels in the existing Alstom portfolio of solutions can contribute to emission reduction. The share of cumulative CO<sub>2</sub> emission reductions from Renewable Power projects has been progressing from 710,000 tons CO<sub>2</sub> in 2002 (corresponding to less than 3% of total avoidance) up to 36 million tons CO<sub>2</sub> in 2006 (30%) and has almost doubled through 2011 (72 million tons CO<sub>2</sub> or 35%). Moreover, the share of cumulated emission reductions enabled by service projects has been continuously increasing up to 7.7% in 2011. Developing and emerging countries top the ranking in terms of highest abatement rates per MW provided by Alstom: China at 1,900 tons CO<sub>2</sub> avoided per MW, India at 1,600, Middle-East and Africa at 1,520, followed by North America and Europe at 1,100 tons CO<sub>2</sub>/MW each. The mitigation path enabled by Alstom projects completed in China shows even decreasing absolute emission levels for the corresponding generation capacity between 2002 and 2011. This reduction is equivalent to a yearly net average de-carbonisation rate of 112 kg CO<sub>2</sub> per MWh generated by these projects.

For more detailed information, please refer to [www.alstom.com](http://www.alstom.com) or contact the Power Sectors' Sustainability team.

(1) Source: International Energy Agency, World Energy Outlook 2012.

(2) Source: US EPA, 2012.

CUMULATIVE ANNUAL CO<sub>2</sub> AVOIDANCE FOR THE GLOBAL POWER GENERATION SECTOR ACHIEVED WITH THE OPERATION OF THERMAL POWER & RENEWABLE POWER OFFERINGS COMMISSIONED BETWEEN 2002 AND 2011 (BASED ON FIRST YEAR OF OPERATION VALUES)



### Managing the water footprint of the Power Sectors' offering

#### Thermal Power & Renewable Power Strategies and Solutions towards a more water-constrained future

Water is required throughout the electricity value chain of most power generation technologies. Water use in upstream processes can be high for some of these technologies: in particular the extraction of fossil fuels – especially the exploration and processing of unconventional ones and also for biofuels production. In thermal power generation (renewable and non-renewable), the impact on water is most important during the operation phase in comparison with any other life cycle phase, mainly for the cooling process.

The impacts of power generation units on water during operations involve withdrawal, consumption and impact on quality of surrounding water resources. At the same time, high water-dependent power generation may be especially vulnerable to conditions of water availability and quality. Recent high temperatures and droughts have emphasised the importance of water in anticipation of a water-constrained future in many regions, due to climate change and population and economic growth.

The Alstom "Clean Power Offering" approach is particularly valuable to develop and adapt water solutions to the specific regional and site needs and regulatory constraints of its customers. Alstom efforts to optimise the impact of its offering on water resources while maximising assets values are organised around three main pillars:

- **Reducing water dependency** with a diversified portfolio of power generation technologies reducing both the volume and impact of water withdrawal from external sources:

- solutions for water-independent cooling and operations: Wind and Simple Cycle gas turbine solutions require almost no water for operating <sup>(1)</sup>. Furthermore, Alstom has developed some of the largest and most efficient air-cooled applications for large coal and gas-fired plants;
  - operating with lower water quality: Alstom solutions also enable to use seawater (for cooling or flue gas desulphurisation) or treated wastewater (for cooling and process requirements). The withdrawal of fresh water can also decrease by reusing lower quality water (e.g. cooling tower blowdown) for flue gas desulphurisation (FGD) with the Alstom Wet FGD or semi-dry NID™ technology <sup>(2)</sup>;
  - reducing the impact of water withdrawal: water intake and use of hydro sources to generate electricity can cause adverse impacts on wildlife and other natural resources. Beyond reducing the volume and quality requirements, the Alstom approach to address water dependency includes solutions to reduce these impacts. This can be achieved, for instance, through fish-friendly turbine designs, as recently launched by the Hydro Business, in order to reduce fish mortality rate.
- **Enhancing water use efficiency** with solutions for reducing the net consumption rate of high quality water during plant operations <sup>(3)</sup>:
    - enhancing thermal efficiency and reducing the need for cooling: for thermal power units, improving thermal efficiency and reducing the amount of heat discharged in the environment are the main levers to reduce water consumption in recirculating wet cooling processes. Key applications to use the heat instead of dissipating it through a cooling system include co-generation for district heating and fresh water production through seawater desalination;

(1) In case of Simple Cycle gas turbines water is not required for cooling purposes as there is no need for cycle cooling. Gas turbine performance is highly sensitive to ambient air temperature. Rising ambient air temperatures result in a decrease of turbine performance. In regions with severe ambient conditions, water may be used for cooling inlet air (the air at the compressor entry) in order to maintain turbine performance.

(2) NID: Novel Integrated Desulphurisation.

(3) It is worth mentioning that in case of Hydro projects, the estimation of water consumption of Alstom supplied hydro solutions through evaporation in reservoirs is problematic and can rarely be attributed to hydro power alone but to multiple uses (irrigation, water storage, flood control, recreation...).

- reducing fresh water consumption rate: further non-cooling, fresh-water consuming processes are addressed. In solar thermal technologies, the technology of "Alstom/BrightSource Energy Inc. Central Receiver Concentrated Solar Power" is air-cooled and consumes one third of the water required for makeup and mirror cleaning compared to other solar thermal technologies;
  - increasing water recovery for reuse: Alstom also develops solutions to increase the recovery of water from internal plant processes. As realised in recently executed geothermal projects, process (condensate) water replaces fresh-water for cooling.
  - **Lowering the impact on water quality** with solutions to control the thermal and chemical impact of operational discharge on the quality of surrounding water resources. A wide range of solutions enable to:
    - reduce the volume of discharge into external water resources: this is achieved by integrating of zero liquid discharge (ZLD) concepts, as implemented in some recently-provided gas and coal-fired power plant projects. The ALSTOM NID™ technology also operates with ZLD as in the case of Wet FGD systems;
    - limit the impacts of discharge: for coal-fired power plants, the Alstom Seawater FGD system produces no waste while almost restoring sea water quality before discharge. New Hydro solutions mitigate the depletion of dissolved oxygen in water that can be damaging to aquatic life. Furthermore, Alstom existing hydro turbines are capable of utilising water lubrication as well as biodegradable and low toxicity oil.
- In addition to existing solutions, Alstom is committed to further strengthen the related R&D activities in order to provide economically and environmentally viable solutions to lower the impact of its offering on water resources in a water-constrained future.

## SUSTAINABLE DEVELOPMENT STRATEGY IN THE GRID SECTOR

The energy industry is facing new and complex challenges: by 2035, global electricity demand will have increased by 33%, renewable energy production will account for almost 1/3 of total electricity output and electricity prices will have risen by 15% compared to now. Furthermore, currently 1.3 billion people still lack access to electricity <sup>(1)</sup>, some countries have set targets to improve their energy efficiency, and ageing infrastructure will have to be replaced <sup>(2)</sup>.

The Grid Sector faces specific energy challenges. For instance:

- electricity is the fastest growing component of global energy demand, with electricity consumption expected to increase by 115% to 150% between 2007 and 2050, depending on the scenario <sup>(3)</sup>. However, 8% of all generated energy is lost during transmission <sup>(4)</sup> and integrating intermittent renewable energy from the wind and the sun to the grid affects grid stability. Moreover, in large countries, like China and India, where energy demand is sharply rising, thousands of kilometres can separate power generation units from customers. Consequently, more than ever before, the global power grid must be reliable, efficient, and minimise energy losses and environmental impact;
- it must also integrate intermittent renewable energy sources without sacrificing grid stability, while managing rising energy consumption and related demand peaks in a sustainable way;

- additionally, there is increasing concern in the electrical industry about using SF<sub>6</sub> for electrical equipment isolation due to its significant global warming properties. However, the use of SF<sub>6</sub> is essential to the high voltage grid sector due to its particular dielectric, breaking and insulation characteristics. SF<sub>6</sub> gas insulated substation (GIS) are more compact than air-insulated substation (AIS), and as such can be built closer to consumers, reducing network transmission losses, the major contributor to the total global warming potential of the entire system (or electric grid). For the time-being, no alternative solution exists on the market.

### Sustainable products, solutions and services

The Grid Sector's environmentally-friendly solutions facilitate the integration of renewable energies to the grid, energy efficiency and CO<sub>2</sub> emissions reductions. The Grid Sector has become a leader in the new and highly competitive market of "Smart Solutions," including the smart grid, the supergrid and the integration of renewable energies into the grid.

(1) Source: "Achieving Universal Energy Access" – United Nations Foundations ([unfoundation.org](http://unfoundation.org)), 2012.

(2) International Energy Agency 2012.

(3) International Energy Agency 2010.

(4) World Bank 2010.

## The Smart Grid

Worldwide, power grid infrastructures are evolving to adapt to the challenges mentioned previously: rising energy demand, necessity of integrating intermittent renewable energy sources to the grid, and the larger number of regional grid interconnections. Moreover, energy markets are moving towards greater deregulation and consumers are adopting more proactive attitudes in managing their electricity use. Smart grids offer answers to these challenges and to market evolutions: improved network efficiency, capacity and stability, facilitating the development of a cleaner, more sustainable and cost-efficient energy supply.

To accomplish this transformation, the Grid Sector uses a portfolio of smart grid systems relying on combinations of its key technologies: smart control rooms, smart power electronics and digital substation solutions. These systems, installed with major operators worldwide, are grids capable of tracking electricity supply and demand in real-time and of optimally dispatching the power, thus reducing the CO<sub>2</sub> emissions associated with unnecessary energy generation. Moreover, Smart Grids enable utilities to control the exact operating conditions of their assets in real time. These operating conditions may greatly exceed the asset's design values. Consequently, online asset monitoring helps customers operate their assets closer to the limit, allowing them greater flexibility and postponement of certain upgrade investments.

Moreover, the Grid Sector is a leader in smart city pilot projects, transforming existing or future urban districts into self-sustaining eco-cities. Examples include IssyGrid or NiceGrid in France and the Philadelphia Docks in the USA. These "microgrid" projects use smart control rooms to monitor and manage urban distributed energy resources, including smart buildings, electric vehicles, storage installations, demand response programs, local micro-generation, and smart meters. Additionally, these technologies allow proactive consumers to monitor their energy consumption in real time and to adjust their energy use as necessary.

## The Supergrid

The second sustainable grid transformation is the development of the Supergrid, a high-efficiency power grid which interconnects national energy networks across regions and continents. These energy-efficient highways allow the transmission of bulk-power over long distances as well as the integration of renewable energy sources. This transformation is especially important as these long-distance connections are the best way to connect remote sources of energy production to high-density load consumption and to integrate offshore wind farms located far from the coast. The interconnections between national grids also allow utilities to export energy to neighbouring markets, to reduce the costs of energy production and transmission, and to improve Grid stability thanks to the mutualisation of different systems' generating units.

There are many environmental benefits in Super Grid solutions:

- integrating distant large-scale renewable energy sources (hydro, wind or solar) with High Voltage Direct Current (HVDC) reducing energy losses as HVDC can transmit electricity with only 3% loss vs. 6% for the traditional Alternative Current (AC);
- reducing generation due to shared reserves between interconnected regions.

For example, Alstom Grid was selected in February 2013 by Dutch-German grid operator TenneT for the DolWin3 project to connect this wind farm cluster in the North Sea to Germany's national grid. This project is strategic for Germany, helping it increase its renewable energy use while reducing its fossil fuel dependency and its greenhouse gas emissions. Alstom will use the above described HVDC solution to transport this wind energy over 160 km to the onshore grid.

## Integration of wind and solar energy

The integration of increasing levels of renewable energy sources into the grid is a priority for many countries, including the European Union and China. The Grid Sector has become one of the utilities' preferred partners in this field. Its solutions for renewable energy integration include smart control room expertise and Direct Current (DC) connection creation.

Alstom's network management systems for smart control rooms provide software platforms dedicated to the management of intermittent electricity flows, both at transmission and distribution level. Systems such as the Renewable Desk (for transmission networks) or the Distributed Energy Resources Management System (DERMS) monitor and pilot wind and solar-sourced energy in real time and integrate it into the base load from traditional energy sources. These smart grid renewable management systems open the way for future renewable fleet management systems and network protection and control. Moreover, in the management of asynchronous power flows, optimal dispatch and balancing as well as network stability are critical elements: online stability solutions help to avoid perturbations while integrating the renewable power flow into the lines.

Furthermore, the Grid Sector offers a range of power transmission solutions for wind farms compliant with feasibility studies, power connection design and power compensation solutions. For offshore wind farms in particular, the Grid Sector brings the grid closer to the wind turbines themselves by installing floating offshore electrical substations. Grid's first offshore substations have been installed in the UK, as well as in the North and Baltic seas off the German and Danish coasts. Additionally, the Grid Sector has developed the HVDC MaxSine system, a Voltage Source Converter (VSC) enabling the efficient transmission of offshore wind energy to the onshore grid through a DC link.

## Green Services

The Grid Sector offers innovative, sustainable and high quality service to optimise electrical infrastructure, heighten equipment return-on-investment and prolong asset lifecycles. Customer needs range from

punctual interventions to long-term partnerships and include network design, asset maintenance and evolution, emergency support and predictive maintenance.

Long-term maintenance solutions provide lifetime support on high voltage equipment or entire networks, from annual inspections to minor or major maintenance work, in order to increase infrastructure reliability. Renovation, modernisation and extension services improve performance and resolve obsolescence issues. Equipment that is maintained throughout its lifecycle, replaced or updated as needed to keep pace with environmental standards, is equipment that functions efficiently with less waste. The Grid Sector offers a wide range of consulting solutions to proactively ensure better, more energy-efficient performance.

Moreover, the Grid Sector offers a variety of services to help customers reduce their environmental footprint throughout their equipment ownership, including SF<sub>6</sub> management (handling training and certification, top-up, quality check, recycling, leak detection and repair, and mobile decontamination workshop), vegetable oil as a replacement for mineral oil in transformers, and equipment decommissioning, refurbishing and recycling. These cost-efficient offerings help customers comply with environmental regulations, reduce their SF<sub>6</sub> emissions, pollution and industrial waste, improve their safety conditions by relying on the Grid Sector experts for SF<sub>6</sub> handling and equipment decommissioning, and extend equipment lifetime.

### Sustainable production methods: environmental-friendly product design and life-cycle assessment

Eco-design implies the integration of environmental criteria into the design process of a product to minimise its environmental impact at

every stage of its lifecycle. The Grid Sector's eco-design process relies on the IEC 62430 standard, specifying the norms and procedures used to integrate environmental factors into product conception, development, and materials. The Grid Sector offers eco-design training to its product designers.

Eco-design uses the Life-Cycle Assessment (LCA) approach: to evaluate the environmental impacts of a given product at every stage of its life cycle: raw materials, manufacturing (the reduction of natural resources in the components); product operations (lower CO<sub>2</sub> emissions, limits on environmental risks, greater energy efficiency...); end of life (product recycling capabilities). The LCA allows Grid R&D to identify with utmost precision the processes and phases that will have the greatest environmental impact in equipment production, and thereby highlight priority areas for design improvement. The Grid Sector uses the LCA methodology to measure and improve the environmental impact of an increasing number of its products: this results in the creation of product environmental profiles.

Thanks to this life-cycle analysis methodology, new Grid solutions provide significant environmental improvements compared to the previous product versions, and respect international and local environmental regulations as well as Alstom's Environment, Health and Safety (EHS) rules.

As an example, the 72.5 kV Live Tank Circuit Breaker (Vacuum breaker), launched commercially in summer 2012, fully eliminates the use of SF<sub>6</sub>, a greenhouse gas with significant global warming potential.

As for other Sectors, relationships with other stakeholders (like customers, suppliers, external bodies) and local communities are part of Alstom Grid's sustainable development strategy. For more information, please refer to information provided in the section "Relationship with external stakeholders".

## SUSTAINABLE DEVELOPMENT STRATEGY IN THE TRANSPORT SECTOR

Worldwide demand for mobility is increasing faster than Gross Domestic Product. The worldwide population is expected to reach 9 billion inhabitants before 2050, 70% of which will live in cities <sup>(1)</sup>. Developing countries will account for 85% of this demographic growth. In developed countries, more and more individuals are moving outside cities where living conditions can be more favourable, which also increases average journey distances.

Congestion, air pollution, noise, energy resources depletion, are largely associated with transport development and are an increasing concern. Rail transport offers true sustainable alternatives to road as it is generally the most energy-efficient mode, the less contributing to local air pollution and CO<sub>2</sub> emissions with additional benefits in terms of noise, space-use and safety <sup>(2)</sup>.

(1) Source: UNFPA, The United Nations Population Fund.

(2) Indian 12<sup>th</sup> five-year plan and UIC – High Speed Rail – Fast Track to Sustainable Mobility.

But transport is not only a matter of carrying passengers and freight. Modal shift for public transport can only happen if solutions are attractive and interconnected. Providing an efficient rail transport system requires a comprehensive approach that begins with careful attention to the customer's needs and culminates in the delivery of smooth services for the passenger. This approach guides everything in Alstom Transport and is visible through its new positioning: Designing fluidity.

Fluidity is about the way to design and deliver sustainable global railway solutions that benefit everyone they serve: operators, public authorities and individual passengers.

## Fluidity as a vector of eco-mobility

Smart transport systems should be fluid, efficient, eco-friendly, safe, connected and accessible. Alstom Transport makes sure its products and services respond to these new social and environmental challenges of mobility.

### Solutions tailored to city needs

Tramway networks have made a strong comeback worldwide. They offer an attractive option for cities seeking a new form of sustainable transport that enhances cities assets and connect populations.

Tramway systems with the 1,600 CITADIS™ tramsets in service, provide the high level of comfort and fluidity offered by guided transport and easy access to millions of passengers daily. With customised livery and interiors layout, with ground power supply and vegetal cover on tracks, tramways are fully integrated in their surroundings. Today the tramway is the favourite mode of public transport <sup>(1)</sup> for urban citizens, making it a highly efficient tool to promote the modal shift.

Capitalising from its expertise and dialogue with customers, Alstom is currently developing its new generation of CITADIS™ tram range. The new CITADIS™ Compact, is specifically designed to address the market of medium-sized cities, with reduced dimensions, optimised costs and simplified maintenance. With a lifecycle of approximately 30 years (twice that of an urban bus), it offers a competitive mid-term alternative.

Integration in the urban environment, autonomy and energy efficiency are important criteria for project choices. Alstom is a precursor on "catenary-less" solutions:

- APS (*Alimentation Par le Sol*), a ground power-supply system, eliminates the need for overhead wire. This exclusive technology was first installed in Bordeaux, France, which is developing its network further. It is also in service in Reims, Angers, Orleans, and will be soon in Tours as well as Dubai (United Arab Emirates);
- on-board batteries are another technology currently in service on the Nice CITADIS™ tramway;
- in the near future, combined solutions involving APS, batteries, and supercapacitors or fly-wheel power supply will enable trams to operate autonomously between two stations, help reduce the fleet's energy consumption by up to 15% and allow for a smaller network of electrical substations.

Metros provide an effective and balanced solution for high-capacity transport with minimum space use and environmental impacts. Metros consume in general three times less than buses and four times less than cars in kWh per passenger in primary energy equivalent <sup>(2)</sup>. This represents about five times fewer CO<sub>2</sub> emissions than a bus, seven times less than a car in Europe <sup>(2)</sup>. Thanks to minimum local air emissions, metro networks also participate actively in air quality improvement in downtown cities. With 25 years of expertise in integrated solutions especially for automatic metro (Singapore Circle Line, Lausanne), Alstom is a leading global metro systems provider. Through turnkey projects, involving its METROPOLIS™ trains and URBALIS™ signalling portfolio, Alstom designs complex transportation systems for reliable, seamless mobility and optimised ownership costs.

As energy can represent up to 20% of the operating costs, operators pay increasing attention to life-cycle cost and energy efficiency of systems they buy.

METROPOLIS™, designed for Amsterdam, is a real show case for sustainability. Despite its wide gauge, its weight is minimum (12 tonnes per axle) due to its aluminium body and components re-design. Electrical braking can work down to a complete stop, allowing full recovery of the braking energy, and reduced dust and noise emissions. Lighting is also 100% LED. Accessibility has been improved, and it is among the most silent metros in the world (-8 dB on interior noise levels).

Alstom develops a full range of services to improve the energy efficiency of existing systems. Modernisation of the Lille driverless Metro Line 1 is in process. With more efficient trains and an up-to-date signalling system allowing trips optimisation depending on operating conditions, energy consumption of the system will be improved up to 20%.

Alstom's URBALIS™ signalling solutions provide automatic control of train movement, safer traffic management and improved travel times. This allows transit operators to optimise traffic fluidity, and increase capacity and system efficiency by making the best use of infrastructure. Over the past decade, 50 metro lines have been placed in service or equipped with URBALIS™.

Tram-trains (CITADIS™ Dualis™ and Regio CITADIS™) and suburban trains (X'TRAPOLIS™) provide reliable, comfortable, high-capacity public transport solutions for daily mobility in expanding suburban areas over longer distances. Able to operate on city networks and main-lines, they are a key link for intermodality. For example, the CITADIS™ Dualis™ tram-train can run over both city centre tram networks and regional rail lines in the surrounding regions.

(1) Source: Region Île-de-France/RATP.

(2) Source: ADEME; per passenger, with average occupancy rate.



Alstom is putting a lot of effort to reduce energy consumption and noise at system level in urban networks. For example:

- the HESOP™ reversible substation enables to feed back into the grid almost all electrical energy recoverable from trains with regenerative braking systems. It is being tested in a joint project with the Régie Autonome des Transports Parisiens (RATP) and the first results confirm HESOP's performance for the energy and quality of electricity recovered;
- high attenuation sleepers mitigate vibrations for the tracks. They work like floating slab track systems, but at a lower cost.

Disturbances generated by projects in city centres can be a major concern for customers; Alstom is constantly looking at ways to make projects run smoothly and efficiently. For this, Alstom has designed APPITRACK™, an innovative tracklaying machinery that operates automatically four times faster than a conventional process. The APPITRACK™ solution has a proven record on tramway projects and is now developed for metro applications.

### Regional transport for day-to-day travel

Regional trains connect territories and contribute to their economic growth. They provide daily commuting services in-between new urban areas. The needs they fulfil are as diverse as the territories they serve: high capacity and service frequency, high-speed travel for longer distances, modularity, extreme weather conditions...

Alstom offers a range of solutions and technical configurations unmatched on the market in terms of engine (electric, diesel and hybrid), architecture (single and double-decker), number of cars (from two to seven), interior fittings and winterisation. The CORADIA™ range also stands out for eco-friendliness: over 98% of its components are recoverable and it consumes 15% less energy than its competitors. Self-ventilated traction motors also generate considerably less noise when trains are stationary.

The Regiolis version, stemmed from the CORADIA™ Polyvalent platform, is equipped with train meters that provide information to the driver about energy consumption. Adjustable ventilation system optimises air flows outside peak hours, saving energy while train sleeping modes have been designed to minimise energy consumption.

The CORADIA™ Lint for Germany is one of the first diesel trains to be fitted with a filter reducing soot particulate emissions by 95%. Since order intake in 2011, CORADIA™ Lint have been equipped with diesel engines which meet the stringent exhaust gas emission standard Stage 3b. The new architecture, with several powerpacks distributed over the train, also allows to switch off one engine when the full performance is not needed and achieve up to 10% fuel saving.

### (Very) high-speed rail re-shaping territories

High-speed and very high-speed rail have redrawn the map of travelling times in many countries. On this market segment, passenger comfort is key and is given high attention.

Aboard the AGV™, recently delivered to NTV in Italy, spacious interior compartments and wide gangways, large window surfaces, low levels of interior noise and multimedia amenities, provide passengers with unmatched on-board comfort. Not surprisingly, ridership and occupancy rate have regularly increased since the service started. These trains have already transported over 2 million passengers, many of them resulting from the modal shift from planes, coaches and cars.

The AGV™ train has been designed with a strong focus on weight and aerodynamic drag optimisations. Following extensive engineering work combined with simulations, the AGV™ resistance to motion is lower by at least 12% compared to published competitor values. Altogether, the energy consumption of the AGV™ is around 20% lower than competitors' trains.

### Opportunities on the freight market

Rail freight worldwide has an enormous potential considering its reliability, safety and environmental performance.

The capacity to operate over several countries networks is key and Alstom has developed a new generation of locomotives which are fully compatible with the European Rail Traffic Management System (ERTMS) and can operate on any corridor in Europe.

Energy consumption for freight operations is high due to the efforts at stake, and a major concern of customers who are carefully looking at optimisation solutions. Alstom has developed eco-driving tools to support reducing energy costs by up to 15%.

On recent modern locomotives, the optimised control of equipment cooling by temperature checks allows to reduce fan speed when possible, hence reducing energy and noise.

Alstom has also designed the H3 hybrid shunting loco combining the use of a diesel generator, electric traction and a battery. This technology reduces fuel consumption by up to 50% compared to conventional solution and allows in-door operations with no emissions and reduced noise.

### Designing sustainable railway systems

Alstom Transport consistently promotes a life-cycle approach maximising environmental and economic benefits over time. It deploys a complete eco-design process to control and reduce each product's environmental impact throughout its working life, from manufacturing to recycling.

### Eco-design for all products and services

Alstom Transport first began an in-depth reflection on eco-design in the mid-90s and established its "Eco-design" Centre of Excellence in Valenciennes (France). Its Eco-Design policy sets priorities:

- energy efficiency;
- noise and vibrations reduction;
- non-pollutant raw materials;



- fluids and particulate emissions control;
- landscape integration.

This policy is deployed in engineering processes which ensure compliance throughout project execution.

Life-cycle assessments are conducted to support technical choices in many projects such as the CITADIS™ Tram, or the new Montreal and Amsterdam metros. Environmental Product Declarations (EPDs) provide customers with a thorough vision of environmental impacts over the life-cycle. In 2012, the EPDs of Alstom new loco Prima™ II was issued.

Alstom is contributing to several professional organisations (UNIFE, FIF, VDB, FIEEC, ZVEI) to support the harmonisation of standards regarding energy metering and efficiency, hazardous substances and recyclability, noise reduction and life-cycle assessments.

### Improving energy efficiency

Alstom makes constant efforts to reduce the energy consumption of trains and systems, and now delivers high-speed trains, metros and regional trains that consume up to 20% less than previous generations, thanks to:

- weight reduction through composite materials and re-design for lighter metal parts;
- reduced aerodynamic drag;
- more efficient traction systems, either electrical or diesel;
- energy-efficient auxiliaries;
- braking energy recovery;
- smart metering and eco-driving tools.

Alstom is leading for the application of permanent magnet motors which provide over 3% improvement in energy efficiency vs. asynchronous motors. First introduced on very-high-speed trains, they are now progressively deployed on tram-trains, regional trains, and tramways.

Alstom has also developed in partnership with its connectors' suppliers, the first aluminium wires applied in the rail transport market. Aluminium minimises the weight and energy consumption while providing the same conductivity after section adaptation. After the first prototype showed good performance results with up to 240 kg per car weight reduction, the solution is being deployed on the new CORADIA™ Polyvalent train.

Regarding the strategic field of energy storage, Alstom Transport has recently signed an agreement with Williams Hybrid Power to adapt a composite flywheel energy storage from the original solutions developed by the Williams Formula One team. If current tests results are positive, this new energy storage could be applied to Alstom's CITADIS™ trams as early as 2014.

Due to trains' long life-span, reducing the systems' energy consumption in a short-time frame is only possible by addressing existing fleets. Alstom is therefore extending its services range to energy efficiency. The services developed include energy mapping, energy optimisation solutions such as traction retrofit, driver assistance implementation,

energy-storage solutions and energy controlling in operations. Through a joint research program with Ireland's Railway Procurement Agency, a Dublin tramway will soon be equipped with smart meters developed by Alstom Transport to analyse the main energy usages and identify potential areas for optimisation.

### Noise reduction

Noise is a key concern, crucial for acceptance of railway projects and to optimise passenger comfort.

Simulation tools have been developed for railway systems to determine noise levels and define optimised rolling-stock and infrastructures. Alstom's key solutions include:

- redesigned HVAC (resonators, micro-perforated ducts) for reduced interior noise;
- new wheel dampers for high-speed trains and metros, to avoid squeal;
- re-designed traction motor rotors (new high-speed trains, metros);
- doors optimisation (METROPOLIS™ Amsterdam);
- optimised ventilation: natural rather than mechanical fans, or switched off during stops.

On average, new trains are now 3 to 5 dB more silent than previous generations.

### High recyclability

Alstom is proactive in design choices to favour recyclable materials and anticipate end-of-life by:

- favouring water-soluble paints and biodegradable oils for most of the rolling stock;
- favouring riveting and bolting when assembling parts to facilitate end-of-life recycling;
- providing customers with materials safety information and decommissioning instructions;
- tracking and substituting substances falling under the European Regulation for Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Alstom is conducting research on the use of biomaterials from renewable resources such as wood, hemp, wool, cork or flax for insulation, floors or fittings, as well as innovative thermosetting composite materials with limited environmental impact.

Alstom trains are now more than 90% recyclable and 97% recoverable (including energy recovery).

Despite their high level of recyclability, only few trains are actually recycled due to the limited options for dismantling. Alstom Transport has decided to tackle the issue and, along with a group of partners has set up an industrial consortium in the North of France to decommission end-of-life railway rolling stock. The first coaches for decommissioning have been provided by the RATP and tests of the process are in progress.

## Delivering fluidity for the benefits of passengers, communities and partners

Alstom, in collaboration with its partners, provides railway solutions that change the life of millions of passengers daily and bring benefits to the local communities where it operates.

### Passenger at the centre

Convinced passenger comfort is key to change behaviours towards sustainable mobility, Alstom puts the passenger at the centre of its innovations. New products offer large gangways and windows, reduced noise emissions, video-surveillance, new information systems, and accessibility for all.

Alstom Transport was the first to sign a partnership with the newly-created Certesens Research Centre in Tours, France, dedicated to sensorial technologies. This partnership will bring a different, multi-sensory approach to rail travelling, by identifying the colours, smells, noises, and touch that passengers wish to experience in a train.

Accessibility is another important element of passenger comfort. Each passenger, whether disabled, senior, travelling with children or bicycles,

should have proper access to any type of train. Alstom engineers design products to suit the users of tomorrow. They have already taken into account the increased height of future passengers. They also integrate the ageing population. It is indeed estimated that, in 2050, in some European countries, people aged over 65 could represent more than 30% of the total population <sup>(1)</sup>.

Alstom Transport is committed to facilitate access and on-board movement, adapt ergonomics (for example with touch-sensitive and visual push-buttons) and improve passenger information systems through active line maps, auditory or visual signals.

The last generation of X'TRAPOLIS™ for Melbourne (Australia) now includes a high-technology passenger information system with audio announcements, automatic station display and video-surveillance.

As for other Sectors, relationships with other stakeholders (like customers, suppliers, external bodies) and local communities are part of Alstom Transport's sustainable development strategy. For more information, please refer to information provided in the section "Relationship with external stakeholders".

## CLIMATE CHANGE STRATEGY

In 2013, more and more indicators point to Climate change, and in particular the global increase of average temperatures, as an inevitable consequence of the world's fast economic and demographic development over the last decades or even centuries. Scientists predict several possible consequences, although the extent of each of these is still open for debate among experts, for example regarding the rise of the sea level, the reduction and possible disappearance of glaciers and the precipitation changes and occurrence of extreme weather conditions. These are a short list of primary physical consequences, and there are numerous second ones that will not be explored in detail, e.g. food security, droughts, migration, water scarcity, impact on human health.

However, Alstom feels that it cannot wait until these effects are fully certain and understood. The Group is taking a prudent and pragmatic approach to make sure it is well prepared for all possible consequences of climate change and how they will affect Alstom and its stakeholders. At Group level, the focus is on mitigating the impact on its operations. The Sectors and Businesses must be prepared for the impact on operations, and also have a strategy in place to adapt their product portfolio in view of climate change. In short, climate change leads to additional risks for which Alstom is preparing itself, but also leads to new business opportunities that Alstom will benefit from.

### Risks

At Group level, a rigorous approach is in place to deal with risks.

On the one hand, Alstom has a Company-wide yearly risk assessment process in place; in order to answer the climate change challenge, the Group decided, in February 2013, to include the "Climate change risk" as a new risk factor, for implementation in the FY 2013/14 cycle.

On the second hand, Alstom takes immediate action to modify processes when and wherever necessary. The main example is the management of Alstom's industrial locations. For the selection of new sites or for important structural investments in existing sites, the Group has integrated the site's "preparedness" and "exposure" to climate change effects as one of its ranking criteria. Very recently, one of the Businesses did not choose a location near the shore for a new manufacturing plant because of the potential risk of flooding in case of extreme weather or sea level rise.

Going into some more details, Alstom Sectors and Businesses are already conducting risk assessments, and below are several examples of the potential risks of climate change on operations and/or facilities:

- increased frequency of extreme weather events – more frequent flooding, cyclones, hurricanes, etc. – can affect Alstom facilities. These are a risk to Alstom's buildings and sites but also to the infrastructures used and to the homes and buildings of customers, suppliers and employees;

(1) Source: CEREMH (Centre de Ressources et d'Innovation Mobilité Handicap).

- increased frequency of droughts and heat waves – this could lead to an increase in the need for energy (air conditioning, refrigeration) and water (cooling of equipment), as well as in the probability of fires affecting Alstom facilities;
- increased intensity of storms and hurricanes – models predict an increase in peak wind intensities and in near-storm precipitations in future tropical cyclones. Changes in precipitation patterns can negatively affect Alstom's operations, Company workforce, infrastructure integrity, etc.;
- changes in snow and ice patterns – these can lead to the indirect cost of service interruptions, as well as direct costs such as snow clearing to maintain operations and increased heating.

Following these assessments, a number of mitigation actions, some cross-Sector, and others for specific Sectors only, have been launched:

- all new Thermal Power factories are LEED <sup>(1)</sup> certified (e.g. Wuhan in China, Chattanooga in the USA) which, in addition to be more environmental-friendly, limit the potential impact of natural extreme events;
- on existing sites, renovation work is conducted as necessary. For example, in order to prevent flooding, the Savigliano (Italy) site has recently strengthened its banks next to the nearby river;
- periodical audits on Security and Loss Prevention (Fire and Natural Catastrophe) are conducted at sites by external experts. The frequency is established according to the type of site and the events they are most exposed to;
- insurance coverage assessment and adaptation;
- business continuity plans are being set up site by site;
- built-in redundancies and a delivery model based on several manufacturing and engineering sites worldwide are an important asset to cope with climate disaster that may impact a specific location.

The Group expects from further proactive risk management practices and assessments to decrease the likelihood of adverse impacts, and from the mitigation/protective measures to reduce their magnitude.

## Opportunities

Alstom is well prepared to benefit from new opportunities arising from changing conditions, and will be well positioned to gain a competitive advantage.

First, as climate change is increasingly important for all stakeholders, there will be a higher demand for all products and services that Alstom has been working on for many years, with a strategy to make these as environmental-friendly as possible. Alstom's Renewable Power Sector will grow significantly through higher demand for Renewable Energy, but the other Sectors also have new solutions under development to address specific environmental concerns. This strategy has already been addressed more exhaustively in the above section "Sectors' sustainable development strategy", as well as in chapter 1 – Description of Activities, Thermal Power Sector), but two key examples are:

- Thermal Power: Carbon Capture and Storage/Utilisation (CCS/U) is an entire new business segment in which Alstom is taking a leading role. Alstom has several demonstrators that are successfully operating, and the Group has the technology and know-how to deploy these on a commercial scale, as soon as demand (driven by regulations or higher CO<sub>2</sub> prices) increases;
- Grid: evolution of regulation could seriously impact the business of products containing SF<sub>6</sub> (banned or more probably taxes). The Grid Sector is anticipating with its R&D programme, moving up voltage limit for SF<sub>6</sub>-free products and reducing the volume of SF<sub>6</sub> in its new products.

Secondly, climate change will lead to a demand for products and services, better adapted to the new conditions. Alstom is diligently taking on board these new requirements in its R&D roadmaps, for example in the Transport Sector:

- Rolling-stock and railway infrastructures need to be designed to resist more frequent climatic events such as storms, floods or extreme temperatures. Alstom Transport has extensive experience in providing railway systems adapted to local weather conditions, whether in high temperature climates (ex.: Dubai, United Arab Emirates; Caracas, Venezuela) or very cold (Russia, Kazakhstan). In addition, Alstom Transport actively participates in UNIFE discussions on the need to adapt railway systems to Climate Change and supports the Climate Change & Standardisation Sector Position Paper issued on 20 December 2012 by CER and UNIFE.

## INNOVATION MANAGEMENT

Innovation is one of the key drivers for the future success of Alstom. It drives products, processes and organisational change, and is therefore a key differentiating factor the Group can leverage.

The Innovation Department at Group level was established in March 2012 and since January 2013, has been reporting directly to the Chairman and CEO.

The innovation policy follow-up at the Group level is organised through two Innovation Committees operational since April 2013:

- an internal Innovation Steering Committee whose key responsibilities include connecting initiatives and delivering key actions across the Group to anticipate potential markets, skills and competencies, breakthrough technologies, and boosting strategic partnerships for innovation;

(1) LEED: Leadership in Energy and Environmental Design: internationally recognised green building certification program.

- the International Science & Technology Advisory Committee, which gathers 20 high-level independent experts from science, technology, industry and human and social sciences, to review Alstom's Group innovation policies.

The total Research and Development (R&D) expenditure across all Sectors amounts this year to €794 million compared to €780 million last fiscal year. For further details on this and the key technologies and successes, please refer to chapter 2. R&D is decentralised and each Sector drives its own R&D processes. In line with this, Innovation at Corporate level aims to streamline this system with synergies, cross-disciplinary programmes and open innovation strategies.

Several initiatives are operational across the entire Group. Examples include:

- the Alstom Innovation Awards internal competition, launched in 2008, received 344 applications from 25 countries in 2012. The competition rewards every year employees who have successfully developed innovative processes, products or systems. The criteria must show that the innovation is new, that it works, and that it is sustainable. One 2012 winner was the AHX – Combined waste heat recovery and removal of volatiles project related to Aluminium production. It revised how carcinogenic tars are collected while simultaneously recovering waste heat in the process;
- in March 2013, the Collaborative Network 2.0 tool was launched in a pilot phase. It is a professional collaborative Information Technology (IT) tool focused specifically on innovation across the Group. Organised by technical domain, each with a Champion, it highlights best practices, new ideas, technical insights and critical issues for innovation. This tool will be expanded to involve 20,000 employees related to innovation and R&D activities.

Innovation management is structured into different areas; competencies, skills, key enabling technologies and major challenges. For example:

- in the field of hydro, agreements have been signed in Canada with Laval University, Polytechnic Institute of Montréal and *Institut de technologies supérieures de Montréal*;
- in the UK, in the field of grid, Alstom joins forces with Aston University and in the field of power, a partnership has been consolidated with Nottingham University.

More globally, there are several hundred connections with universities and academic institutions across the globe. This will continue to expand in FY 2013/14 with:

- the project of a new Masters programme established collaboratively with Bouygues and academic institutions – “Energy and Sustainable Cities”;
- Alstom also has an agreement with a major Asian university, for a smart energy system demonstrator at the campus scale;
- in order to cope with new trends in the energy world, Alstom and INRIA (Research organisation for computer science) are elaborating a framework agreement for the exploration of the convergence between computer science, data and energy, to promote the new “cyberenergy world”;
- a joint research agreement has also been concluded with the leading hub from Compiègne Technology University on systems of systems issues.

Concerning key enabling technologies, the vision today is to nurture them with others counterparts through different instruments like competitiveness clusters:

- in France, Alstom is involved in ten industrial clusters: Systematic, *Pôle Mer-Bretagne*, i-Trans, EMC2, Aerospace and embedded systems, Ternerrdis, *Véhicule du futur*, Lyon Urban Trucks and Bus, *Pôle nucléaire de Bourgogne*, Microtechniques. Also, public private joint research institutes such as System X, Railenium, Jules-Verne, France Energy Marine and Supergrid projects. Alstom also has an agreement with CEA (French Atomic Authority) which covers a large scope of technologies from devices, up to system design and analysis;
- in the USA, Alstom has committed to several public private consortiums to accelerate the development of emerging technologies: Centre for Power Electronic System at Virginia tech, Wisconsin Electrical machines and Power Electronics consortium, Centre for turbulence research at Stanford University, Centre for Innovative maintenance Systems at Cincinnati University.

There are several initiatives assessing the progress of the future developments of technological markets. For example:

- the FutureTech programme in the Thermal Power and Renewable Power Sectors;
- the Alstom strategic planning process.

The actions launched to promote new open innovation paradigm relate to:

- Alstom's participation in the Industry Liaison programme at Massachusetts Institute of Technology (MIT);
- Alstom's involvement in the European High Level Group dedicated to innovation policies;
- participation in the European Intellectual Property coalition group to advocate the importance of maintaining incentives to invest in technology projects.

Alstom holds a total of 15,441 patents across 2,556 patent families. It has also produced more than 370 publications in 2012 in high-impact journals and conferences, with around 1,000 citations.

Alstom participates in two capital ventures funds:

- €30 million commitment over the next ten years to Aster II, a global venture capital fund that invests in start-up companies active in the energy industry, mobility, living-space, green chemistry and materials. This is a joint initiative with Schneider Electric and Rhodia-Solvay and seeks to identify – on a global scale – emerging technology leaders to provide them with the capital necessary to pursue their growth plans. To date, Aster II has made four investments in Europe and the USA. Given the high quality of this joint effort, in early 2012, the European Investment Fund joined as fourth major investor in Aster II. In 2012, Aster made three key investments:
  - SolarFuel, a German company specialised in converting surplus renewable electricity into CO<sub>2</sub> neutral methane (natural gas),
  - Lucibel, a French company concentrating on LED lighting for transportation applications,
  - Ecofactor, a US based company which is dedicated to home energy management systems;

- Horizon GreenTech ventures, formed together with Rotem industries and Gefen Biomed, for green investments in Israel. This organisation has assessed over 150 technologies since the beginning of 2012 and has made three key investments:
  - EVR Motors, which focuses on new, efficient generators for wind turbines,
  - LNCon, an energy management systems company for smart grid applications,
  - Sunboost, an advanced solution provider increasing the reflectivity and efficiency of solar PV panels.

## STRATEGY FOR EMERGING MARKETS

Alstom's overall Group strategic priorities and actions that serve as an enabler and support for Alstom's four Sectors, should be separated from the actual strategies of the various Businesses in these Sectors (which are addressed in chapter 1).

Alstom's development in emerging markets is a main driver for its growth. As a global player, the Group has a major presence in all leading growth economies. This does not mean only commercial presence, but also significant R&D, engineering, manufacturing, project execution, and

service resources. The share of emerging markets in Alstom's headcount, CAPEX and orders has increased in recent years, and will remain at a high level in the foreseeable future.

Moreover, to stress the importance of Asia as the main global cluster of emerging economies, many of the Group's Businesses have regional headquarters in emerging markets, and the Boiler Business has even established its global headquarters in Asia.

## ENVIRONMENTAL PERFORMANCE

The report presents the results of the Group on the environmental footprint of permanent facilities.

Five environmental indicators are followed, for which the Group has set objectives to reduce the environmental impact, other indicators and actions taken in favour of the environment are also presented, including the application of new regulations or directives.

In this part of the report, environmental results are presented by calendar year and certifications results by fiscal year.

In 2012, the Group was in line with its objectives on energy intensity reduction, water consumption reduction in water-stressed areas, increase of the waste recovery rate and had nearly completed the

certification ISO 14001 of large manufacturing sites (>200 employees). Specific actions were taken on non-methane volatile organic compounds (VOC), for which the method of measurement is reinforced to guarantee full coverage, and on Greenhouse Gases (GHG) emissions for which the Grid's Sulphur Hexafluoride (SF<sub>6</sub>) emissions makes the follow-up of the results versus objectives more complicated.

PricewaterhouseCoopers has reviewed 50 safety & environmental indicators (48 last year) and the processes for ISO 14001 certification and EHS assessments. A sample of 36 units has been examined. The reviewed indicators are specified with the ★ symbol. The review report is available at the end of this section.

## CERTIFICATION OF UNITS

**Objective:** All manufacturing sites over 200 employees certified ISO 14001 by end of the Fiscal Year 2012/2013.

**Results:** In March 2012, 83% of the manufacturing sites over 200 employees were certified ISO 14001. At the end of the fiscal year 2012-2013, ★ 97% of the manufacturing sites over 200 employees are certified ISO 14001. Two sites (out of a total of 70) have had to postpone their final certification review by a few weeks, due to the

auditors' unavailability. This programme supports the reduction of environmental impacts from the Group's operations. The requirements for ISO 14001 and OHSAS 18001 (Safety) certifications are integrated in the Alstom EHS Roadmap and contribute to the improvement process of Environment, Health and Safety on sites.

In addition, some sites in Germany are also certified under EMAS (EU Management on Audit Scheme).

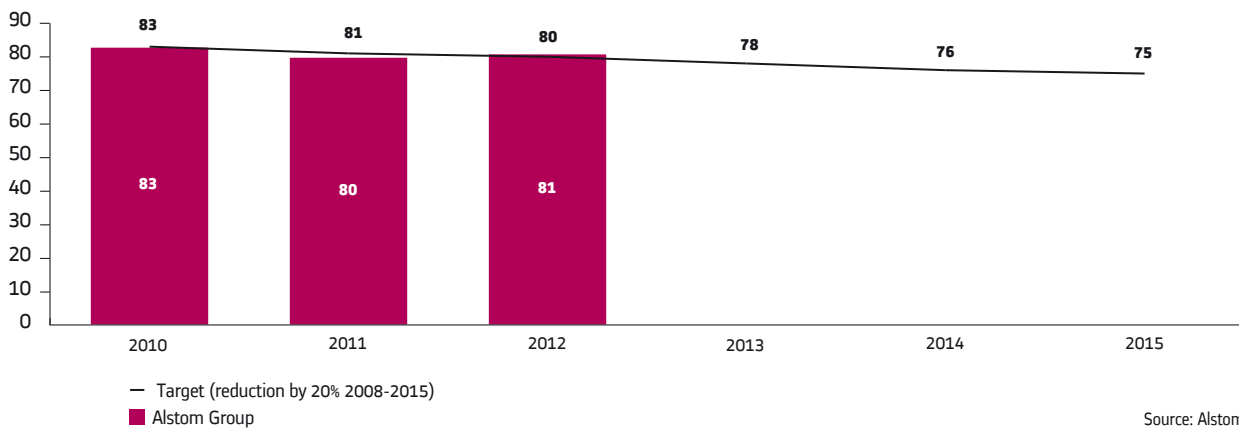
## ENERGY CONSUMPTION

**Objective:** Reduction of the energy intensity by 20% in permanent facilities by 2015 (reference year 2008).

**Result:** At the end of 2012, a reduction of the intensity (★ 81) by 14% had been achieved compared to the base year (94); although we observe a slight increase compared to last year, the results are on track to reach

the target of 75 in energy intensity by 2015. The Thermal Power and Transport Sectors' energy intensity decrease, contributes significantly to the Group's results, but on the other hand, cold winter situation explains the increase in gas and steam utilisation for heating of the buildings in Europe compared to last year.

### ENERGY INTENSITY <sup>(\*)</sup> (in MWh/sales, in € million)



(\*) Excluding the energy used by the Birr (Switzerland) Research & Development test activity (gas and diesel oil as fuel) – updated compared to previous years' Registration Document.

### Definition of the energy intensity

The energy intensity is measured in terms of the amount of energy used in relation to sales. The indicators are calculated with the sales of the fiscal year.

### Details of energy consumption

#### ENERGY CONSUMPTION IN PERMANENT FACILITIES <sup>(\*)</sup>

(in GWh)	2010	2011	2012
Natural gas	734	630	★ 685
Butane, propane and other gases	41	47	★ 44
Heavy fuel and diesel oil	60	76	★ 66
Steam/heat	162	124	★ 134
Electricity	728	717	★ 706
Coal & other fuels	8	7	★ 8
<b>TOTAL ENERGY CONSUMPTION</b>	<b>1,733</b>	<b>1,600</b>	<b>★ 1,642</b>

Source: Alstom.

★ These indicators have been reviewed by PricewaterhouseCoopers.

(\*) Excluding the energy used by the Birr (Switzerland) Research & Development test activity (gas and diesel oil as fuel) – updated compared to previous years' Registration Document.

Note: Data from previous years have been adjusted vs. last year's Registration Document. The Birr R&D test facility natural gas and diesel oil consumptions are presented separately.

**BIRR (SWITZERLAND) RESEARCH & DEVELOPMENT TEST FACILITY: GAS AND DIESEL FUEL OIL CONSUMPTION**

<i>(in GWh)</i>	2010	2011	2012
Natural gas	124	21	190
Heavy fuel and diesel oil	38	0	38
<b>TOTAL</b>	<b>162</b>	<b>21</b>	<b>228</b>

Source: Alstom.

The BIRR (Switzerland) Research & Development activity, tests gas turbine prototypes in real operating conditions using natural gas and diesel fuel oil, so electricity is produced and sent into the Swiss distribution network with no significant impact on the electricity emission factor of the country. This activity being intermittent varies significantly from one year to another; it cannot be integrated into the global objective of the Alstom group and is therefore counted separately.

The Group energy consumption increased slightly between 2011 and 2012 (+3%). Electricity consumption remained stable while the consumption of natural gas and steam / heat, mainly used for heating, increased by 9%. The energy saving programmes progressively deployed among Sectors contributed to mitigate the effect of a cold winter in Europe.

The “Energy Treasure Hunt” programme started in the Grid Sector two years ago continued this year. This programme raises awareness – it is an approach based on Kaizen and lean principles to reduce energy losses. It involves a multi-disciplinary team including operations, maintenance, EHS and resources external to the plant, structured in three sub-teams to match the “modes” in which energy is used: non-operational, start-up, normal operation. The mission of the Energy Treasure Hunters is to identify:

- energy saving opportunities, by detecting energy misuse during non-operational time;
- opportunities to improve start-up energy efficiency;
- opportunities to reinforce the energy efficiency of each equipment by:
  - reviewing in detail all processes and pieces of equipment assigned to the Group,
  - inventorying each and every piece of equipment.

Already implemented in France (for example in Villeurbanne), China, India and the USA, it is planned to be generalised in each Region where Grid Sector is present.

Gaining in popularity within the Group, and shared among best practices, a lighter version of this programme, recalled “Energy Saving Days”, has been extended to the Renewable Power Sector as a pillar of its global Energy Saving awareness programme “We Share the Power”. For more information related to the “We share the Power” initiative, refer to the section ‘employee awareness’.

As a result, the Grid Sector reduced its energy footprint this year by 2.4%, thanks to eco-efficiency programmes and local actions.

The Power Sectors energy consumption remained steady between 2011 and 2012; the energy intensity was also stable despite the integration of three new factories in the Renewable Power Sector which started operations in 2012: the bearing activity of the Baroda factory in India (Hydro), the Camaçari plant (Brazil) and the progressive start of the new Tianjin factory (China).

- Natural gas consumption decrease was achieved thanks to the deployment of preventive maintenance actions (to eradicate leaks) and the decrease of heating needs mainly due to improvement of building insulation.
- “Quick wins” energy preservation initiatives were carried out such as lightning optimisation by replacement of lamps, installation of human presence detectors.
- The Baroda (India) bearing activity is fitted with a Building Management System as well as a complete electrical meters’ architecture.

In the Transport Sector, the global energy consumption increased this year by 8%. This is explained by the seasonal effect of the gas use for heating due to a cold winter in Europe. More than 90% of Transport energy usage occurs in European countries.

- The Tarbes-Séméac (France) new Green-Building site inaugurated in April 2012, has reduced its overall fossil energy usage by 10% and electricity consumption by 8%. For more information refer to the ‘Green Buildings’ section.

## GREENHOUSE GAS (GHG) EMISSIONS

**Objective:** Reduction of the GHG emissions’ intensity by 20% in permanent facilities by 2015 (reference year 2008) (\*\*).

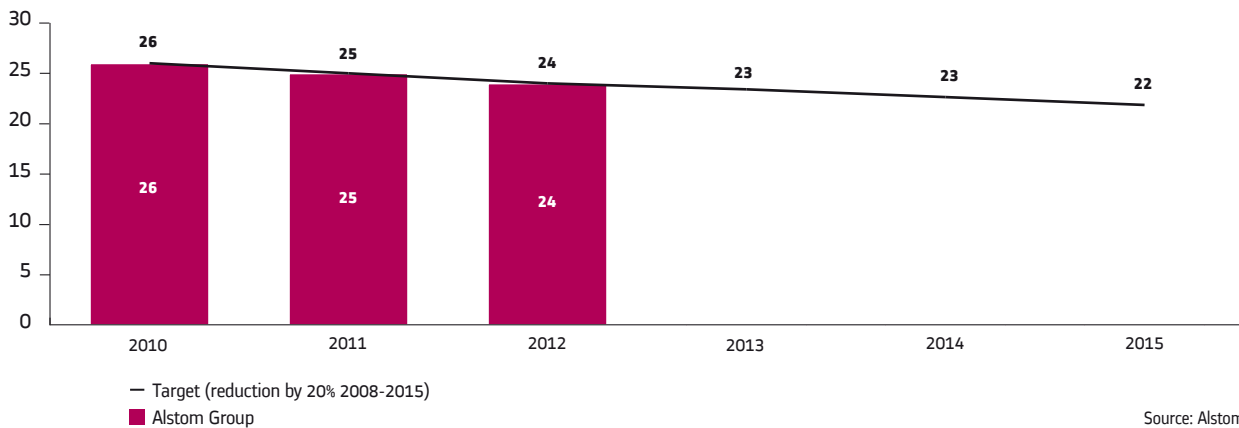
The intensity of GHG emissions is measured in terms of tons of CO<sub>2</sub> equivalent produced in relation to the sales at the end of fiscal year. The Group measures separately the GHG coming from energy usage, fugitive emissions of PFC and HFC (kilotons CO<sub>2</sub> eq.) and the GHG from fugitive emissions of SF<sub>6</sub>. SF<sub>6</sub> gas is specific to the Grid Sector, which joined

Alstom mid-2010. As such, the comparison versus the 2008 objective is limited to GHG emissions from energy consumption (kilotons CO<sub>2</sub> eq.) in permanent facilities.

**Result:** At the end of 2012, the reduction of GHG emissions intensity coming from energy consumption was (★ 24) by 11% under the reference year 2008 (27).



**GREENHOUSE GAS EMISSIONS INTENSITY (\*\*)** (tons CO<sub>2</sub> eq./sales, in € million)



Source: Alstom

(\*\*) Excluding the CO<sub>2</sub> emissions due to the Grid Sector's SF<sub>6</sub> fugitive emissions and the CO<sub>2</sub> emissions related to the energy used by the Birr R&D test activity (emissions due to gas and diesel oil usage) – updated compared to previous years' Registration Document.

**GHG emissions details**

**GHG EMISSIONS FROM ENERGY USAGE IN PERMANENT FACILITIES (\*\*)**

(in kilotons CO <sub>2</sub> eq.)	2010	2011	2012
Direct CO <sub>2</sub> emissions from natural gas, butane, propane, coal and oil consumption	191	173	★ 181
Indirect CO <sub>2</sub> emissions from steam, heat and electricity consumption	361	344	★ 326
<b>Total CO<sub>2</sub> emissions from energy consumption</b>	<b>551</b>	<b>517</b>	<b>★ 508</b>
Other Direct CO <sub>2</sub> fugitive emissions from PFC and HFC	2	2	★ 2
<b>TOTAL CO<sub>2</sub> EMISSIONS FROM ENERGY CONSUMPTION AND OTHER DIRECT EMISSIONS EXCEPT SF<sub>6</sub></b>	<b>553</b>	<b>520</b>	<b>★ 510</b>

Source: Alstom.

★ These indicators have been reviewed by PricewaterhouseCoopers.

(\*\*) Excluding the CO<sub>2</sub> emissions due to the Grid Sector's SF<sub>6</sub> fugitive emissions and the CO<sub>2</sub> emissions related to the energy used by the Birr R&D test activity (emissions due to gas and diesel oil usage).

Note: Data from previous years have been adjusted vs. last year's Registration Document.

The direct and indirect CO<sub>2</sub> emissions from energy consumption decreased by 2% between 2011 and 2012.

The Birr (Switzerland) Research & Development activity tests gas turbine prototypes in real operating conditions using natural gas and diesel fuel oil, so electricity is produced and sent into the Swiss distribution

network with no significant impact on the electricity emission factor of the country. This activity being intermittent varies significantly from one year to another; it cannot be integrated into the global objective of the Alstom group and is therefore counted separately.

**THE BIRR RESEARCH & DEVELOPMENT TEST ACTIVITY: GHG EMISSIONS FROM GAS AND FUEL OIL USAGE**

(in kilotons CO <sub>2</sub> eq.)	2010	2011	2012
Direct CO <sub>2</sub> emissions from natural gas consumption	25	4	★ 38
Direct CO <sub>2</sub> emissions from diesel oil consumption	10	0	★ 10
<b>TOTAL DIRECT CO<sub>2</sub> EMISSIONS FROM GAS AND DIESEL OIL USED IN THE BIRR TEST CENTRE</b>	<b>35</b>	<b>4</b>	<b>★ 48</b>

Source: Alstom.

★ These indicators have been reviewed by PricewaterhouseCoopers.

## SF<sub>6</sub> intensity

**Objective:** Reduction of the SF<sub>6</sub> intensity by 8% between 2012 and 2015.

The Grid Sector was integrated in Alstom in June 2010. This makes the comparison to the 2008 base year impossible.

55% of the total emissions of greenhouse gases (direct & indirect) of the Grid Sector are due to SF<sub>6</sub> usage.

No other Sectors in Alstom use SF<sub>6</sub>, and this gas is essential to the Grid business and its customers, due to its particular dielectric properties. It is used in high and medium voltage switchgears and in all components of GIS for its insulation characteristics. However, it presents a global warming potential, nearly 24,000 times more than CO<sub>2</sub>. Therefore its importance as a greenhouse gas is critical and the emission of SF<sub>6</sub> into the atmosphere must be prevented as much as possible.

The permanent target of the Grid Sector to minimise its impact on the environment puts a special focus on the reduction of SF<sub>6</sub> contained in products, and its losses through processes, production & testing equipment and commissioning techniques.

The day-to-day implementation of best handling practices by all those involved in the gas life-cycle is, nevertheless, the most important factor in a continuous environmental-friendly and improvement process.

In 2012, the Grid Sector handled approximately 820 tons of SF<sub>6</sub>, of which 5.8 tons were released into the atmosphere on Grid's permanent sites during testing and filling operations. This represents a leakage rate of 0.7%.

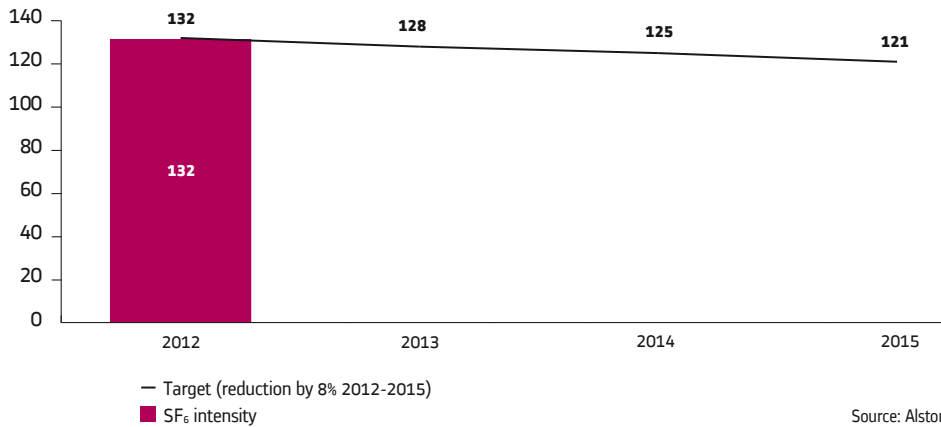
For the Grid Sector, those emissions represent approximately 80% of the total direct emissions in CO<sub>2</sub> equivalent. Grid commits to reduce them by reducing the SF<sub>6</sub> mass in sub-stations thanks to its eco-design policy, as well as by the implementation of best handling practices on Grid sites to reduce leakages.

A detailed analysis has been carried out regarding the SF<sub>6</sub> mass balance in all activities using SF<sub>6</sub> under the framework of permanent sites operations. The result of this study indicated that in three sites located in India (Padappai), Brazil (Itajuba) and China (Suzhou), calculation methods underestimated losses reported in 2011, the other sites mainly located in Europe reached or exceed their objectives. Therefore the decision was taken in 2012 to improve the reliability of measurements worldwide.

2012 is the new baseline for the SF<sub>6</sub> intensity target (SF<sub>6</sub> losses in tons CO<sub>2</sub> eq./SF<sub>6</sub> equipment sales in € million).

This indicator will be followed up each year with a progress trend in line with the Group's greenhouse gases initial statement, -8% between 2012 and 2015 (i.e. an average of -2.5% per year).

### INTENSITY OF GREENHOUSE GAS EMISSIONS FROM SF<sub>6</sub> (in tons CO<sub>2</sub> eq./SF<sub>6</sub> equipment sales, in € million)



### SF<sub>6</sub> FUGITIVE EMISSIONS

(in tons)	2010	2011	2012
SF <sub>6</sub> fugitive emissions	5.19 (*)	4.97 (*)	★ 5.77

Source: Alstom.

★ These indicators have been reviewed by PricewaterhouseCoopers.

(\*) reported values are based on the best estimations collected on the scope of reporting of the considered year.

## Other information related to CO<sub>2</sub> emissions

### CO<sub>2</sub> EMISSIONS FROM COMPANY CARS

<i>(in kilotons)</i>	2010	2011	2012
Company cars CO <sub>2</sub> emissions from gasoline	8	8	★ 8
Company cars CO <sub>2</sub> emissions from diesel oil	14	14	★ 16
<b>TOTAL</b>	<b>22</b>	<b>22</b>	<b>★ 24</b>

Source: Alstom.

★ These indicators have been reviewed by PricewaterhouseCoopers.

### Use of renewable energies

Alstom has negotiated contracts about a full supply of green electricity in two European countries (the UK and Belgium). These contracts cover years 2013 and 2014 with no effect yet in 2012 but will contribute to reduce the Group's CO<sub>2</sub> emissions from energy consumption in the near future.

In Germany, for example, the Kassel site already uses renewable energy sources and has a 100% Green Power hydro energy contract since 2008.

## WATER CONSUMPTION

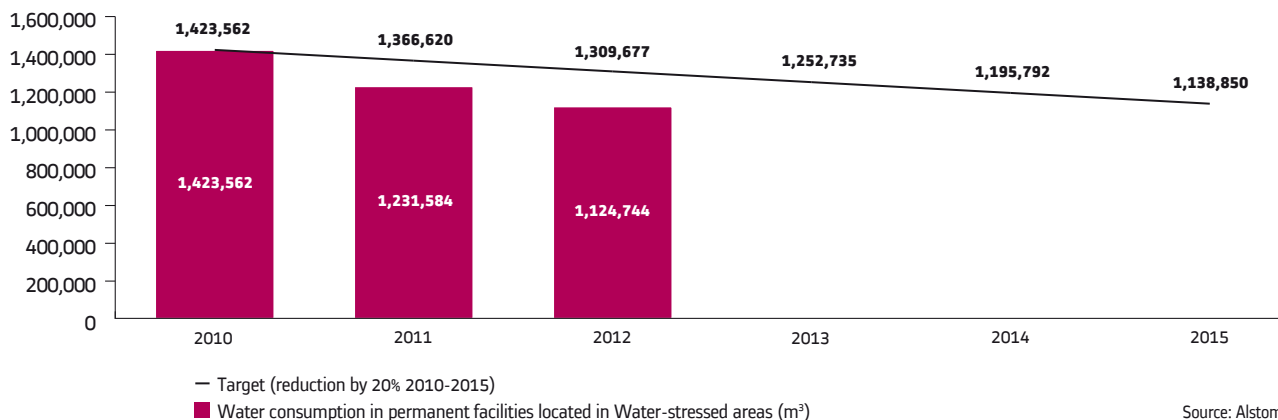
### Consumption of permanent sites located in water-stressed areas

**Objective:** water consumption reduction by 20% in permanent facilities between 2010 and 2015 in water-stressed areas.

The map used to define the water-stressed areas is the one published by the World Resources Institute in 2003. There are 38 Alstom sites located in these areas.

**Result:** The overall water consumption on those sites decreased by 9% from 2011 to 2012 (-21% since 2010) thanks to significant decrease in the Thermal Power and Transport Sectors. The initial target has already been exceeded. The Group will continue its improvement trend on an average pace of -3% per year.

#### WATER CONSUMPTION OF PERMANENT FACILITIES LOCATED IN WATER-STRESSED AREA *(in cubic meters)*



Source: Alstom

The Group is currently updating the water-stressed area mapping as per the new World Resources Institute map reference 2012 <sup>(1)</sup> and will improve the accuracy of its sites localisation regarding water-stressed area. A first simulation based on Extremely High and High water stress categories shows that the number of concerned sites shall increase from 38 to about 80 locations; the progress on this action during the year 2013 will lead to the revision of the Group's target on water consumption accordingly.

## Water consumption in the whole Group

Although the Group had not specified targets for all its sites, it systematically strives to limit water consumption. In 2012, water consumption slightly increased by 2% if we consider the full water usage in permanent facilities. Nevertheless, around 40% of the water usage is impacted by a little number of large volume users, which use water for R&D activities in open-circuit cooling systems or for test purposes, with no impact on the water quality, temperature or on the natural environment. The water consumption decreased by 10% if we only consider water used in permanent facilities excluding R&D test activities.

### Details of water consumption

#### WATER CONSUMPTION IN PERMANENT FACILITIES

<i>(in thousands of cubic meters)</i>	2010	2011	2012
Public network	2,230	2,200	★ 2,224
Ground water	1,968	1,872	★ 2,058
Surface water	651	547	★ 387
<b>TOTAL WATER CONSUMPTION</b>	<b>4,849</b>	<b>4,619</b>	<b>★ 4,670</b>

Source: Alstom.

★ These indicators have been reviewed by PricewaterhouseCoopers.

Note: Data from previous years have been adjusted vs. last year's Registration Document.

#### WATER CONSUMPTION USED FOR TESTS OR IN OPEN-CIRCUIT COOLING SYSTEMS <sup>(\*)</sup>

<i>(in thousands of cubic meters)</i>	2011	2012
Water used for tests or in open-circuit cooling systems	1,432	1,785

Source: Alstom.

(\*) Included in total water consumption – sources are either groundwater or surface water. Only the Milan (Italy) site uses water from the public network for open-cooling activities.

## Waterborne discharges

#### WATERBORNE DISCHARGES IN PERMANENT FACILITIES

<i>(in tons)</i>	2010	2011	2012
Chemical oxygen demand	124	204	98
Suspended Matters	52	40	55
Hydrocarbons	1	1	1
Metals	2	1	3

Source: Alstom.

The impact on the water discharged by the Group's production facilities is globally considered as relatively limited.

(1) WRI Aqueduct™ project.

## AIRBORNE EMISSIONS

### Non-methane Volatile Organic Compounds (VOC) emissions

**Objective updated:** Reduction of non-methane VOC emissions by 2% each year until 2015.

Despite a first improvement action launched in 2011 on the VOC data quality, the Group has still faced important issues in estimating VOC emissions of permanent facilities this year. Therefore, it is assumed

that the calculated data may contain significant uncertainty. Based on the Renewable Power Sector in-depth study of VOC emissions, a new methodology to increase the accuracy and completeness of the reported data has now been put in place.

As a result the Group has decided to adjust its VOC emissions objective and target a 2% reduction each year until 2015.

**Result:** Reported VOC emissions have increased compared to 2011 data (+22%).

### Detail of non-methane VOC emissions

#### VOC EMISSIONS IN PERMANENT FACILITIES

<i>(in metric tons)</i>	2010	2011	2012
VOC	845 (*)	1,005 (*)	★ 1,227

Source: Alstom.

★ These indicators have been reviewed by PricewaterhouseCoopers.

(\*) Reported values are based on the best estimations collected on the scope of reporting of the considered year.

In the Renewable Power Sector, the improvement of the reliability of the monitoring leads to an increase by 9% of VOC emissions.

- The standard VOC emission assessment procedure implemented is based on a mass balance calculation. Each manufacturing site deployed this new process enhancing the completeness of the VOC emitting chemicals list.
- The Baroda manufacturing site (India) works towards a four-step approach:

- cross-checking the VOC emitting processes among shops compared to chemical list;
- investigating painting substitution solutions with lower VOC compounds;
- investigating lower VOC-emitting painting processes;
- substitution as much as possible of other chemical products containing VOC.

Takeaways have been shared among the Sectors and this is to be completed from 2013 to 2015.

### SO<sub>2</sub> and NO<sub>x</sub> emissions

#### SO<sub>2</sub> AND NO<sub>x</sub> EMISSIONS IN PERMANENT FACILITIES EXCLUDING THE BIRR R&D TEST ACTIVITY

<i>(in metric tons)</i>	2010	2011	2012
SO <sub>2</sub>	20	45	20
NO <sub>x</sub>	123	152	114

Source: Alstom.

## RAW MATERIALS

Alstom as an engineering company does not use a significant amount of raw materials in the strictest sense of the word; it generally uses already transformed material or components. Nevertheless, through its sustainable development policy, Alstom encourages its suppliers to work on material reduction whenever possible.

*For more information related to suppliers, refer to the chapter "Best practices and continuous improvement-process" and for more information related to eco-design, refer to "Environment friendly Product Design and Life-Cycle Assessment", "Designing sustainable railway systems".*

## NOISE POLLUTION

Part of Alstom's continuous improvement process, the EHS referential "EHS Roadmap" covers "noise management" as a specific chapter (II.1.6) of the Environmental management chapter. Noise analysis is also covered by Alstom EHS risks assessments and impact analysis processes.

## GROUND FOOTPRINT

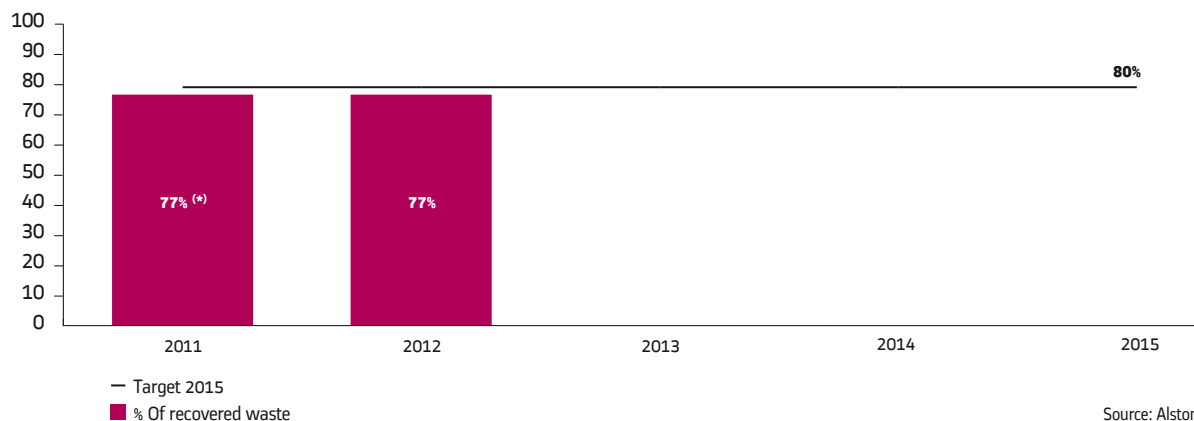
The Ground footprint is not relevant or extensive in Alstom's industrial activity sector; therefore no detailed ground footprint analysis needs to be carried out at Alstom's operation sites.

## WASTE MANAGEMENT

### Percentage of recovered waste

**Objective:** Recovery of 80% of the total waste by 2015.

#### PERCENTAGE OF RECOVERED WASTE



Waste recovery rate remained stable this year with a ★ 77% recovery rate in line with the objective set by the Group in 2015.

### Waste generation

#### WASTE GENERATION IN PERMANENT FACILITIES

(in metric tons)

	2012
Hazardous waste	★ 19,809
Non-Hazardous waste	★ 127,808
<b>TOTAL WASTE PRODUCTION</b>	<b>★ 147,617</b>

Source: Alstom.

★ These indicators have been reviewed by PricewaterhouseCoopers.

★ This indicator has been reviewed by PricewaterhouseCoopers.

## Waste sent to waste disposal (not recovered)

(in metric tons)

	2012
Waste sent to waste disposal (not recovered)	★ 34,650

Source: Alstom.

★ This indicator has been reviewed by PricewaterhouseCoopers.

## MANAGEMENT OF CONTROVERSIAL SUBSTANCES

### Elimination of asbestos

It has been Alstom's policy for many years to ban the presence of asbestos in all its operational units and to have asbestos-free materials in its buildings (leased or owned) and equipment used by the Group worldwide, including in countries where asbestos is not prohibited. As far back as 2006 and 2007, the Group wrote instructions to frame the monitoring process and the workers' protection; these instructions have been updated and improved since then.

Within this framework, Alstom has fixed an ambitious objective: the eradication of asbestos by the end of 2015, as much as reasonably and economically practicable. To reach this target, asbestos surveys have been organised on all units and have been followed by financially assessed abatement plans.

The Grid Sector has evaluated the current state of more than 100 sites located in 40 countries, and the units of concern are drawing up action plans in order to comply with the Alstom standard.

The Renewable Power Sector has completed the asbestos detection in all its operation units (building, productive equipment and utilities). Various items of equipment were checked, such as crane brake pads, oven seals and press gear brakes. Immediate corrective actions were taken whenever needed. Air checks were carried out to confirm that no operator is exposed to airborne asbestos.

### REACH Directive management

The REACH Regulation <sup>(1)</sup> entered into force in June 2007. This regulation gives the European industries legal obligations in manufacturing, importing and using chemicals.

As a complex product and services supplier working in an international environment, the Alstom Group is impacted by the REACH regulation in its conception activities and project implementations carried out within and from of Europe.

There are two main prospective impacts:

- the obligation to inform the clients about Substances of Very High Concern (called "SVHC");

- the risk of a lack of supply for hazardous substances; suppliers could stop providing them.

It is generally estimated that:

- Alstom does not need to register any substance because it does not import or manufacture any chemical substance in quantities above 1t/year per European entity;
- Alstom does not need to notify the European Chemical Agency (ECHA) or communicate to its customers the presence in its products of any SVHC listed on the ECHA "candidate list", because the Group does not supply products containing more than 0.1% of these identified substances;
- Alstom implements the recommended measures to prevent human and environmental risks related to the use of chemicals.

However, exceptions to these rules might exist. They will have to be clearly identified and authorised for each case.

In order to guarantee compliance with these guidelines, Alstom uses an approach that requires deals with exclusive representatives for chemicals importation into the European Economic Area, prescriptions to suppliers concerning substances and articles listed in the REACH regulation, information gathering from suppliers about the possible presence of hazardous substances in the products, identification of hazardous articles by internal experts, implementation of substitution programmes when it is necessary and the update of the internal process of chemical hazard management.

### Nanotechnologies

Alstom does not use for the time being engineered nanomaterial in any product.

However, on-going Research & Development in components of electrical insulators (for power electronics, switchgears, bushings...) or studies for use in paintings or coatings (hydrophobic or heal coatings properties), involve some very small quantities of nanotechnologies, a few hundred grams that are included in laboratory samples of small polymer components.

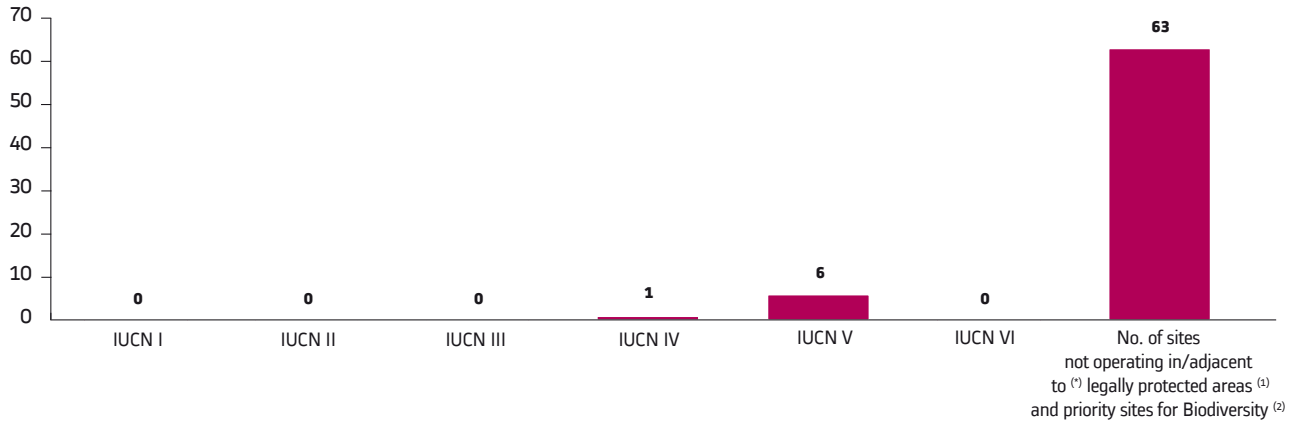
(1) European Regulation No. 1907/2006 for Registration, Evaluation, Authorisation and Restriction of Chemicals.



## BIODIVERSITY

### Biodiversity mapping of Alstom's 70 manufacturing sites (>200 employees)

During the fiscal year, Alstom conducted a biodiversity assessment to evaluate its 70 major manufacturing sites (>200 employees), in order to list out the sites which belong to, or are adjacent to internationally protected areas or areas of high biodiversity value based on one kilometre radius from site location.



(\*) In/adjacent to: the study covers a 1 km radius zone surrounding the locations studied.

Only one site belongs solely to area of Natura 2000.

Out of Alstom's 70 manufacturing sites (>200 employees), 63 are located at more than one kilometre from legally protected areas <sup>(1)</sup> and/or priority sites for Biodiversity <sup>(2)</sup>. Consequently, 90% of Alstom's major sites do not operate in or adjacently to legally protected areas <sup>(1)</sup> or priority sites for Biodiversity <sup>(2)</sup>. Alstom currently does not possess any site within the sub-categories of legally protected areas e.g. IUCN I, II, III and VI and also those of priority sites for Biodiversity e.g. Important Bird Area and Alliance Zero Extinction sites.

Alstom sites in Brazil, Mexico, Indonesia, Spain, Portugal and Turkey are located within vast Biodiversity hotspots (Regions of Conservation Importance <sup>(3)</sup>); but these sites cover minimal areas compared to the size of biodiversity hotspots.

In the UK, in order to comply with the numerous environmental legislations made compulsory by the Convention on Biological Diversity, Alstom has implemented proactive measures compliant with the Biodiversity Action Plan of the British government. Alstom has progressed in addressing biodiversity issues at its work-sites; for instance, at the West Weybridge work-site, the Alstom Grid Sector has installed a number of bat boxes to compensate for the destruction

of the trees where the bats had initially resided. Another example, at Bramford work-site, Alstom shifted the habitat of badgers to a more secure location where new sets were built for them.

Alstom has already committed to various environmental protection projects across the world via the Alstom Foundation. For example in Brazil, it has contributed a significant amount (€450,000) over the past four years to the Atlantic forest reforestation project, covering approximately 240 hectares of biodiversity corridors. In 2012 in Mexico, the Alstom Foundation supported the setting up of a conservation and habitation centre for endangered species of *Ambystoma*. In China last year, the Alstom Foundation launched the 'Tree Savings, Life Protecting' programme involving plantation activities and creating environmental awareness among the local communities. This program is gaining momentum in the province of Tianjin.

The results of this primary assessment have been taken into consideration and Alstom will continue its participation to broaden the scope and vision of biodiversity-related activities in the coming years.

Source for definitions of IUCN I-VI, Natura 2000, Biodiversity hotspots etc.: [http://www.biodiversitya-z.org/area\\_types/1](http://www.biodiversitya-z.org/area_types/1)

(1) Legally protected areas (PA): IUCN I-VI, World heritage sites, Natura 2000, Ramsar, OSPAR, Barcelona convention, ASEAN heritage sites.

(2) Priority sites for Biodiversity (KBA): Important Bird Area (IBA) and AZE.

(3) "Régions d'importance pour la conservation" (CI): endemic bird areas, high biodiversity wilderness areas and biodiversity hotspots.

## EMPLOYEE AWARENESS

### The “We Share The Power” initiative

In 2012, the Renewable Power Sector has launched a project called “We Share the Power”. Its three main goals are:

- accelerate the sharing of good practices between sites and offices and analyse the feasibility of implementing them at home;
- create a community of employees that will exchange on Good Practices in factories, but also in the buildings and at home;
- use the savings that have been obtained, as well as the motivation of all employees, in order to contribute to sustainable development projects wherever Alstom operates (Hydro dams, factories...).

Following the success of the Grid Sector, an Energy Saving Day was organized at the Group’s Levallois headquarters in France. Teams of volunteers competed against each other to find the best way to reduce energy costs. Participants moved around the site and came up with easy-to-implement suggestions: motion sensor lighting, turning off the computers at night, reducing paper consumption...

These suggestions are being taken into account by a team of people from various Departments (Facility Management, Communication, EHS, IT/IS, Sourcing...) who meet every month in order to implement and follow up the actions.

## EXAMPLES OF ACTIONS TO OFFSET THE ENVIRONMENTAL IMPACT OF OPERATIONS

### Green buildings

The new Alstom Transport Sector green-building site in Tarbes-Séméac in France was inaugurated in April 2012. A number of buildings were optimised with better thermal insulation, and cutting-edge electrical equipment (centralized automatic air conditioning and heating, double flow mechanical ventilation re-using 80% of the energy evacuated). In addition, Alstom has entrusted EDF Énergies Nouvelles with the operation of a 5,000 square meters photovoltaic power plant providing 775 MWh/year of clean, renewable energy.

In the Thermal Power Sector, the Chattanooga facility in the USA inaugurated in 2012 its first Solar Power Array. The installation, suspended above Alstom’s parking lot, consists in a canopy structure containing 234 solar panels representing 56.16 kW. The facility is certified Gold “Leadership in Energy and Environmental Design” (LEED).

The Renewable Power Camaçari plant (Brazil) is also certified “LEED”.

### Travels and alternatives

#### Electrical cars

The use of electric cars grows within the Alstom Group. Its headquarters in Levallois and Paris-La Défense (France) have made a few electric vehicles available to employees. The headquarters of the Transport Sector in Saint-Ouen (France) launched an even more innovative initiative: through a partnership with the city car-sharing rental system (Autolib®), small electrical cars can be used by 20 employees.

In the Renewable Power Sector, Hydro Europe organisation conducts actions to encourage its employees to use eco-friendly ways of transportation at local level. An initiative was launched in Grenoble (France) to promote the use of bicycles for commuting.

### Development of virtual meetings (telepresence) through the Group contributes to avoid CO<sub>2</sub> emissions linked to travels

Starting in 2009, Alstom has invested in an innovative communication tool – telepresence – that helps reduce our CO<sub>2</sub> emissions, while reducing travel time and expenses. This CISCO® technology offers a high resolution and sound that enable virtual meetings to take place as efficiently as face-to-face meetings, thereby accelerating the decision-making process.

The four Sectors’ headquarters and most of Thermal Power and Renewable Power key sites are now equipped with telepresence rooms. At the end of 2012, this technology was installed in 34 rooms across 13 different countries. In 2012, 15,700 sessions were scheduled worldwide, representing 14,800 connection hours. Based on a minimum of one person per room, it is estimated that the use of telepresence technology avoided at least 30,050 tons of CO<sub>2</sub> emissions.

In 2013, 13 additional rooms will be opened to strengthen this action.

#### Air travel

##### CO<sub>2</sub> emissions from air travels

In 2012, CO<sub>2</sub> emissions from air travels represented around 130,800 tons CO<sub>2</sub> eq. <sup>(1)</sup> (vs.136,000 tons CO<sub>2</sub> eq. reported in 2011).

A strengthened air travel policy, combined with an increasing use of alternative means of communication has contributed positively to reducing the Group’s CO<sub>2</sub> emissions related to air travel.

(1) Source: Carlson Wagonlit Travel (CWT) – CO<sub>2</sub> calculations are based on the 2011 (July) guidelines produced by DEFRA/DECC’s GHG Conversion Factors – The calculation takes only into account air travel that has been tracked by CWT.

## SOCIAL PERFORMANCE

### GROUP HUMAN RESOURCES POLICY

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Whilst continuing to shape the Group to its environment, Alstom has accelerated the implementation of change drivers in its Human Resources (HR) policy.

Covering the whole Group, the new HR vision has been largely communicated within the HR teams and to the Management. Its implementation will enhance the employees' engagement and dedication. The objective is by 2020, all employees should recognise Alstom:

- as the place where people can have a direct impact on the success of the business;
- for its diversity, its action to innovation, learning and engaged workforce;
- as a company developing and promoting experts and leaders from the Group and from all places in the world;
- for its lean organisation facilitating the life of employees and the business;
- for its reward of performance and regular feedback;
- for its One Alstom HR organisation serving the Company needs at both global and local levels.

The HR strategy is based on staffing, knowledge, talent and engagement. It fully supports the main on-going programmes which are designed to:

- offer the best working conditions;
- adapt the workforce to the activities and markets;
- reinforce the Company culture;
- develop competencies and manage careers;
- promote equal opportunities.

During the fiscal year, the Group focused particularly on:

- launching the Zero Deviation plan for high risk activities in all Sectors, countries and sites;
- adapting its organisation to better match the market and technology evolutions: preparing and deploying a leaner HR organisation to professionalise the HR teams;
- increasing operational efficiency: sharing experience and cross-Sector fertilisation;
- promoting internal mobility.

### OFFERING THE BEST WORKING CONDITIONS

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#### Occupational accidents prevention

Alstom's first priority is the prevention of occupational accidents and diseases. A result cannot be considered fully achieved, if the physical integrity or health of employees and contractors has been endangered during the course of the activities performed to reach this goal.

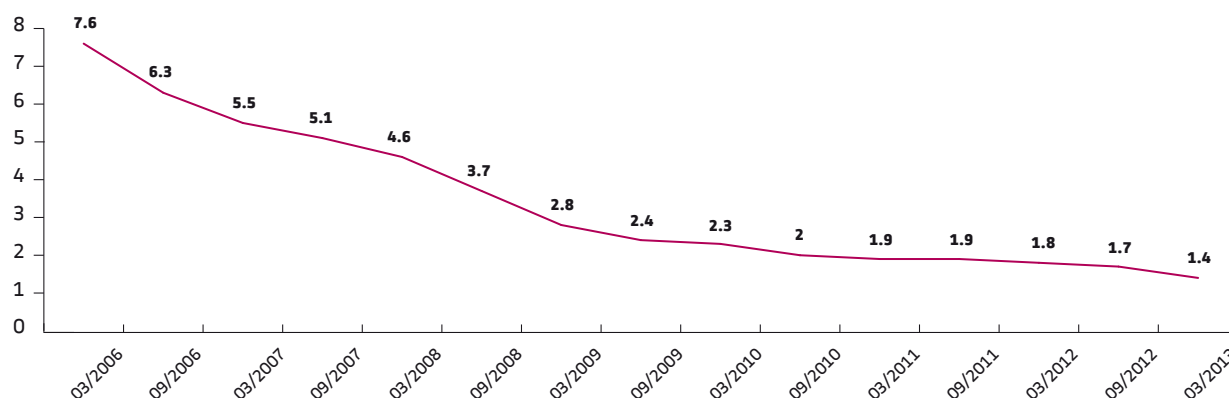
#### Alstom's safety goals and current situation

##### Safety Objectives

- No fatality under Alstom leadership.
- An occupational injury frequency rate (IFR1) at level 1 in 2015.
- Improving safety conditions for Alstom's contractors.

**Result:** Injury Frequency Rate 1 (Alstom employees): 1.4 at March 2013.

NUMBER OF ACCIDENTS WITH SICK LEAVE PER MILLION HOURS WORKED



Source: Alstom

(The figures of the above graph include the Grid Sector performance as of 1 January 2010.)

Alstom has put in place, in the same ambition as for its own employees, the follow-up of its contractors' safety performance. The current accuracy of figures obtained for contractors still need to be improved; the Injury Frequency Rate of contractor employees seems to be around ★ 1.3 showing at least that the performance inside the Company is not the result of a transfer of dangerous situation to contractors.

Despite the global reduction of accidents (a reduction by 70%, since 2008 for Alstom's employees), severe accidents still occur. Therefore, safety has become an absolute priority for all Sectors.

KEY FIGURES ON OCCUPATIONAL ACCIDENTS PREVENTION

	2010/11	2011/12	2012/13
Number of employees trained in EHS classroom trainings	859	1,700	3,358
Number of fatal accidents of employees	2	4	★ 1
Number of fatal accidents linked with Alstom activities (contractors)	11	7	★ 4
Number of occupational safety severe accidents reported (*)	-	-	★ 29
Injury Frequency Rate of lost-time accidents (employees)	1.9	1.8	★ 1.4
Severity Rate of lost-time accidents (employees)	0.06	0.06	★ 0.06

Source: Alstom.

★ These indicators have been reviewed by PricewaterhouseCoopers.

(Data have been adjusted compared to last year's Registration Document and include the Grid Sector's performance as of 1 January 2010.)

(\*) Occupational safety severe accidents definition: On Alstom sites or other companies' sites related to Alstom activities, whichever company (Alstom or other) employs the victim: Fatal accidents, any accident resulting in permanent consequences (Either in permanent disfigurement, or permanent disability such as amputation of any digit or part of a digit) whatever the length of the medical leave, any accident causing fracture requiring surgery, whatever the length of the medical leave. The Severe Accidents' definition as changed in the fiscal year 2012-2013 and is therefore published for this year only.

Occupational diseases

Due to the absence of an international definition of occupational diseases, it is difficult to aggregate the data in this domain, therefore the following figures give an estimate of the number of occupational diseases registered and reported at Alstom Group level.

In 2012, 82 occupational diseases were registered as per Alstom Group reporting manual definition.

"Alstom Zero Deviation Plan"

The year 2011/12 was still marked by fatal accidents among Alstom's employees and contractors working on Alstom sites. To improve Alstom's performance, the Group's Executive Committee decided in November 2011 to launch the "Alstom Zero Deviation Plan". Based on three actions, this plan is designed to focus on high-risk activities:

- action 1 consisted in the analysis of severe accidents and the follow-up of corrective actions, reviewed by each Sector President;

- action 2 focused on the description and strict respect (controlled by specific audits) of the fundamental safety rules to apply to high-risk activities in all Sectors worldwide: Alstom Safety Directives;
- action 3 aimed for a stronger control of contractors involved in operational activities, to ensure Alstom EHS standards are known and followed.

The Alstom Zero Deviation Plan was the first step of a global plan to insure a safer environment and safer ways of working.

Alstom safety directives should suffer no deviation. These directives consist of 160 requirements covering the most common high risk activities:

- risk management for high-risk activities;
- control of contractors;
- lockout-tagout;
- electrical safety;
- machine safety;
- work at height;
- excavation works;
- lifting operations;
- vehicle movement.

Each site is committed to respect the 40 requirements identified as critical.

A selection of the most critical sites with regard to the nature of their activity was done, resulting in 160 audits performed between October 2012 and March 2013. 105 auditors were especially trained and certified for this programme, conducting a total of 634 days of audit.

The Alstom Zero Deviation Plan is supported by communication campaigns and training programmes like the "Alstom International EHS Passport".

This plan strives for "zero accident", with full commitment from the management to make sure the irreparable never happens.

## Life insurance

**Objective:** all employees receive at least one year salary in case of accidental death.

**Results:** The evolution of employee coverage is quite satisfactory.

	2010/11	2011/12	2012/13
Ratio of employees covered by a life insurance in case of accidental death	98%	99%	99.5%
Ratio of employees covered by a life insurance giving one year salary	88%	94%	91%

Source: Alstom social survey conducted in 23 countries representing 89% of the Group's total headcount.

In countries such as Poland, employer contributions to insurance policies are considered as a taxable benefit, leading some employees to decline this offer.

## Safety awareness programmes and awards

Even if Alstom still strive for zero accident, stakeholders already recognise Alstom's Health and Safety global performance. Some examples in fiscal year 2012/13:

- Thermal Services Finland (TSFI) celebrated 1,000 days without lost-time accidents (LTA) across the whole country. TSFI's reputation as a safety-conscious company was recognised by the Finnish Institute of Occupational Health in May, when its Zero Accident Forum awarded Alstom a top-scoring diploma for its outstanding record. In addition, several customers have recognised TSFI's environmental health and safety (EHS) values with their own awards, helping to raise the Company's visibility within a competitive local market.
- In Transport, Golders Green and Morden depots in the UK received a Silver Medal as reward for their EHS duties. The Alstom Train Life Services (TLS) teams present at these two depots located in the London suburbs (United Kingdom) had attained the level of two years without an accident causing work stoppage. These maintenance centres will serve as examples for all Alstom depots throughout the world.

Alstom T&D India (Alstom Grid's wholly-owned subsidiary) held its "Weeklong EHS Campaign" to reinforce the Company-wide EHS ambition of zero accidents in parallel with India's National Safety Week. The event comprised of workshops, contests and training activities; all of which were based around one key message "EHS starts with me and I am responsible for EHS." EHS standards in India vary greatly across the board but Alstom T&D is proud to take the lead, achieving the highest EHS compliance standards in the industry. This campaign was spread to key customer sites, including L&T, Hindalco, Essar, MSETCL and HVPNL to strengthen both employee and customer commitment to the health, safety and welfare of co-workers, contractors and visitors.

## Assessment on collective agreements on Health & Safety

Health and safety indicators are included in most profit-sharing agreements as one of the calculation criteria. On-site Health and Safety Committees resulting from local agreements exist in most industrial locations.

## GROUP WORKFORCE AT 31 MARCH 2013

The figures in the following tables include permanent and fixed-term contracts.

### Breakdown by Region

	Europe	North America	Central & South America	Asia/Pacific	Africa/Middle East	Total	Total 2011/12
Workforce	★ 55,550	★ 10,266	★ 5,954	★ 19,575	★ 3,200	★ 94,545	93,998
Out of which long-term absentees (LTA)	1,299	86	165	85	4	1,639	1,353
% of total workforce	58.76%	10.86%	6.30%	20.70%	3.38%		

Source: Alstom HRIS.

★ These indicators have been reviewed by PricewaterhouseCoopers.

### Breakdown by Category (incl. LTA)

	Europe	North America	Central & South America	Asia/Pacific	Africa/Middle East	Total	% of total workforce	% of total workforce 2011/12
Managers & Professionals	27,133	5,558	2,585	10,457	1,577	★ 47,310	50.04%	47.21%
Other employees	28,417	4,708	3,369	9,118	1,623	★ 47,235	49.96%	52.79%

Source: Alstom HRIS.

★ These indicators have been reviewed by PricewaterhouseCoopers.

### Breakdown by Sector (incl. LTA)

	Europe	North America	Central & South America	Asia/Pacific	Africa/Middle East	% of total workforce	% of total workforce 2011/12
Thermal Power (36,741)	★ 20,903	★ 5,703	★ 251	★ 8,894	★ 990	38.86%	40.42%
Renewable Power (9,757)	★ 3,583	★ 816	★ 2,391	★ 2,963	★ 4	10.32%	10.17%
Grid (17,984)	★ 8,249	★ 1,704	★ 1,286	★ 5,669	★ 1,076	19.02%	20.31%
Transport (27,284)	★ 21,045	★ 1,834	★ 1,707	★ 1,646	★ 1,052	28.86%	26.95%
Corporate & Others (2,779)	★ 1,770	★ 209	★ 319	★ 403	★ 78	2.94%	2.15%

Source: Alstom HRIS.

★ These indicators have been reviewed by PricewaterhouseCoopers.

### Breakdown by Gender (by region, incl. LTA)

	Europe	North America	Central & South America	Asia/Pacific	Africa/Middle East	% of total workforce	% of total workforce 2011/12
Men	45,960	8,559	5,057	16,820	2,753	★ 84%	84%
Women	9,590	1,707	897	2,755	447	★ 16%	16%

Source: Alstom HRIS.

★ These indicators have been reviewed by PricewaterhouseCoopers.

## Breakdown by Type of contract (incl. LTA)

	Europe	North America	Central & South America	Asia/Pacific	Africa/Middle East	Total	Total 2011/12
Permanent contracts	52,922	9,148	5,816	16,364	2,002	86,252	85,449
Fixed-term contracts	2,628	1,118	138	3,211	1,198	8,293	8,549
Temporary workers	4,599	866	163	2,090	317	8,035	8,401
Interns	1,637	51	219	322	36	2,265	2,388

Source: Alstom HRIS.

## Workforce changes during fiscal year (incl. LTA)

	Europe	North America	Central & South America	Asia/Pacific	Africa/Middle East	Total	Total 2011/12
Hiring on permanent contracts	5,074	1,320	861	2,240	410	9,905	9,922
Hiring on fixed-term contracts	3,046	1,841	232	2,065	461	7,645	8,176
Resignations	1,596	437	205	960	76	★ 3,274	4,200
Redundancies	228	124	1	481	3	837	651
Other departures (*)	1,699	462	399	703	130	3,393	4,505

Source: Alstom HRIS.

★ This indicator has been reviewed by PricewaterhouseCoopers.

(\*) Including retirements, not including disposals and acquisitions.

## Dismissal rate

DISMISSAL RATE FROM 1 APRIL 2012 TO 28 MARCH 2013

	2011/12	2012/13
Europe + Africa/Middle East	2.62%	0.52%
Asia/Pacific	0.45%	0.83%
Americas	4.56%	1.58%
<b>TOTAL</b>	<b>1.03%</b>	<b>★ 0.76%</b>

Source: Alstom HRIS

★ This indicator has been reviewed by PricewaterhouseCoopers.

Note: the dismissal rate is calculated on the basis of all dismissal types with the exception of redundancy.



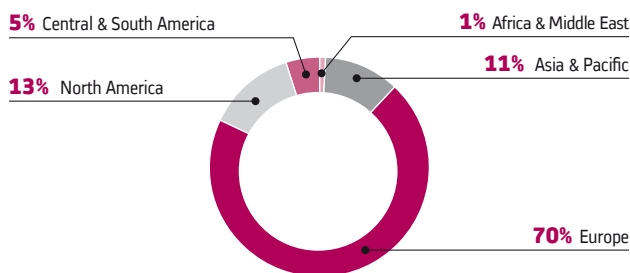
## ADAPTING THE WORKFORCE TO THE MARKETS AND ACTIVITIES

At 31 March 2013, Alstom employed 94,545 people.

The priority is to have the competencies needed for the current and future development of the Group and to facilitate the integration of newcomers.

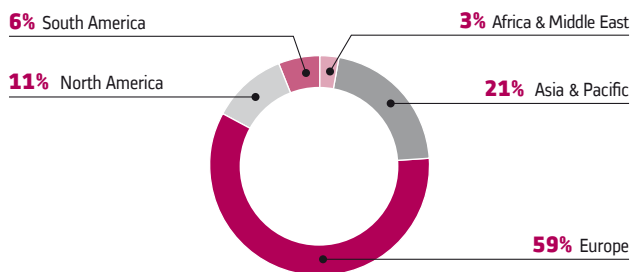
These charts show the workforce breakdown by region over the past seven years (total workforce).

### 2005/2006



Source: Alstom HRIS

### 2012/2013

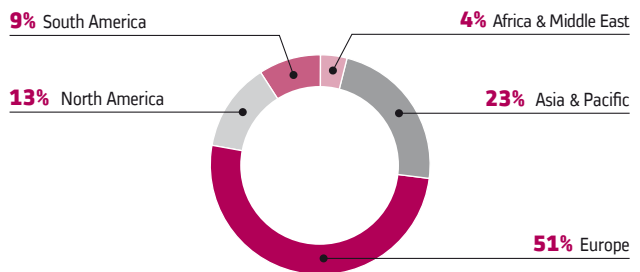


Source: Alstom HRIS

The evolution of the workforce breakdown by region demonstrates the development of the Asia/Pacific region, for which the relative part has nearly doubled.

Alstom recruited over 9,900 permanent employees over fiscal year 2012/13. The Group does not face any difficulty to recruit, due to its reputation and its active relationship and partnership with schools and universities.

### RECRUITMENT BY REGION IN 2012/13 (PERMANENT CONTRACTS)



Source: Alstom HRIS

### Developing active relationships with universities

As Alstom has recruited over 9,900 permanent employees over the fiscal year, finding the right competencies is key. Relationships with schools and universities are actively managed in more than 35 countries, for a triple objective, e.g. to:

- make Alstom well-known and identify future employees;
- establish partnerships, including in research and development;
- participate in the national effort for education and training in the countries where the Group operates.

#### A few examples of partnerships we reported hereafter in a number of countries:

- In China, Alstom signed in January 2013 a cooperation agreement with Shanghai Jiaotong University (SJTU) for the creation of a joint research centre. The Alstom-SJTU Joint Research Centre is dedicated to the strengthening of technical cooperation and to promoting local engineers and young talents to positions involving management responsibilities. Stephan Lelaidier, Vice President R&D for the Grid Sector, was invited to be SJTU deputy Professor.
- In Croatia, Alstom Power has hosted site visits and participated in various career fairs to present Alstom and meet the students from local engineering schools.
- In the Czech Republic, there were a number of events with Brno University of Technology, including presentations, student meetings, workshops (exchange of ideas, needs and expectations through meeting with important employers in the Brno region), etc.
- In France, Alstom has organised more than 40 events in various schools and universities forums, lectures, conferences... and offers more than 500 internships within the Company. The Group has attended the VIE (*Volontariat International en Entreprise*) forum in

Paris (France), with a large interest from students for opportunities of one-year missions in Asia, Middle-East, Africa. Specific action was continued with SUPELEC, in the form of a very popular 'Case Study' project with the students. In close cooperation with the foundation of the University of La Rochelle, meetings were organised to deal with training, recruitment, meeting between professionals and students. Finally, Alstom also managed to establish a relationship with the London Business School, by being part of their annual 'Paris Business Trek': attending students have shown great interest in Alstom and its offered opportunities.

Since 2010 and for a period of three years, Alstom has sponsored the Chair of Excellence of Law and Business Ethics of the University of Cergy-Pontoise (see section dedicated to Business Ethics).

- In Germany, Alstom has participated in various career fairs to increase brand awareness, and to contact students & graduates from different universities. Site visits are also organised on each production site, to help teenagers gain a clear view of production and business.
- In India, there are various relations with a number of universities. As part of the "Campus Connect Programme", there are a number of campus events at Bengal Engineering College and NIT Durgapur involving 115 students.
- In Italy, an Associate programme exists with *Politecnico di Milano*, including Company presentations, career fairs, workshops, etc. In addition, several sessions of presentations and site visits have been organised for students from technical schools.
- In Malaysia, there is a partnership with Might-Meteor, a recognised human capital development centre, to promote Alstom as an employer of choice and a "Graduate Trainee Programme" through which six graduates have been recruited.
- In Sweden, Alstom has participated in a number of career and recruitment fairs, and organised site visits specifically for women and teenagers.
- In Switzerland, there is a partnership with IAESTE (International Association for the Exchange of Students for Technical Experience), ASVZ (Academic Sport Club Zurich), and ETH Career Centre involving several thousand students. There are also a number of sponsorship activities, presentations, career fairs, forums, site visits, etc. Alstom has also held "TechDays 2012" for high school students who attended lectures and sponsored 100 female students from ETH Zurich.
- In the USA, Alstom has relations with many universities across all Sectors, with a wide range of activities taking place at country level. This includes career fairs, sponsorships, training sessions and various recruitment activities. For example, 20 graduates from Bentley University and Notre Dame have participated in the "Finance

Graduate Development Programme" (FGDP). Alstom also sponsors the Society of Women Engineers (SWE) which involves mentoring by women engineers from the four Sectors.

- Apprenticeships

Alstom is promoting apprenticeships and welcoming an increasing number of apprentices. Mentors are very involved in the follow-up of the apprentices. French sites such as La Courneuve (Thermal Services) and Reichshoffen (Transport) have already launched initiatives over a number of years to improve the recruitment and training of young people on work-study programmes. More than 450 apprentices have been hired during the fiscal year and this number will be increased to 700 for the next year (see section dedicated to Local communities).

## Integrating new employees

Recruitment is followed by numerous actions to facilitate the integration of new employees into their teams.

At Group level, Alstom conducts an induction programme called "Alstom Connection", which gathers recently hired managers (12 to 18 months of seniority) to learn about the Group's activities and values, hear senior management, visit Alstom sites and build a first network. During the fiscal year, no sessions were held as the emphasis was put on individual induction in the teams and activities. Specific events are organised in order to ease the employee's integration, such as "HR In Motion" gathering new HR people joining the Group. In 2012, one session was organised in various parts of the world with a focus on BRIC countries.

In addition, local programmes are designed to facilitate the integration of newcomers. For instance:

- In India, 103 new engineers benefited from a comprehensive induction programme, the "Young Engineers Graduate (YEG) Integration Program", to help them have a smooth transition from campus to corporate life. The programme focuses on behaviours rather than technical competencies, and includes a full-day EHS audit to highlight the importance of this matter for the Group. It lasts for a period of 84 days, followed by structured 'on-the-job' learning. The programme aims to promote a new generation of technical workforce, to build a talent pool and prepare future leaders within the organisation. A total of 108 students from 19 renowned engineering colleges in India went through the 'on-campus' recruitment procedure.
- In the Grid Sector, the "Grid Graduate Development Programme" recruits 10 graduates per year and aims to build a talent pipeline for the business. This programme is accredited by the Institute of Engineering and Technology (IET), one of the world's leading professional societies for the engineering and technology community gathering over 150,000 members in 127 countries.

## REINFORCING THE COMPANY CULTURE

To maintain a high level of employee's engagement, Alstom relies on:

- a common culture based on the Group's values and its ethical principles, which reinforce the sense of belonging;
- an action plan to encourage their involvement in the life of the Company.

As of 2012/13, the performance review process includes a specific focus on the 'Values into Practice'. Not only the manager and the team member will review the global performance in the position but they will also discuss how the team member has used and implemented Alstom's values in daily activities.

## Respect of Human Rights

Respect of Human Rights is one of Alstom's fundamental commitments.

- The very first article of Alstom's Code of Ethics states that, as the Group is a multinational corporation with operations around the world, its high ethical goals require compliance with certain standards exceeding legal requirements. Among others, Alstom is particularly respectful of the laws governing human rights and labour, health and safety standards, protection of the environment, corruption and bribery, fair competition, taxation and the accurate communication of financial information. Alstom complies with the guiding principles of the Organisation for Economic Cooperation and Development (OECD), the United Nations Universal Declaration of Human Rights, the principles of the Global Compact and those of the International Chamber of Commerce (ICC).
- Regarding the Human Resources policy, the Alstom's Code of Ethics states that "it is Alstom's policy to comply fully with the United Nations Universal Declaration of Human Rights and the Fundamental Conventions of the International Labour Organisation. In line with these principles, Alstom applies a human resources policy based on respect for individuals, their dignity, rights and individual liberties, and promotes their involvement in Company life. The Group promotes all forms of dialogue with both individual employees and their representatives".
- Alstom is a member of the Global Compact, promoting respect of human rights within its sphere of influence. During the fiscal year, Alstom participated in two Global Compact working groups aiming to provide guidelines for investors and companies operating in conflict-affected and high-risk areas and fighting against corruption. Alstom encourages its managers to be involved in their local Global Compact network.

In the day-to-day management of its activities, Alstom strives to strictly comply with its commitments in its sphere of influence.

- Alstom conducts an annual survey to ensure the absence of any incident regarding child labour, forced labour, freedom of association or any kind of discrimination. During calendar year 2012, no incident was reported except a slight increase in the USA mainly due to the Thermal Services Boiler workshops (Thermal Power Sector) from the hourly population, mainly claims made after dismissals or following some disciplinary actions. While 15 cases are pending resolution and Alstom will prevail favourably, the following actions were taken: the HR organisation has been reviewed with a strong focus on proactive employee relations, and the EEOC (Equal Employment opportunity) training to all managers and supervisors at the workshops was reinforced.
- An internal directive on Individual Data Protection, updated in 2012, states that the Human Resources management is based upon performance and competence using well-known shared processes: these processes should be based on objective data, not on personal factors such as gender, age, religion, ethnic origin, political and philosophical opinions, trade union membership, health, and sexual preferences.

All recorded information shall reflect these principles in pre-formatted fields and/or as free-text. All employees have the right to request access to their own data and to obtain the rectification of such data when justified.

- The charter that Alstom's suppliers and contractors are requested to adhere to, stipulates that they must be compliant with the United Nations' Universal declaration of human rights, the International labour organisation's Fundamental conventions, the Guiding Principles of the OECD, the rules of conduct of the International Chamber of Commerce (ICC) and any other relevant international conventions and national or local regulations, which are applicable to their activities in the country(ies) in which they operate. Alstom's suppliers and contractors must in particular comply with the following rules:
  - elimination of all forms of illegal, forced or compulsory labour;
  - elimination of child labour: Alstom's suppliers and contractors must not employ persons under the minimum age required for work and must never support the use of child labour, except as part of an official educational youth training scheme approved by the government;
  - elimination of any kind of discrimination in respect to employment and occupation;
  - compliance with the applicable laws and regulations related to maximum working hours and minimum days of rest;
  - compliance with the applicable laws and regulations related to the minimum level of remuneration;
  - respect for freedom of association for their employees, in compliance with the applicable laws;
  - compliance with the applicable laws and regulations related to employment termination;
- Respect of human rights is one of the criteria examined by the monthly Corporate Risk Committee when assessing the projects: any breach into it may have significant consequences on the feasibility of the project, its financing or implementation, and on the Group's reputation.

## Sense of belonging

The creation of a common culture is important to hold the Group's employees together and reinforce their sense of belonging.

### Alstom's values

Alstom's three core values – Trust, Team, Action – contribute to the sense of belonging. They are explained via awareness-raising actions and training at local level, supported by an e-learning programme. Since October 2011, 4,348 employees have been involved in this e-learning programme.

Should improvement needs be identified during the performance review discussion, a specific development plan will be built and its implementation will be monitored with the support of the HR team.

### Respecting business ethics

Alstom's culture and reputation for integrity are essential for the Group; such a reputation can only be built through a permanent benchmark to meet the best international standards and through the strengthening of its ethical rules and procedures, as well as through the adhesion of all employees, who must know and rigorously apply the principles of Alstom's Code of Ethics.

The mission of the Ethics & Compliance (E&C) Department is to propose the content of the Alstom Integrity Programme and to foster its implementation throughout the Group worldwide. The Group's culture embraces all ethical best standards based on the Alstom values: Trust, Team, Action. This culture must permeate the whole organisation, the tone from the top being relayed by each level of the management up to each and every employee.

The Alstom Integrity Programme comprises:

- The Code of Ethics applies to every employee within the Group. Published in 2001, it was reviewed in 2007 and updated in March 2010. It is available in 21 languages: English, French, Arabic, Chinese, Croatian, Czech, Dutch, Finnish, German, Greek, Hungarian, Indonesian, Italian, Japanese, Polish, Portuguese (Portugal and Brazil), Romanian, Russian, Spanish, Turkish.

The Code of Ethics prescribes essential rules of conduct with regards to the relationships with business partners, Alstom commitments as a socially responsible company, human resources policies and commitment to protect the Group's assets.

In addition, the Code of Ethics details the Alert Procedure which allows any employee to report violations of prevention of corruption, competition and securities and accounting laws and regulations. The identity of the people who exercise this right is kept confidential whenever possible. In the United States of America, the Company provides "The Alstom US Business Ethics Hot Line" for this very purpose. This hotline guarantees anonymity.

- Very strict Group Instructions govern Alstom's relationship with Business Advisors, resellers and consulting companies. Other Group Instructions, with regards to conflicts of interest management, gifts & hospitality, political and charitable contributions and sponsorship, must be also applied by every employee.
- Face-to-face training sessions and e-learning programmes are essential to explain the Group's Ethics & Compliance policy. During fiscal year 2012/13, around 2,200 persons (*i.e.* a cumulative total of 9,400 people since 2006) participated in a compliance session. Two e-learning modules dedicated to the Prevention of Corruption and Competition Law are available, and exposed employees are formally requested to participate in the e-learning exercises.

The e-Ethics module related to the Code of Ethics, available in 9 languages, was launched in March 2010. It targets Managers & Professionals for whom it is compulsory. In March 2012, it was officially deployed in the Grid Sector.

To specifically train employees working with suppliers and sub-contractors, two new e-learning modules have been created. They focus on the prevention of corruption, on competition law and on conflicts of interest in the area of sourcing, procurement and supply chain.

- A community of approximately 300 E&C Ambassadors, all volunteers and coming mainly from the Legal, Finance and HR functions or being Alstom Country Presidents, appointed to disseminate the Alstom Integrity Culture throughout the Group. Their main role is to promote the culture of integrity through E&C Awareness sessions and to be a contact point for questions about Ethics & Compliance. The E&C Ambassadors have a direct contact with the E&C Department through the Compliance Officer, for the Development of the Alstom Integrity Programme, who provides them with the appropriate support and tools to achieve their mission. For example, the E&C Ambassadors receive a monthly E&C Newsletter providing them with press articles and ethical case studies.

- In order to ensure that all employees are well informed about E&C in Alstom, a variety of internal communication methods are employed: a visible and regularly updated section on Altair, Alstom's intranet, called "Ethics and Compliance", posters displayed in all locations, regular news in Alstom's weekly newsletter.

On 12 September 2011, the Alstom Integrity Programme was awarded a certificate from ETHIC Intelligence for two years. In 2013, Alstom will take the necessary steps to renew the certificate. This certification will be based on an audit of the procedures in various countries and on the recommendations of international and recognised anti-bribery experts.

Alstom is committed to promote Ethics and Compliance principles in business worldwide. The Head of Ethics & Compliance is a member of the United Nations Global Compact Working Group on the Tenth Principle, of the ECOA (Ethics and Compliance Officers association in the USA), of the IBE (Institute of Business Ethics in the UK) and of the ICC France (International Chamber of Commerce).

On a local level:

- Alstom sponsors the Ethos Institute in Brazil and the Centre for Business Ethics and Corporate Governance in Russia;
- since July 2012, Alstom has been taking part in the principle-based initiative for Argentina's Electrical Energy Transportation Industry committed to the prevention of corruption together with other industry players;
- on 26 July 2012, Alstom signed the Corporate Integrity Pledge in Malaysia, witnessed by the Chief Commissioner of the Malaysian Anti-Corruption Commission (MACC);
- in addition, since 2010 and for a period of three years, Alstom has sponsored the Chair of Excellence of "Law and Business Ethics" of the University of Cergy-Pontoise, in France. Created in June 2007, the Chair of Excellence in Law and Business Ethics is the first academic Chair in France which aims at gathering researchers and professionals to reflect upon a common subject and to promote scientific and academic activities related to Ethics and Governance, Socially Responsible Investment, reporting, rating, responsible employment, corporate social responsibility, energy and environment, compliance and healthcare.

## Employee involvement in the Company

Employee involvement and motivation are also key for Alstom. The Group's strength is based on the dynamism and creativity of its employees and several actions have been taken to encourage it.

### Well-being policy

In several countries, specific programmes are in place to improve the employees' health and well-being at work. A few examples:

- In Germany, workplaces have been adapted to disabled employees and in addition, a full day workshop "understanding each other" has been set up to organise cooperation between valid and disabled employees. A set of rules exists to facilitate parental leave and helps maintain the connection with the Company during this period which may last three years: regular contacts with the Human Resources team, part-time return to work.
- In France, all employees have access to anonymous psychological support in case of need, both for personal and work-related situations.
- In Turkey, a sports centre has been created in a factory and shuttle service has been implemented to transport employees to work.

- In Switzerland, the Welfare foundation covers all Alstom employees: the national welfare system in Switzerland generally provides excellent coverage. Nevertheless, some employees may encounter financial emergencies, often without any responsibility for it. For these cases, Alstom Switzerland has a Welfare foundation. All employees and former employees, including their relatives, can apply for financial support. Their financial emergencies may be caused by unemployment, disease, invalidity, age, death and other causes. A board of trustees assesses the requests. Financial support can be in form of interest-free loans or donations without reimbursement.

Moreover, a specific programme facilitates re-integration in the working process after long-term illness or accidents such as: depression and burnout, chronic disorders, cancer. In 2012, social services supported over 300 employees, in many cases also involving line and HR managers. The basic principles are to act quickly, effectively and to provide cost-optimised service and support, bringing in additional value. This is based on a network with external specialists (treatment, insurance, etc.) to take the pressure off for HR and line management. It has proven to help employees recovering after long-term illness

## Remuneration schemes

### Remuneration evolution

Due to the Group's diversity, activities in numerous countries, influence of local inflation and economic situation, no meaningful indicator has been developed. Alstom's policy is to review every year the employees' base salaries and to have open negotiations with employee representatives in case they exist.

### Remuneration schemes based on performance criteria

#### Short term incentive scheme

Alstom's annual short-term incentive scheme is based on two performance factors: financial performance (60% of the incentive target) and individual performance (40% of the incentive target). The Target Incentive is the incentive payment that is received when 100% of the financial goals and individual objectives are met. In case the financial results exceed the goals, the incentive paid out may exceed the Target Incentive.

Eligibility and incentive target rates are linked to the job grading and influenced by local market practice in each country. More than 34,400 employees (73% of the managers) benefited from this remuneration scheme at 31 December 2012.

As safety and quality are objectives which the Company wishes to develop and reinforce as well as sustainability performance, the variable remuneration of a number of the top management teams includes related indicators.

### Profit sharing

Alstom's policy aims to recognise collective performance. Profit-sharing schemes are in place in 13 countries (namely France, Brazil, Canada, Chile, China, Croatia, Finland, Ireland, Italy, Mexico, Poland, the UK and the USA) covering about 52,000 of the Group's permanent employees, according to the Alstom social survey conducted in 24 countries covering 90% of the workforce.

The profit-sharing schemes are often calculated on agreed criteria, including the injury frequency rate reduction or safety-related indicators such as the number of general safety inspections (Grid in France). These schemes also include business-related indicators such as the reduction of waste, and quality-related points.

### Employee shareholding

Since its initial public offering and first listing, the Group has implemented five capital increases reserved for employees (June 1998, August 2000, November 2004, December 2007, February 2009) and a plan to allocate free shares to all employees (May 2006). At 31 March 2013, the current and former Group employees held 1.31% of the Alstom share capital, either directly or through mutual funds. The Group aims to pursue this campaign to further promote employee shareholding.

Major and large-scale communication campaigns were launched for the implementation of the employee shareholding programmes. These programmes include a retention period, at the end of which a new communication exercise towards the participants needs to be deployed. These are opportunities to foster the sense of belonging to Alstom.

### Specific retention plans

In a few countries in which the attrition rate is considered critical, specific retention plans have been set up and implemented. These schemes are designed to encourage employees to remain with the Company, and the pay-out is deferred until the end of a vesting period. These plans do not apply to the managers whose performance over the year was not considered sufficient.

### Indicators to measure involvement

Regular indicators to measure motivation are the resignation rate at Group level and opinion surveys at Sector level.

Resignation rates, which also reflect the general employment situation in each geographical area in which the Company operates, are one of the criteria used to determine the level of satisfaction of the Group's employees. The rates are closely monitored at both Sector and regional levels.

## Resignation rate

### RESIGNATION RATE FOR EMPLOYEES ON PERMANENT CONTRACTS IN EACH REGION

	2010/11	2011/12	2012/13
Europe + Africa/Middle East	2.55%	4.10%	3.08%
Asia/Pacific	6.37%	7.96%	5.75%
Americas	3.05%	4.41%	4.32%
<b>TOTAL</b>	<b>3.42%</b>	<b>4.92%</b>	<b>★ 3.92%</b>

Source: Alstom HRIS.

★ This indicator has been reviewed by PricewaterhouseCoopers.

## Absenteeism

A common definition of absenteeism has been put in place across the Group and the data is consolidated for the first time this year.

The reported absenteeism rate <sup>(1)</sup> was ★ 2.6 <sup>(2)</sup> at end of March 2013.

## Employee engagement survey

In order to foster the employees' involvement, Alstom has launched surveys to measure it. These surveys lead to action plans where needed and meaningful. The action plans are communicated by the management.

Alstom deploys surveys not about satisfaction but about employee engagement which provides indications about the social climate among other indicators. Those surveys are not done at Group level due to the Sectors' specificities; each Sector can deploy its own survey. The target of the surveys is to measure employees' opinion and to assess the employees' engagement on the Group's decisions (vision, roadmap and strategy) in order to implement action plans to ensure long-term customer satisfaction.

## Thermal Power/Renewable Power

When those two Sectors formed one, two opinion surveys had been launched in 2008 and 2010. The 2010 survey had a 70% response rate. The improvement topics were related to process complexity and speed in innovation.

Since their separation (June 2011):

- Thermal Power launched in March 2013 an engagement survey targeting all its employees. In order to enable all employees to participate, specific IT access for employees not having a computer (mainly blue collars) has been organised. The response rate is 70%. This survey will lead to actions plans which will be adapted to each team.
- Renewable Power: a survey should be launched in 2013.

## Grid

Employee surveys took place in 2006, 2008, and the most recent one dates from June 2011, with a 63% response rate. Four improvement domains have been identified and action plans were launched in February 2012: enhance a quality culture; foster direct communication between

managers and their teams; improve the competitive image perception, develop individual skills and develop reward through remuneration.

## Transport

In October 2012, the Transport Sector sent an Employee Opinion Survey to all its employees. Over 14,600 employees responded (62%) either on-line or via paper forms, showing their strong desire to have their say. The results were encouraging, with positive feedback about the perception of Alstom, and about its corporate social responsibility. High ratings have been noticed on motivation and commitment. 84% of respondents know the Alstom values. However, areas of improvement were identified: CSR, Sourcing, Engineering, Information Technology and Russia. Actions were launched to improve in those areas.

Engagement surveys will be conducted regularly as part of the HR strategy that includes *Engagement* of one of its four pillars. It is considered to include, in the Sector surveys, common questions in order to get a global view.

## Company-wide Corporate Social Responsibility survey

In November 2011, Alstom conducted a survey targeting 60,000 employees in 7 languages and focusing on measuring employees' awareness of CSR and sustainability matters, their knowledge of these topics in general and of Alstom's performance. The employees were also asked to propose suggestions for action and express willingness to actively contribute (for more details about results, please refer to Registration Document 2011/12).

The main take-away of the survey was that 77% of the respondents think that Sustainable Development is key to the Company's differentiation but that the knowledge of the respondents on how the Company is actually performing in this field should be improved. Therefore an action plan was put in place to bridge that gap through an awareness campaign that resulted for the FY 2012/13 in:

- the redefinition of the Group's CSR policy in July 2012, communicated widely to the management. In March 2013, this policy was reinforced through CSR country action plans (please refer to the section "Alstom's contribution to Sustainable Development: a proactive policy of CSR");
- a reinforced communication towards both internal and external audiences through:
  - a monthly CSR newsletter, distributed to all employees,

(1) Absenteeism rate definition: Number of days lost due to employees absences related to 1,000 hours scheduled to be worked by entire workforce for the same period (example for a country where the annual working hours are 1,800 hours this is equivalent to 4,7% people absent).

(2) Source: Alstom.

★ This indicator has been reviewed by PricewaterhouseCoopers.



- five short animated feature films enabling viewers to grasp complex topics in a light-hearted way. This year, they focused on:
  - eco-cities,
  - eco-design,
  - support to local communities around the Company’s activities,

- solutions to reduce CO<sub>2</sub> emissions,
- sustainable sourcing.

Additional topics will be addressed in next fiscal year. These tools are available on [www.alstom.com](http://www.alstom.com).

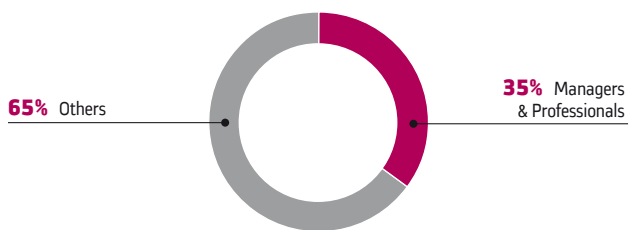
## DEVELOPING COMPETENCIES AND MANAGING CAREERS

Alstom is a high-technology company that handles large-scale, complex projects over the long term. The quality of its teams, their skills and their commitment to the Group are crucial to its overall success.

### Evolution of competencies between 2006 and 2013

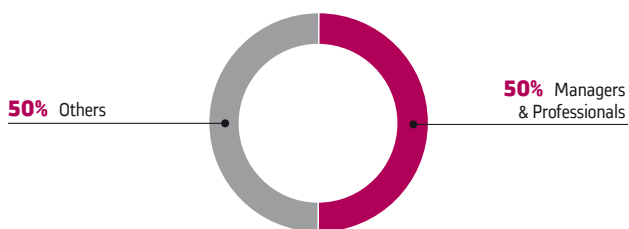
#### BREAKDOWN BY CATEGORY

2005/2006



Source: Alstom HRIS

2012/2013



Source: Alstom HRIS

Alstom’s people are critical to its success. The Group motivates its employees and promotes their involvement by making the most of diversity, supporting professional development, and ensuring safe, healthy working conditions and work-life balance.

### Career management

#### Career development programmes

A new HR Strategy has been launched with an objective of “one HR organisation, one Alstom Culture”. Four pillars have been designed, among which career management is a key target: Alstom encourages each employee to manage his/her own career in collaboration with his/her line manager, HR manager, and using the tools provided. This allows each employee to play a key role in his/her own performance and in his/her advancement.

Alstom’s HR policy is founded on a strong sense of commitment.

The new HR Strategy is built around Staffing, Knowledge, Engagement and Talent.

All of the Group’s Sectors participate in the drawing up of HR policies and in their application. This guarantees coherence. All employees are treated equally on the basis of their skills, in particular with regard to employment, recruitment, talent identification, mobility, training, remuneration, health and safety, which rely on common processes and policies.

#### Alstom Jobs Online

To enhance internal mobility and stimulate employee applications, Alstom effectively motivates all categories of potential internal candidates. Promoting a strong employer brand in this way has helped position Alstom as a globally recognised benchmark employer, capable of both attracting the best talent and mobilising all employees around shared values (Trust, Team, Action) that are in line with the Group’s strategic development.

All employees from more than 80 countries can access more than 1,700 job opportunities currently available in Alstom worldwide.

#### Specific development programmes

Development programmes have been built for different communities, which address three different employee populations within the Group: Technical Experts, Functions and Managers.

#### Technical Expert development programmes

The high-technology products developed by Alstom, the need to be at the edge of the most sophisticated techniques and researches, have led the Group to develop an expert career path. Most experts are worldwide recognised as specialists in their domain. They have a duty to develop and maintain their expertise but also to share it with internal and external specialists. That is why they often participate in international conferences, and publish articles in specialised magazines.



The Expert career path is as valuable as the management career path and this group of people forms a specific community within Alstom.

Experts and Principal Engineers are organised in 81 critical technologies covering the most important technical disciplines used in the creation of the Alstom Products.

**Thermal Power**

- The expert programme, covering 10 Senior Experts, 132 Experts and 430 Principal Engineers, promotes the high level of expertise that some employees have acquired.
- In the Thermal Service (TS) Business: the creation of TS Technical Communities Career Management Platform, is a joint initiative between the Engineering Office, R&D and HR. This is the first information platform of its kind dedicated to engineers in the Power Sectors.

**Grid**

- The Sector technical expert community now counts 8 Senior Fellows, 123 Senior Experts, 13 Experts and 488 Specialists coming from all P&Ls and all regions across the world.

**Transport**

- The Process World Class Engineering launched in 2000, enabled to identify and develop within the engineering teams 27 Master Experts, 288 Senior Experts and about 900 Experts.

**Function development programmes**

The Group is deploying a strategy of career management for several functions: Finance, HR, EHS, Legal, and Communication, in order to develop functional expert communities. In addition to the management of communities, Operations have been considered and a map of competencies with associated career paths has been designed in Quality. A new Quality competency model has been issued.

**Managers' development programmes**

As regards Management and Leadership skills:

**Thermal Power**

- A new initiative was launched in September 2012, the "Future Leader's Forum 2013", attended by 36 participants.

**Renewable Power**

- The Renewable "Young International Talent Development programme" aims to develop and retain employees with 3-6 year experience and prepare them for future management roles.
- The AMP ("Accelerated Management Programme") entered its second year with a focus on trainees from BRIC countries who represented 60% of the participants in this programme.
- The AMS ("Advanced Management Seminar") designed to prepare future top executives has been continued with one session gathering 41 managers among which 8 women.

**Career path management**

The career path management relies on the combination of three processes:

**Annual Performance interview**

**Objective:** all employees benefit from an annual performance interview.

**Indicator:** number of managers and professionals with an annual performance interview.

2010/11	2011/12	2012/13
30,300 (*)	38,800	★ 42,500

Source: Alstom HRIS, round figures.

(\*) Figure 2010/11 revised to cover only managers and professionals.

★ This indicator has been reviewed by PricewaterhouseCoopers.

The 2013 number represents only part of the final number, as the time frame to complete the performance review process has been moved to March and April.

All managers, engineers and professionals are covered by this process on a mandatory basis, which includes the setting of objectives and a development plan. To increase the efficiency of this process, the training of managers related to people development has been strengthened. The process is optional and recommended for all other employees.

The inclusion of a discussion about the Alstom Values into Practice in the 2013 process is an opportunity to refresh the knowledge of managers about the performance review process.

**People Reviews**

People Reviews allow to match the current and future needs of the Group (based on a competency mapping) and the available competencies, and to set career paths with a transversal vision.

The Group includes most of its managers in people reviews carried out in sites, Businesses, Sectors, Functions and the Group as a whole.

**Internal mobility**

**Objective:** appoint at least 60% of the Group's top managers through internal promotion.

**Indicator:** internal promotion rate of executive managers (1,577 people).

2010/11	2011/12	2012/13
79%	85%	80%

Source: Alstom HRIS.

In most large countries where Alstom is present, monthly resourcing forums are held to better identify the available competencies, the business needs and to facilitate cross-Sector moves.

In addition, thanks to the deployment of e-Talent (common resourcing software), the number of vacant positions posted on the intranet website increased from 20% in 2010 to 43% in 2011. The number of open positions decreased to 33% in 2012, due to the experimentation of the use of social media to identify and attract candidates. The objective is to reach 60% by 2015. The posting of vacant positions brings transparency, easier relocation, new career opportunities.

**PERCENTAGE OF VACANT POSITIONS INTERNALLY POSTED**

2010/11	2011/12	2012/13
20%	43%	33%

Source: Alstom HRIS.

## Competency management

**Objective:** shape the competencies that the Group needs, taking into account the employees' expectations.

**Indicators:**

- ratio of employees trained during the fiscal year;
- average number of training hours per employee.

	2010/11	2011/12	2012/13 (*)
Percentage of employees who have had training	69%	74%	★ 68%
Average number of training hours/employee (total workforce)	20 h	19 h	★ 19 h

(\*) Perimeter: social survey conducted in 24 countries representing 90% of the workforce.

★ These indicators have been reviewed by PricewaterhouseCoopers.

### Alstom University

The mission of Alstom University (AU) is to contribute to the Group's strategic objectives. By instilling a learning culture and experience sharing within communities of experts, the aim is to ensure that employees have the knowledge, skills and tools necessary to contribute to both Alstom's and the individual's success.

Permanent missions of Alstom University are:

- understanding the needs of business, Sectors and employees, and continuously adapting the learning content;
- continuously improve the effectiveness of the training process;
- supporting the communities of experts in developing individual and group learning paths based on know-how assessment;
- promoting and managing the internal trainer community;
- providing locally the best learning environment to all Businesses through five regional campuses in Europe, North America, Latin America, China and India.

**Objective:** design and conduct common training for all Group activities.

**Indicator:** number of trainees in Alstom University.

2010/11	2011/12	2012/13
8,900	8,231	15,817

Source: Alstom University.

### 2012 achievements

**Face-to-face training**

- Number of sessions: 1,167.
- Number of training programs: +110 programs over 7 curricula: Leadership and Management, Finance, EHS, Project Management, Sales, Sourcing and Quality (established in 2012).
- In addition, Alstom University organised 201 test sessions for the delivery of "EHS passport" to more than 3,400 employees;

**Distance Learning training**

- Number of Distance Learning licenses activated: about 1,576.
- Number of trained participants e-learning customised by Alstom: 34,051 with e-Ethics module (+10,000) for the promotion of the Alstom's Code of Ethics and values, and High Risk Activities module (+21,000) for the prevention of accidents.
- Two surveillance visits under the ISO 9001 certification took place by an independent third party. These visits have validated a complete three-year cycle without non-conformities and ensuring Alstom University common standards quality deployed in the five regional campuses.

### Alstom Collaborative Way (ACW)

Alstom takes into account the constant development and changes of communication technologies. The "Alstom Collaborative Way" (ACW) initiated in 2008 had played a crucial role in the development of a culture based on sharing and learning amongst employees. The implementation of collaborative tools for communities of experts has allowed the promotion, the development and the sharing of best practices and know-how.

ALSTOM COLLABORATIVE WAY DEPLOYMENT

	2010/11	2011/12	2012/13
Telepresence: average hours/month per site	62 h (12 sites)	77 h (21 sites)	52 h (33 sites)
Web conferences	4,700 meetings 14,500 participants	54,614 meetings 223,951 participants 32,000 accounts	82,000 meetings 328,088 participants 72,000 accounts
Document sharing systems	41 24,000 hits per day	48 20,000 hits per day	N/A
Wikis	83	89	157
Blogs	6	7	Replaced by SharePoint
AUTube	90 videos	132 videos	187 videos
Free video-streaming for educational purposes	147 authors 35,796 views	203 authors 49,472 views	264 authors 39,857 views
SharePoint Collaborative platform		Community Site Project Site Team Site MySite	144 159 322 17,000

Source: Alstom University.

The increase of web conferences was due to the deployment of LiveMeeting on all workplaces throughout the Group.

AUTube (awarded HR innovation in 2010) is a free video-streaming, available on the Alstom Intranet and dedicated hosting instructional videos and/or educational performed by Alstom employees. The site allows registered users to post, access, view, share and comment on educational videos. The shared content on the website is not limited to technical, functional and strategic Alstom subjects, but can relate to any topic linked to labour and not outlawed in Moderation Charter which ensures compliance with the Alstom's Code of Ethics.

A user guide and e-learning module have been created for educational purposes and to educate employees on the risks and opportunities provided by the use of social media.

### Knowledge Management/Transfer

Given the high technology product environment in which Alstom is doing business, as well as in the context of high competition and ageing workforce in some regions, Knowledge Management and Transfer is a critical activity. Since 2008, the Knowledge Transfer (KT) project (previously named Knowledge Management project) has been aiming to "Improving Alstom's capability to transfer knowledge in its global network in order to build fully operational local units on time, where the

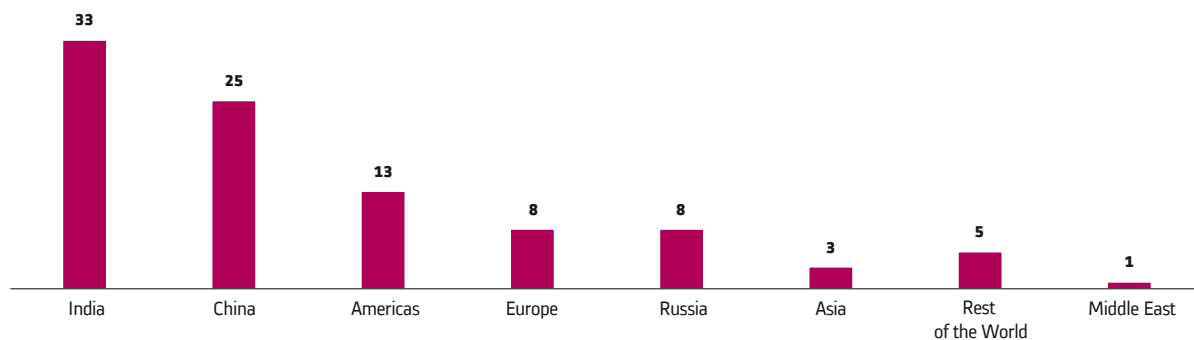
market is". The team has built up a common framework (KT Handbook with model, process, guidelines and tools) based on internal good practices and lessons learned, and developed a collaborative platform (KT WiKi platform) connecting the community of managers, experts, specialists and key employees dealing with knowledge transfer.

In the Thermal Power and Renewable Power Sectors, the handbook was distributed to 1,900 managers in April 2012 across all Businesses. 35 KT training sessions on the processes and tools have been deployed for more than 300 managers (60% in receiver units in BRIC countries). More than 400 KT Community members are connected through the KT collaborative platform.

Currently more than 90 active KT projects are running with specific gate reviews and quarterly reviews. Those projects target optimising the way knowledge is transferred in the units ensuring to:

- shorten learning curves of employees;
- reduce cost of poor quality in new units;
- ensure efficient use of investments in knowledge transfer processes and raise their impact;
- keep employees motivated and satisfied;
- retain key knowledgeable people in the Company.

#### NUMBER OF KNOWLEDGE TRANSFER PROJECTS BY REGION



Source: Alstom

## EQUAL OPPORTUNITIES

### Promoting gender equality

It is the Group's policy to promote equal opportunities for men and women on the basis of equal employment and qualifications. This principle is included in Alstom's Code of Ethics and in the Company's HR policy but no target percentage of women has been set as a target.

The question of professional equality between women and men has been at the heart of Alstom's social and human policy for many years. It is nevertheless to be noticed that the training path leading to train the needed skills in most of Alstom positions are attracting mainly men. The proportion of women in those curricula is about 15%. This prevents from

a quantitative meaningful comparison. Therefore, Alstom gives great importance to optimising the integration of women in its activities and offering them career opportunities. In order to reinforce the diversity of its population, the Company acts at local and Group level. In addition, through its local presence and offer of high-quality jobs and career development, the Group is a strong contributor to the development of the countries in which it operates. Despite those efforts, the expected results of Alstom's action plan have not yet fully materialised.

Started in April 2012, discussions are still ongoing with the European Works Forum and the European Union representation to reach an agreement about Equal Opportunities within Europe.

#### INDICATORS RELATED TO WOMEN BY CATEGORY

	2010/11	2011/12	2012/13
Percentage of women in the workforce	16%	16%	★ 16%
Percentage of women: management	16.5%	15%	★ 15.3%
Percentage of women: executives (1,570 people)	11%	11%	11.6%
Percentage of women trained <i>versus</i> total women by calendar year (*)	70%	71%	73%

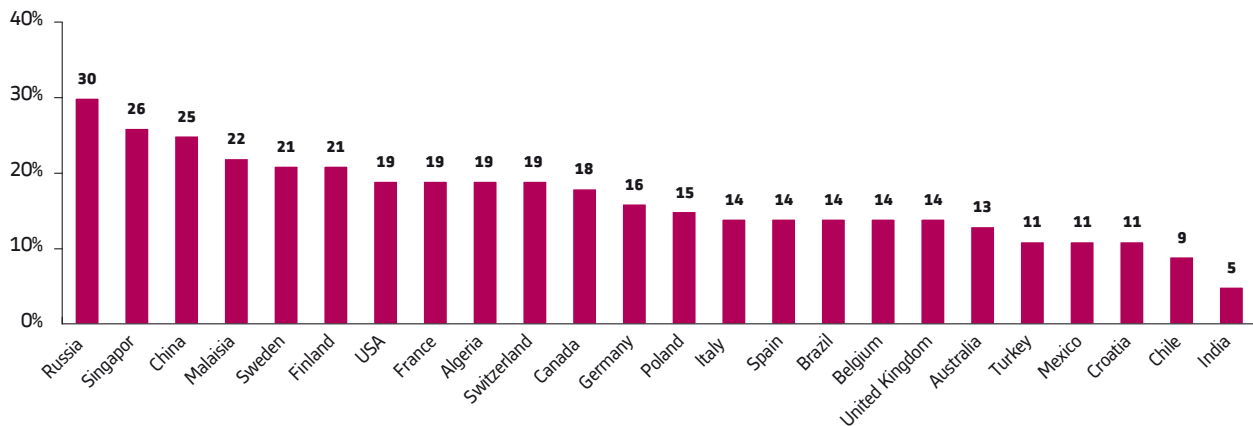
Source: Alstom HRIS + (\*) social survey conducted in 24 countries representing 90% of the Group's total headcount.

★ These indicators have been reviewed by PricewaterhouseCoopers.

The proportion of women in the headcount varies greatly between countries.

The Group has no specific targets for the percentage of women in its total workforce but it develops an active policy to favour their integration.

PERCENTAGE OF WOMEN PER COUNTRY (AS OF 31 DECEMBER 2012)



Source: Alstom social survey conducted in 24 countries, covering 90% of employees.

### Supporting associations dedicated to women promotion

To increase female applications, Alstom promotes industry careers among female students in several countries, in partnership with relevant associations.

- In the USA, Alstom has established numerous partnerships and participated in many programmes and activities that demonstrate its commitment to Diversity and Equal Employment Opportunities more specifically for women. Alstom is a member of the Equal Employment Advisory Council (EEAC), the nation's largest non-profit association of employers dedicated exclusively to the advancement of practical and effective programmes to eliminate workplace discrimination. Alstom is a member of the Industrial Liaison Group (ILG), which promotes Affirmative Action and Equal Employment Opportunities by working closely with the US Government Office of Federal Contract Compliance Programs and Employment Opportunities Commission to:
  - advocate the positions and viewpoints of the constituents;
  - comment and provide feedback on regulatory and legislative initiatives;
  - educate the constituents on developments regarding equal employment opportunity, affirmative action and related regulatory changes.
- In France, a new partnership has been started with "Déployons nos Elles", a non-profit organisation which promotes industrial jobs in high schools by organising exchanges with engineer women and visits of workshops. The "Elles bougent" initiative has been continued.
- The Group is associated to the EVE programme, a women's leadership programme that helps "increase one's performance and become an actor of change".

### Initiatives to fight discrimination

Concrete achievements have been accomplished in order to fight discrimination and harassment. The existing action plans and programmes have been continued. For further details, please refer to the Registration Document 2011/12.

In France, agreements have been signed with the employee representatives to foster the fight against discrimination covering more than 2,800 employees.

### Equal opportunity policy at Group level

In 2011, a strong momentum was devoted to gender equality. In March 2012, the Group Human Resources Senior Vice President launched the WEB programme (Women Empowerment for Business), promoted by WEB ambassadors, and reaffirmed his full support to networks similar to WAVE. In addition, specific focus is given to women careers during people reviews. Alstom also supports the EVE programme (for more information, see previous paragraph).

With regards to disability, Alstom has started to develop a Disability policy focusing on five complementary areas: job access and maintenance in employment, raising awareness, accessibility to premises and information, and partnership with the sheltered work sector. Each entity is encouraged to integrate its initiatives into this process. Alstom organises each year internal training sessions to help HR team members better understand various situations with disability and to help prepare job interviews and the integration of people with disability.

In addition, Alstom encourages the development of its parental policy by starting systems of assistance to find childcare solutions or inter-company day nurseries whenever possible (for example in La Courneuve in France).

### Balance between personal and professional life

In several countries, measures have been taken to encourage a good balance between personal and professional life.

- In France, in 2012, in addition to the agreement signed during the previous years, three agreements (ALSTOM Hydro France, ALSTOM Power Conversion and ALSTOM Transport) were signed or renewed with a focus on the balance between personal and professional life. The agreements include measures such as:
  - the reduction of daily working hours for pregnant women;
  - a gradual work resumption week after maternity or adoption leave;
  - the payment of complete salary in case of paternity leave;
  - support upon return from maternity leave;
  - pay rise guarantee for male or female employees on leave;
  - a specific allowance in case of child illness requiring parental attendance;

- measures to support single parents such as flexible working time;
- special leaves for family events.

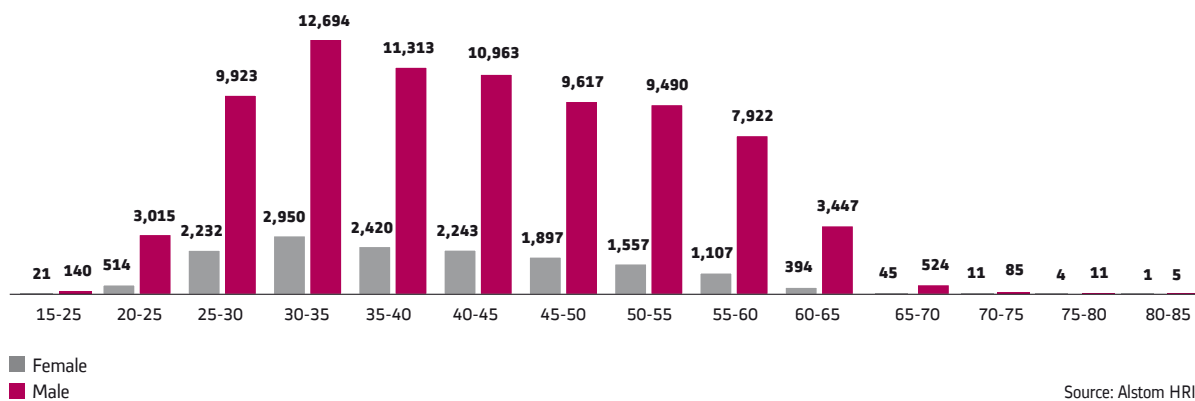
The implementation of all these agreements is followed by indicators. Each Transport site in France has a budget to finance day-care nurseries or to participate in childcare costs.

A specific agreement has been signed in a Transport site to favour parenthood.

- In Turkey, during one year after maternity leave, mothers benefit from a reduction in working hours.
- In Brazil, an agreement with the unions extended maternity leaves from 4 to 6 months.

Alstom has conducted a survey in 24 countries representing 90% of the total headcount, in order to assess possible salary discrepancies between men and women. The results are difficult to interpret for a number of reasons, in particular because of the very limited number of women in certain categories and of differences in positions and seniority.

#### AGE PYRAMID BY GENDER (TOTAL WORKFORCE) – MARCH 2013



Source: Alstom HRIS

## Employment and integration of disabled people

It has been a continuous guideline within Alstom to develop and support the integration and employment of disabled people. This allows those persons to work in a challenging environment and to ensure compliance with the Alstom Code of Ethics which strictly prohibits any discrimination on the basis of health or disability and the local regulations.

The following table shows the results of a survey conducted in 24 key countries, to measure the integration of people with disability in the total workforce. The data are significant only where local regulations set minimum quotas.

#### PERCENTAGE OF EMPLOYEES WITH DISABILITIES

	2010	2011	2012
France	3.4%	3.4%	3.9%
Germany	5.4%	5.5%	5.5%
Italy	2.7%	2.7%	2.4%
Spain	0.3%	0.4%	0.9%

Source: Alstom social survey conducted in 24 countries representing 90% of the Group's total headcount.

- In the USA, Alstom continued Reasonable Accommodation Policy to outline the Company's commitment to the fair and equal employment of individuals with disabilities.
- In France, Alstom has participated in disability recruitment forums, in "handicafés" within universities with the help of FEDEEH (federation specialised in support for disabled persons). Alstom also organised meetings with the Foundation of the University of La Rochelle which promotes the training and recruitment of disabled people.
- Alstom organised internal training sessions to help HR officers better understand the various situations involving disabilities and to help prepare job interviews and the integration of people with disability.
- In Barcelona, Spain, in a workshop where it was possible, hiring has been made with only disabled persons. All stakeholders, managers, employees and HR, benefited from a training session to secure a smooth integration of the new comers.
- Moreover, the internet version of this report is accessible to blind people.

## Promoting cultural diversity

Alstom is fully aware of the strength resulting from the large number of nationalities, cultures and approaches represented in its employees. Specific action plans have been developed at local level to take advantage of this asset.

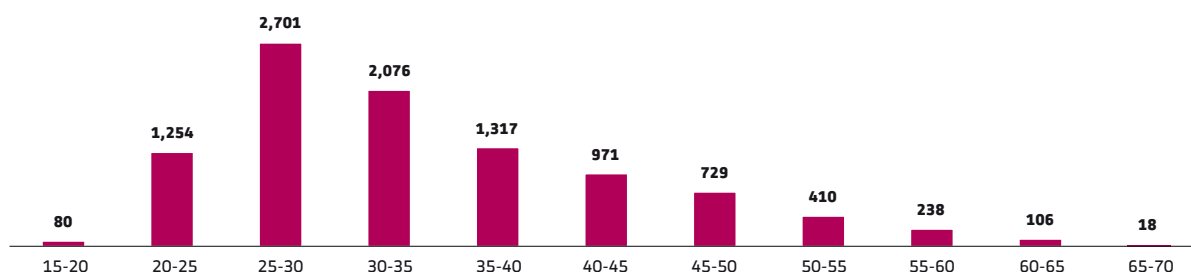
Two indicators measure diversity:

- the number of French senior executives has declined from 52% in 2006 to 45% in 2009 and 40% at 31 March 2013;

## Managing senior careers

Age is obviously not a discrimination criterion. Over the last fiscal year, 1,506 people aged over 45 were hired, corresponding to 15.2% of the new permanent recruits.

### AGE PYRAMID OF NEW HIRES 2012/13 – PERMANENT CONTRACTS



Source: Alstom HRIS

- In France, the “Knowledge Management and Age Pyramid Anticipation” agreement concluded in January 2012 at Group level, has produced its effects in developing skills, accessing to training, and mentoring development. The working time reduction before retirement has been chosen by 138 employees.
- In Switzerland, all employees who have reached 50 are invited to a seminar to help them make their plans, with information on financial planning and pensions, property and inheritance law. At 57, a seminar, “57Plus”, focuses on the final career years, health during retirement and the importance of social network.

## EMPLOYEE RELATIONS

An internal survey, conducted in 24 countries and representing 90% of the Group headcount, showed that ★ 71% of the Group’s employees are covered by a national or intra-company collective bargaining agreement.

### Collective bargaining agreements

Alstom’s Management and employee representatives work closely together at all levels within the Group. The European Works Forum (EWF) agreement was renewed in July 2012, with an increase of the number of employee representatives to take into account the integration of Grid. The EWF met in various formats: eleven select committees, two regular plenary sessions, three extraordinary plenary meetings, eight meetings of four working groups including one focusing on equal opportunities. The exchanges enabled to share the business situation

and the impact on the workforce, in the frame of the agreement related to the Anticipation of Change and Evolution signed in February 2011. This agreement between Alstom and the EMF (European Metalworkers’ Federation) is based on the good practices of countries, such as the workforce and competency planning in France, temporary work-time reduction in Germany or geographic mobility in Italy. The objective is to safeguard employment, accompany the redeployment of employees, increase employee competencies and organise the social dialogue at European, national and local levels.

Many agreements related to salaries, working time, medical care, restructuring and profit sharing were signed at local level with the employee representatives during year 2012.

The list of the agreements signed in 2012 is available on [www.alstom.com](http://www.alstom.com).

★ This indicator has been reviewed by PricewaterhouseCoopers.



## Management of restructuring impacts

Alstom strives to limit the social impact of restructurings plans. The principle stated in the Group's policy "It's all about People" is: "nobody is left to cope alone with an employment problem in case of restructuring". In February 2011, Alstom and the EMF signed an agreement related to the Anticipation of Change and Evolution (see former paragraph). The restructuring plans therefore follow this guideline. For instance:

- In Greece, the closure of the Grid activity has been the opportunity to redeploy employees and their families in the other European locations.

- In Mexico as part of the restructuring of the Grid facility, Alstom offered opportunities in the other locations. As part of this programme 26 employees and their families have been successfully redeployed across the world. This action involved employees and managers who volunteered to take new positions and have been accompanied in this career move. On top of preventing people from losing their job this redeployment has been an enabler to keep within the Company the built know-how that these employees had created.
- In Australia, the Grid activity which was restructured during the year has also enabled to offer and move people to Brazil, France and some other countries.

## LENGTH AND ORGANISATION OF WORKING TIME

### Organisation of working time

Work practices at the Group's industrial, commercial and administrative sites vary greatly depending on the site, type of activity, geographical location and local legislation.

In France, a total of 17,590 employees, 9% of the employees work on 2x8 shifts, 4% on 3x8 shifts and 0.5% on weekend shifts.

### Overtime

Overtime refers to hours worked beyond the legal limits set by the relevant national legislations. The concept of overtime may vary from one country to the next and in some cases is not applicable. This somewhat mitigates the relevance of this benchmark as a consolidated indicator.

In France, the average figure of overtime is 19 hours/per employee for calendar year 2012.

### Use of external employees

The number of temporary workers as a full-time equivalent (FTE) was 8% of the total workforce in the first quarter of 2013.

For fiscal year 2012/13, contractors worked an estimated 120 million hours at Alstom sites and in construction sites, corresponding to the equivalent of 62,500 people on the basis of a 40-hour work week and 48 weeks/year (60,000 people in 2011/12).

## RELATIONSHIPS WITH EXTERNAL STAKEHOLDERS

### RELATIONSHIPS WITH CUSTOMERS

In Alstom, customer satisfaction is a key priority. In this respect, the Group has put in place procedures to better anticipate the needs of its customers. These procedures must be assessed per Sector, as they correspond to different markets and product specificities. However, the Group is considering the harmonisation of the methodologies used whenever possible.

Nevertheless, one action is today covering Thermal Power, Renewable Power and Grid Sectors: the Alstom's *Conseil stratégique*. This is a CEO-level event that has been existing since 2010. It was formally

an Alstom Power event but, following the integration of Alstom Grid (2010) and the creation of Alstom Renewable Power (2011), it became an Alstom Corporate event dealing with Energy. The *Conseil stratégique* occurs once a year. The Group's Chairman and CEO invites there the top-30 customers from all around the globe to discuss about long-term scenarios. Some external stakeholders/experts also come to give their vision of the stakes in the energy world for the next decades. The *Conseil stratégique* is limited to 30 customers and 30 Alstom top-managers in order to create an intimate event to discuss about non-everyday business topics. Customers appreciate it and most of them come back every year.

## In the Power Sectors

The Global Power Sales organisation based in the countries covering both the Thermal Power and Renewable Power Sectors, aims to be close to its customers, to better understand their needs and requirements and be in a position to answer in a timely manner. Global and Key Account Managers ensure a close and long-lasting relationship with customers. The “One Face to the Customer” concept ensures coordination of the businesses activities and ensures a better answer to customer expectations and satisfaction. In addition:

- a customer satisfaction survey was renewed in 2011 to measure the evolution since 2005 and 2008; more than 480 customers participated in the worldwide survey highlighting the Power Sectors’ strengths and areas for improvement. Working groups were put in place to define and implement action plans to improve the satisfaction level. Customer satisfaction will be measured again in 2013;
- customer satisfaction surveys are also conducted at Business level during and following the completion of most projects;
- a new global customer intimacy programme is currently being designed, aiming to understand how to best work together in the future and strengthen the relationship between Alstom and its customers by building mutual trust, while ensuring a joint vision of the future to open up more business opportunities. Some pilot actions took place in 2012/13. The full deployment of this programme is scheduled for FY 2013/14;
- working groups comprising customers and Group experts discuss specific products and technologies. Sharing views and experiences, particularly with regards to technical expectations, is extremely useful for Alstom to improve existing products and develop new offerings;
- technical events such as the Clean Power Days, Product Roadshows and Technical Seminars are organised worldwide, to encourage technical exchanges with customers and technical associations.
- Alstom Thermal Power and Renewable Power Sectors propose a wide range of training courses to help customers become familiar with their products. These trainings take place in dedicated training centres but Alstom also offers on-site customer operation and maintenance training. For some of them, mobile power plant simulators are being used to enable operators to learn to respond to a variety of situations and to train to operate power plants during the construction phase of a project.

## In the Grid Sector

The Company aims to be recognised as a reference in grid performance, developing long-term relationships with its customers based on trust and understanding.

In 2012, Grid embedded and synergized its customer care tools in its customer relationship management software, SPEAK. This initiative provides employees and management with a 360° vision of their customers, which is accessible online and through mobile devices: feedback from customer quality surveys, complaints, business opportunities, Key Account Plans... allowing Grid to better serve its customers.

Amongst the key constitutive elements of this unified Customer Care environment:

- ACT (Act for Customer Trust): a brand-new customer complaints system, which gathers and allows teams to manage customer complaints collaboratively. Additionally, customer complaints are analysed during monthly management business reviews.
- CQS (Customer Quality Survey): In addition to local initiatives, the Grid Sector carries out bi-yearly customer quality surveys that cover wide-ranging customer satisfaction questions with 20,000 contacts worldwide. These surveys now also include the customers’ perception of Grid’s sustainable development performance.

Customers’ negative feedback is assessed on a one-to-one basis through a customer call-back process and is recorded in ACT if necessary. It is analysed through management meetings to build Grid’s improvement plans.

- Key Account Planning: The Grid Sector strengthens customer intimacy through Strategic Key Account Management (40 Strategic Key Accounts including utilities and industries). The mission of the Key Account Management is to promote and develop customer intimacy to ensure customer loyalty and increase customer satisfaction. A yearly Key Account Plan assures in-depth account review including interviews with key customers to gain feedback on cost, quality, delivery, service and relationships. The information is documented and reviewed to create clear action plans for each individual key account, used to fine-tune strategy and to develop tailored products and services. In a fast-moving international environment, Key Account Management regularly holds a Key Account Day event for each Strategic Key Account to better understand the customer’s business, develop joint solutions and evaluate new technology.

The Grid Sector regularly holds User Groups worldwide in the fields of Network Management Solutions, Air-insulated Switchgear and Gas-insulated Switchgear. For instance, in 2012, the Network Management Solutions division held five User Groups covering all regions, which were attended by nearly 600 customers. User Groups allow participating customers to exchange views with peers while keeping abreast of the latest trends and developments in grid solutions. By regularly listening to customer feedback during User Groups, the Grid Sector gains unique insight, which helps to ensure that Alstom Grid solutions evolve with the needs and challenges of customers. Furthermore, User Groups offer Alstom Grid an outlet to display its latest products and solutions and allow its experts and sales teams to expand the customer base, develop relationships and identify business opportunities. For example, in November 2012, the Air Insulated Switchgear division demonstrated its digital substation technology to 80 customers from 35 countries in Barcelona, Spain.

The Grid Sector also offers technical training through its Technical Institute to accompany customers throughout their equipment lifetime. Expert technical knowledge is transferred through a proven pedagogical approach and continuously improved with systematic customer satisfaction surveys. Local accessibility to technical training on the full Grid scope is ensured via a global network of 16 training centres, always nearby a factory, and through on-line e-learning. During the last year over 23,000 trainee days were held.

Finally, in 2012, the Grid Sector maintained and accelerated the deployment of its "All Ambassadors" programme, which targets key employees with frequent customer contact as well as those with internal functions from all Product Lines and Regions.

## In the Transport Sector

In 2012, a worldwide customer satisfaction survey was conducted with 49 customer companies / 95 customer representatives, with the objective to better understand customers' expectations and to assess areas of satisfaction and areas of improvement. Feedback – managed by the Managing Directors and Customer Directors – was given to the interviewed customers to inform them about the resulting actions launched both globally and locally, and which are regularly followed up.

In terms of global actions, a special focus is made on strengthening the customer relationship before the tender phase and after the project phase:

- Systematic customer satisfaction surveys are re-activated at the major milestones of every project. This is carried out under the responsibility of the Customer Directors.

- Customer Needs Reviews are put in place to fuel the product strategy and product specifications throughout the R&D cycle.
- A first user group – the Alstom Metro Club – was created with 46 metro operators (customers of metro solutions from Alstom Transport *i.e.* rolling-stock, signalling, infrastructure and services) with the objective to create a platform to debate on business challenges, priorities and solutions.
- A customer training centre, federating a worldwide network relying on common modern methodologies and tools, will open mid-2013 with trainings for train crews and maintainers. Through this training offer, Alstom Transport aims to accompany its customers all along the life cycle of their rolling stock.
- A Customer Relationship Management tool is being deployed in order to improve customer focus throughout the whole organisation.

## RELATIONSHIPS WITH GOVERNMENTS, INTERNATIONAL ORGANISATIONS AND THINK TANKS

### Contribution to the public debate

Alstom wants to be known for the quality of its contributions to the public debate around sustainable, environmental-sound power generation and transmission, and transport, engaging government and international organisations in the development of policies.

As a company with a long history and a unique portfolio of clean power and sustainable transport technologies, Alstom has the experience and expertise to help drive low-carbon development, mitigate climate change and ensure sustainable economic growth.

Alstom therefore engages in advocacy, both directly with governments, international organisations and other influencers, and through memberships in selected coalitions that share the policy vision.

The messages, with which Alstom contributes to the policy debate, focus on the following:

- the role of open markets and fair competition in supporting green growth, particularly through:
  - fair competition and reciprocity in public procurement,
  - removal of trade barriers for environmental-friendly goods and services,

- consistent application of high international standards for ethics and compliance, and
- protection of IPR as a major driver for innovation and investment in Research, Development and Deployment (RD&D);
- the need for continuous investment in public and private RD&D in sustainable technologies, particularly through:
  - targeted use of public funding and support for both early stage research and demonstration projects,
  - International Financial Institutions support for major infrastructure projects in developing countries,
  - leverage of private investment through innovative financial mechanisms and public-private risk-sharing;
- the importance of long term, transparent and stable policy frameworks to support investment in sustainable development, particularly through:
  - CO<sub>2</sub> pricing,
  - balanced regulation and standard-setting to support a broad portfolio of sustainable, high efficiency technologies, and
  - promotion of sustainable transport options such as rail.

## Participation in leading bodies

Convinced that the Sustainable Development goal will be reached only if all parties concerned are actively involved, Alstom participates in a number of leading bodies.

- In 2008, Alstom joined the Global Compact, designed to encourage companies to commit to a set of key values spanning human rights, labour standards, environmental protection and ethics in business practices. Alstom is actively involved in this network and promotes the ten principles that summarise its key values.
- In 2009, Alstom joined the World Business Council for Sustainable Development (WBCSD), which comprises 190 international firms campaigning to promote the three pillars of sustainable development: economic growth, environmental balance and social progress.
- Alstom has signed the Sustainable Development Charter drawn up by the International Association of Public Transport (*Union internationale des transports publics*, UITP).
- Alstom is a founding member of the Australia-based Global Carbon Capture and Storage Institute.
- Alstom has been an active member of the International Emission Trading Association (IETA) for some years and is represented on its Board.
- In 2010, Alstom joined The Prince of Wales's Corporate Leaders Group on Climate Change (CLGCC) and the European Union Corporate Leaders Group on Climate Change which bring together business leaders from major European and international companies who believe that there is an urgent need to develop new and long-term policies to mitigate climate change.
- In 2013, Alstom joined Econsense, the leading sustainability coalition for business in Germany.

## Involvement in many programmes linked to Sustainable Development

During the fiscal year, Alstom was involved in many programmes directly linked to Sustainable Development.

- In 2012, the Group participated in the Rio+20 Earth Summit:
  - via WBCSD, Alstom committed to the UN Global Compact, to further its actions on skills development, training and partnerships

on basic to high-level education in support of the deployment of sustainable technologies in power generation and transmission and public transport,

- Alstom signed the Cambridge Natural Leaders Platform's "Leadership Compact" on ecosystems and loss of natural capital, thus committing the Group to:
  - operate within limits of natural systems;
  - recognise impacts of the production and consumption of products and services;
  - help consumers make better-informed choices;
  - develop rigorous and realistic targets and plans.
- In October 2012, Alstom sponsored a business dialogue for the World Bank's Partnership for Market Readiness (PMR) in Sydney, at which IETA launched its Business PMR (BPMR) to support on-going dialogue.
- Alstom participated in the B20 Green Growth Task Force, making recommendations to the G20 for free trade in green goods and services, CO<sub>2</sub> pricing, and support for low carbon innovation.
- Alstom continued to participate actively in the United Nations Framework Convention on Climate Change (UNFCCC) forums, principally relating to the establishment of the Technology Mechanism and the Green Climate Fund, speaking at meetings of the Technology Executive Committee and the Durban Forum on Capacity Building.
- Alstom played a leading role in business support for the European Emission Trading Scheme (ETS), in particular as a signatory of a joint letter from 30 businesses supporting the Commission's proposal on "backloading" of allowances; it is also a member of the Businesses for a Clean Economy (B4CE) initiative supporting CO<sub>2</sub> pricing in Australia.
- Alstom is playing an active part in supporting air quality regulation in India, through the Confederation of Indian Industry's Subcommittee on Next Generation Regulatory Standards.
- Alstom testified to the U.S. House of Representatives Committee on Energy and Commerce Subcommittee on Energy and Power on the current status of Carbon Capture and Storage (CCS) technology and next steps in moving it towards commercial viability.
- Alstom took part in the French national debate on green transition.

## RELATIONSHIPS WITH SUPPLIERS AND CONTRACTORS

Since 2007, Alstom has been committed to integrate sustainable development in its purchases, in order to reduce the environmental, social and ethics risk in its supply chain. The effective implementation of this approach is conducted through the collaboration between Alstom and its suppliers and contractors, which ensures a more responsible supply chain. All these commitments have been recently formalised in the "Alstom Sustainable Sourcing Policy" signed by the Chairman and CEO of the Group, and available on [www.alstom.com](http://www.alstom.com).

By establishing partnerships with its suppliers and contractors, Alstom wants to ensure continuous improvement in raising its suppliers' performance and to minimise its exposure to risks. This approach also represents a way to be a vector of innovation and change management.

## Risk reduction in the supply chain

### Commitment and qualification of suppliers and contractors

The “Charter of sustainable development between Alstom and its suppliers and sub-contractors” requires compliance with the principles set in the United Nations Universal Declaration of Human Rights, the International Labour Organisation’s Fundamental Conventions, the Guiding Principles of the organisation for Economic Co-operation and Development, the rules of conduct of the International Chamber of Commerce (ICC) and also with Alstom’s Code of Ethics.

At 31 March 2013, more than 10,000 Alstom partners had already expressed their commitment by signing this charter. Compliance with the charter is also integrated in Alstom’s general purchasing conditions. To complete the global assessment toolkit, issues concerning the social responsibility of suppliers are incorporated in all Sectors’ qualification processes. The audits conducted by Alstom auditors therefore include CSR criteria.

### Risk mapping

Reducing environmental, social and ethics risks in its supply chain is one of Alstom’s main priorities. With a wide range of sites all around the world, Alstom favours purchases from local, generally medium-sized companies. It has become necessary to assess, in priority, suppliers located within the Group’s sphere of influence and presenting a significant risk factor. A risk mapping is conducted annually through three criteria:

- commodities;
- suppliers’ countries;
- total purchasing volume.

A risk mapping related to commodities and countries is carried out by a third party, which helps prioritise the assessments of suppliers. The Group has set rules to conduct assessments and a 3-year objective to evaluate.

### Three-year objective assessment

3-year objective assessment				
1,600 suppliers should be assessed in priority. They represent nearly 65% of Alstom's total purchasing volume				
Total purchasing volume \ Level of risk	Low	Medium	High	
> €2 million	100%			
Bw. €1 – 2 million	Not a priority	Case by case basis		
Bw. €100 k – €1 million			60%	
< €100 k				

### Assessment of suppliers

To measure their performance in terms of sustainable development, suppliers undergo an assessment based on environmental, social and ethical criteria, including supplier requirements to be passed on to secondary suppliers. The assessments are conducted by EcoVadis, a company specialised in sustainable development evaluations. A team of CSR experts analyses the suppliers’ CSR responses through questionnaires, documentation and published information on their activities. The assessment process includes references to international standards, such as the United Nations’ Global Compact, the ISO 26000 Standard and the Global Initiative Reporting. At the end of fiscal year 2012/13, ★ 1,515 suppliers have been assessed, representing nearly 45% of Alstom’s total purchasing volume.

### Improvement action plan

When their evaluation rating is considered unsatisfactory, suppliers must draft and implement remediation action plans to address their identified weaknesses. Alstom supports their efforts for improvement. As an example, Alstom organised in August 2012 a one-day training session for Chinese suppliers. This session conducted by a NGO increased the suppliers’ awareness of sustainable development and Alstom’s CSR requirements.

Suppliers can be reassessed as soon as the corrective action plan is completed. In case a non-compliant supplier is not willing to put in place the corrective action plan or to make any commitment to improve, Alstom should cease its collaboration.

★ This indicator have been reviewed by PricewaterhouseCoopers.

## Best practices and continuous improvement process

### Change management with Alstom's buyers

As Alstom is working with a wide range of suppliers, the entire process, driven by the buyers, aims to integrate sustainable development as part of the corporate sourcing culture. Being aware that this approach requires a strong involvement from the buyers, Alstom has developed a comprehensive communication and training program on responsible purchasing for sourcing people. Besides an e-learning course related to sustainable sourcing, Alstom has developed a specific training course dedicated to buyers and supplier-quality communities, in order for them to understand Alstom's requirement for sustainable sourcing, supplier assessment and support to suppliers when an action plan is required. In order to be easily deployed in the different countries where Alstom operates, this programme is held mainly through collaborative e-tools. At 31 March 2013, 780 – out of which 150 in China and India – have been trained through e-learning or face-to-face meetings.

### New development of partnerships with suppliers

To be recognised as Alstom's partners, suppliers and contractors should be integrated in the responsible supply chain. This can increase social responsibility, the competencies of local suppliers as well as the co-construction of innovative solutions. For instance, in the framework of an agreement signed with Morocco in 2011, Alstom supports local

rail providers to enhance a level of excellence skills internationally recognised, and the settlement of new suppliers specialised in this field. First suppliers were qualified by Alstom in 2012.

Alstom develops also long-term partnerships with its suppliers. The "Leading Partners" program (LP150) aims to support suppliers which have proved their long-term ability to provide high quality, innovative and economically-performing products.

### New projects

Alstom has also initiated new projects including Green Sourcing. Green Sourcing is the way to acquire Environmental Preferable Products, with reduced or limited impacts on the environment. This has led to initiatives in various commodities: wiring, painting, paper, hardware, as well as in the transportation of tramways. In order to sustain this process, Alstom collaborates with its partners with a "responsible product" approach integrating eco-design and life cycle analysis.

As an example, through its collaboration with its logistics supplier Geodis, Alstom Transport is deploying sustainable mobility internally. In January 2013 for the first time, a tram was delivered by train to a customer in Casablanca, Morocco. Rail delivery offers several benefits: increased safety, improved efficiency with a potentially significant reduction in delivery time, and eco-friendliness. This first common success allows the Group to consider this rail delivery solution for Alstom products in the future.

## Key indicators

	2010/11	2011/12	2012/13
Number of charters signed by suppliers (cumulative figure)	4,500	8,500	10,900
Number of assessed suppliers (cumulative figure over 4 fiscal years)	850	1,225	★ 1,515
Number of people trained to sustainable sourcing through specific programmes (cumulate figure over 4 fiscal years)	300	680	780

★ This indicator has been reviewed by PricewaterhouseCoopers.

## RELATIONSHIPS WITH LOCAL COMMUNITIES

Alstom applies global policies in the same way wherever the Group operates, but it is important for its activities to be also a local player and to develop local action plans.

To improve its CSR performance in relationship with local communities and achieve increasing benefits from it, in 2012/13, actions were taken at two levels:

### At Group level

#### A commitment to Education

During the Rio+20 meeting, in June 2012, Alstom committed to contribute to Education: all countries gathering above 1,000 Alstom employees should have an action plan on this subject, namely Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Mexico, Poland, Spain, Switzerland, Turkey, the United Kingdom, the United States of America.

### A policy for Community investment

The Community Investment Policy adopted in January 2013 sets three priorities:

- the top priority is education – a key development tool everywhere in the world. Alstom joins the forces with local schools and universities to train students in high-quality courses via scholarships, apprenticeships, internships, and by providing general educative means;
- the second priority is to contribute to local development and industrial activities. For example, Alstom supports small enterprises and innovative start-ups, strengthens its suppliers' skills, develops programmes related to technology and innovation in partnership with local institutions;
- the third priority consists in a pragmatic dialogue with the communities, in order to meet local social needs and to protect the environment – and Alstom encourages its own employees to support these actions as volunteers.



## At local level

### A decentralised approach

In 2012/13, Alstom decided to strengthen the guidelines regarding the local initiatives, with a formal country action plan, mandatory for the 15 countries with over 1,000 employees, and strongly recommended for the others. The CSR action plan is defined after identification of stakeholders, their expectations and Alstom's own country stakes. The action plan has to be identified as a CSR action plan, be communicated (at least internally) and set follow-up indicators.

In April 2012, Alstom (jointly with EDF) won three French state's calls for tenders for offshore wind power projects and therefore it plans to create new industrial plants in Cherbourg and Saint-Nazaire, and an engineering centre, with an estimated creation of 1,000 direct jobs and 4,000 indirect jobs. A high number of stakeholders are involved in this strategic project. Many of them bear expectations regarding the social and environmental impacts of the project. This situation is considered as an opportunity to develop an innovative and exemplary CSR approach. Therefore, Alstom asked VIGEO Enterprise to contribute to identify the main CSR challenges.

## Support to education

### Dynamic relationships with schools and universities

Alstom has strong partnerships with schools and universities (see more details on the section "Social performance – Relationship with universities"), in order to:

- make Alstom well-known and identify future employees;
- establish partnerships, including in research and development (see more details in the section Sustainable Development and Alstom's CSR – Innovation);
- participate in the national programmes for education and training in the countries in which the Group operates.

In accordance with its commitment during the Rio+20 Summit, it also supports elementary and high schools. For instance:

- In India, Alstom has been providing funds for years to the elementary school in Shahabad, Karnakata State, a village near the Alstom factory where Alstom employees' children are studying.

In 2012, the Padappai (Chennai) Grid site in Tamil Nadu State decided to support the Panchayath Union Middle School, located 3 km away, with 181 pupils. Most of these villages' children had never worn shoes and proper uniforms in their life. Alstom management decided to extend an immediate support by providing them with two sets of uniforms, school shoes and identity cards. These articles were distributed on November 2012.

- In South Africa, Alstom has identified, since 2008, ten under-resourced schools in the Western Cape and decided to offer support. One of the participating schools, Macassar High School has won numerous awards for its environmental programmes, including the President's award for Youth Empowerment. The school, in partnership with the Botanical Society of South Africa, is also involved in an eco-conservation project that provides a protective habitat for the *Jordaaniella anemoniflora*, a very rare and endangered plant species.

- In Chile, Alstom gained recognition by the Chilecenter Foundation, reaching third place among 167 companies that donated computers to this entity. In this country, students from a municipal school, sponsored by Alstom, secured third place in the national competition of "Robotics First Lego League".

### Local actions to support students

In addition to its relationships with schools and universities, Alstom is conscious of its responsibility to facilitate the access of people, especially young people, and develops programmes to help students develop their competencies.

- In Bahia, Brazil, 12 young engineers without experience were hired and sent to Barcelona, Spain, to be trained and to acquaint with a different culture. 14 other young graduates were sent to various countries during 18 months for the same purpose.

Moreover, in November 2012, Alstom committed to offer internship to six Brazilian students coming from French high level engineering schools.

- In Algeria, Alstom participates in the Injaz Al-Djazair programme which aims to help students create enterprises and four Alstom managers advise students in design and architecture to prepare them for a regional contest.
- In France, in 2012, Alstom gave the opportunity to 70 young VIE (*Volontaires Internationaux en Entreprise*) to develop their competencies in a foreign country during their one year stay on average.
- In the UK, Alstom participates in the Science, Technology, Engineering and Mathematics (STEM) Ambassador programme with 13 volunteers. Volunteering as a STEM Ambassador helps develop skills of young learners and actively encourages them to enjoy STEM subjects via career seminars and lectures on "careers in Engineering".

### Impact on local development: supporting local companies

Alstom's Corporate Social Responsibility policy takes into account the impact of the Group's business operations on local development. In addition to supporting innovative start-ups and participating in local development by contribution to national or international programmes and clusters related to technology and research (see more details on the section Sustainable Development and Alstom's CSR – Innovation), Alstom pays attention to the local market.

- Alstom works with the French government to support Small and Medium Enterprises' (SMEs) growth. In 2009, Alstom made a commitment by signing the "International SME Pact" promoted by the French government to assist French innovative SMEs in their international expansion. Present in over 100 countries, Alstom is able to share its experience to strengthen their export strategies for targeted markets. Since 2010, Alstom supported 20 SMEs by providing strategic advice, introducing them to local customers or partners or by offering them accommodation in the Group's offices abroad;
- Alstom participates in the French "Alize" programme which aims to help very small enterprises via a monitoring programme by Alstom managers. During 2012/13, in the Valenciennes area, Alstom managers monitored three enterprises.



- In December 2012, Alstom supported an initiative called the “*Défi Solidaire*” to raise its employees’ awareness on the microcredit and to fund local micro-entrepreneurs, in several countries – Cambodia, Benin, Peru... –, in partnership with the microcredit platform “Babyloan”: 400 employees contributed with over €37,000 as loans and the platform supported the development of 72 micro-entrepreneurs. This operation was conducted in France as a first step.
- In Morocco, with regards to market opportunities, Alstom signed a long-term agreement on January 2011, including local sourcing, development of local supply chain, investments through joint ventures for instance and training.
- In South Africa, after the contract for the Medupi and Kusile plants, Alstom has created a REC (Regional Execution Center) with 400 employees, and has developed sourcing from local enterprises, including the little ones.
- In Kazakhstan, the new Astana plant for locos and tramways production will generate more than 600 direct jobs. In addition, a network of local suppliers will be established to support the positioning of the site as a major actor of the freight transport railway market, between Asia and Europe.
- In India, Alstom’s new Sricity plant (near Chennai) will play a crucial role to set up a local industrial footprint to serve the purpose of railway expanding Indian market. To develop a qualified workforce, partnerships are currently being explored with universities and training centres for recruitment and skill development programme. In full operation the site will employ more than 250 people and 50 contractors in the Sricity Special Economic Zone, which has a large potential for expansion. All service providers, during the site construction phase and current operation phase, are Indian.
- In the UK, nearly 50 apprentices joined the Grid and Power Sectors as part of a long-term commitment to develop young talent within the business. This is in line with the four-year apprentice scheme aiming to train 135 apprentices.
- In Brazil, in the frame of IMMA, a joint venture with Bardella to create a new hydro factory, a training programme has been in place for three years now with 900 trainees and 400 recruitments. This year, the objective is to train 30 people with disabilities. The management has already been provided a basic notion of sign language for a better inclusion of these persons.

Two long-term programmes, Escola Formare and Pescare in Power and Grid Sectors are conducted in Taubate with the NGO IOCHPE. 30 young unskilled people, including 12 women, from underprivileged backgrounds are trained in a professional environment. The training covers both technical and behavioural aspects. 80% of the 2011 trainees found a job and 7 were hired by Alstom within the year following the training period.

More information is available on [www.alstom.com](http://www.alstom.com).

### Charitable contributions

Alstom encourages initiatives to support local communities. The total budgeted contributions to charities are not completely identified at Group level. These initiatives, mainly social, are consistent with local needs and are developed in close cooperation with local associations.

These actions can support various charitable causes, cultural or sports events, initiatives for health or education; Alstom also provides an immediate help in case of natural disasters. For instance, Alstom and its employees jointly provided an active support to the people hit by the earthquake in Emilia Romagna, Italy, in May 2012. Thanks to the Group’s participation in the solidarity initiative promoted by Confindustria (the organisation representing Italian manufacturing and services companies) along with the General Secretaries of CGIL, CISL and UIL (the main Italian Trade Unions), Alstom collected around €26,500 through the donation of the equivalent of one hour of work by the Alstom employees, to which the Company added an equal amount. These funds were used to give aid to people and to rehabilitate the production system of Emilia Romagna.

Alstom encourages its employees to participate as volunteers in social programmes. For instance, in Italy again, on the occasion of Christmas, Alstom started a partnership with Fondazione ABIO, an association supporting hospitalised children and their families. Instead of offering Christmas gifts to employees or clients, the Thermal Power, Grid and Transport Sectors gave the equivalent amount as a donation which financed a Training Project for ABIO volunteers working with hospitalised children; all new Alstom volunteers also were benefited from this training session.

In Malaysia, a referee programme provides a premium of 1,000 riggits in case of successful hiring, premium which is allocated to charity organisation chosen by the employees. This year, 20 employees, and so 20 charity organisations, benefited from this programme.

The charitable contributions are regulated by a Group instruction: they must meet an environmental or social need in local communities and be justified by a legitimate charitable purpose.

The budget of the reported charities is about €1.7 million.

## Support of social local needs

### Facilitating access to employment

Alstom is well aware of its responsibility to facilitate the access of people, especially young people, to employment and develop local initiatives with this goal. The reason is the following: jobs are highly technical and finding seasoned specialists is not an easy task. It is thus vital to hire young people and provide them with the necessary training. It is a long-term investment. Alstom takes also into account the local authorities’ expectations to provide jobs, for instance to young people from disadvantaged areas.

- In France, in March 2012, Alstom signed an agreement with the Ministry of Labour, the *Engagement national pour l’emploi des habitants des quartiers prioritaires de la politique de la ville*, with a set objective; for La Courneuve site for instance to hire 20 people from disadvantaged areas for permanent contracts, 25 apprentices and 15 internships, by 2014.

In addition, in March 2013, Alstom gave its support to a campaign by *Association Française des Entreprises Privées* (AFEP) called *Jeunes et Entreprises*, to promote job for young people. After hiring 420 young people below 25 in 2012, Alstom plans to offer 700 positions in 2013. This initiative allows the Alstom sites to meet their needs while taking into account the specificities of their catchment area.

- In Germany, Alstom sub-contracts to social enterprises which provide work for prisoners and people encountering difficulties to access employment.

- The object of the charitable contributions must be in compliance with Alstom's Code of Ethics. This means that it is forbidden to contribute to organisations conducting activities in contradiction with the principles of the Group's Code of Ethics.
- The amount of the charitable contributions is not ruled by this instruction. It is ruled by the Delegation of Authority rules. Prior to any funds, goods or services granted by Alstom, decisions to engage any charitable contribution must be approved according to the applicable Delegation of Authority rules. Charitable contributions must be properly documented and recorded, after checking the identity of

the management and the integrity of the charitable institution. For instance, in the Thermal Power Sector, for a donation with an amount over €10,000, the signatories are both the Sector President and the Finance SVP, with copy to the Ethics & Compliance Officer; with an amount over €25,000, the signatory is the Group Chairman & CEO.

- All donations must be reported to the Corporate Social Responsibility (CSR) Department.

The list of country action plans and charitable contributions are available on [www.alstom.com](http://www.alstom.com).

## THE ALSTOM CORPORATE FOUNDATION

Around the world, Alstom and its partners lead actions with local organisations to improve the living conditions of the communities surrounding the Group's plants and sites. The Alstom Foundation enables the Group to strengthen these initiatives by providing finance for a variety of concrete actions in environmental protection.

Since its creation in 2007, the Alstom Corporate Foundation has financed a large number of projects: 11 in 2008, 13 in 2009, 19 in 2010, 16 in 2011 and 15 in 2012. All projects are presented and supported by Alstom employees. They must focus on environmental protection, respond to local needs and be developed with local actors. The Foundation has a budget of €1 million per year.

The Foundation's Board of Directors, which selects the projects to finance each year, is composed of internal representatives as well as external ones like Cécile Vic (General Delegate of the Air France Foundation), Jacques Attali (President of PlaNet Finance), Robert Barbault (Director of the Biodiversity Department at the Museum of Natural History), Claude Mandil (former Director of the International Energy Agency).

Encouraged by the success of the Alstom Foundation, it was decided in 2012 to extend its operation for five more years with the same budget. The Foundation will gradually tend towards the support to innovation-oriented projects.

15 projects supported by the Foundation in 2012/13 can be classified under four headings:

### Economic development

The four projects in this category are intended to facilitate economic development in relation to the environment:

- food preservation by installing solar dryers in rural communities, improving income through the marketing of solar-dried products, in Bhutan;
- creation of a network of experienced agriculture producers, by training 300 producers in agro-ecological techniques, development of local markets for the direct sale of products, in Colombia;

- development and manufacture of a burning stove prototype that would generate electricity using a thermo-acoustic principle, for the benefit of communities, in Nepal;
- development of a network of micro-entrepreneurs selling energy-saving products to "Base of the Pyramid" populations, in South Africa.

### Social support

In this category, the Foundation projects are more focused on social support while taking into account the other aspects of sustainable development:

- improvement of sanitary and health conditions in six schools, raising awareness of sanitation requirements among 250 children of the Chubut Province, in Argentina;
- transformation of the Quillahue School into an eco-model school with training sessions, rehabilitation of a playground, food gardens, compost, use of solar stoves, and a recycling programme, in Chile;
- extension and remodelling of a school using sun-exposition, insulation techniques and solar energy to obtain a passive solar housing architecture for the new school buildings in Zanskar, India;
- rainwater collection and storage, with a solar pump and elevated tank, and reparation of a pump system to increase water reserves for consumption and field irrigation, for the benefit of 90 children, in Mozambique;
- children centre rehabilitation with the construction of two classrooms, a green zone and a low-consumption water irrigation system as well as organisation of workshops on recycling and water management, benefiting 150 families sending their children to the centre, in Peru.
- solar electricity installation in schools and an orphanage, and development of solar-powered charging stations to fund the maintenance of the installation, in Tanzania.

## Education and awareness on environmental issues

The third category aims to increase public awareness on the improvements that can be made to the environment:

- protection of waterfalls by raising awareness about waste disposal and organising garbage collection events each week during two years, cleaning up two waterfalls located near Alstom sites in Malaysia;
- science and skill training for young students with autism spectrum disorder to help them find employment in Florida, United-States of America;
- creation of a network of young environmental educators with the construction of latrines and the improvement of water treatment in schools of the Mekong Delta, Vietnam.

## Nature conservation

Two nature conservation projects have been selected to help local communities understand the importance of this protection:

- restoring and replanting the Atlantic Forest in Brazil and strengthening the activities of a coalition of 120 NGOs working in forest protection (4<sup>th</sup> year);
- strategic protection plan for the *Ambystoma* salamander and local communities' development to encourage eco-tourism in Mexico State, Mexico.

More information about the projects can be found on the following link: <http://www.foundation.alstom.com>.

## SYNTHESIS OF INDICATORS/KEY FIGURES 2012/13

❖ Indicators used to monitor the performance of the Group	2010/11	2011/12	2012/13	GRI reference	Page
<b>ENVIRONMENTAL INDICATORS</b>					
<b>Energy <sup>(1)</sup></b>					
Natural gas (in GWh)	734	630	685	EN3	237
Butane/propane or other gases (in GWh)	41	47	44	EN3	237
Residual "heavy" fuel oil and diesel oil (in GWh)	60	76	66	EN3	237
Coal and other fuels (in GWh)	8	7	8	EN3	237
Energy intensity (in GWh/sales, in € million) ❖	83	80	81	EN3	237
Imported steam and heat (in GWh)	162	124	134	EN4	237
Electricity (in GWh)	728	717	706	EN4	237
<b>TOTAL ENERGY CONSUMPTION (in GWh)</b>	<b>1,733</b>	<b>1,600</b>	<b>1,642</b>	<b>EN4</b>	<b>237</b>
<b>Water</b>					
Total water consumption in water-stressed areas (in thousands of m <sup>3</sup> ) ❖	1,424	1,232	1,125	EN8	241
From public water supply (in thousands of m <sup>3</sup> )	2,230	2,200	2,224	EN8	242
Pumped from surface water (in thousands of m <sup>3</sup> )	651	547	387	EN8	242
Pumped from groundwater (in thousands of m <sup>3</sup> )	1,968	1,872	2,058	EN8	242
<b>TOTAL WATER CONSUMPTION (in thousands of m<sup>3</sup>)</b>	<b>4,849</b>	<b>4,619</b>	<b>4,670</b>	<b>EN8</b>	<b>242</b>
<b>Emissions <sup>(2)</sup>, effluents and waste</b>					
GHG emissions intensity (in tons CO <sub>2</sub> eq./sales, in € million) ❖	26	25	24	EN16	239
Direct CO <sub>2</sub> emissions from natural gas, butane, propane, coal and oil consumption (in kilotons CO <sub>2</sub> eq.)	191	173	181	EN16	239
Indirect CO <sub>2</sub> emissions from steam, heat and electricity consumption (in kilotons CO <sub>2</sub> eq.)	361	344	326	EN16	239
<b>Total CO<sub>2</sub> emissions from energy consumption (in kilotons CO<sub>2</sub> eq.)</b>	<b>551</b>	<b>517</b>	<b>508</b>	<b>EN16</b>	<b>239</b>
<b>Other direct CO<sub>2</sub> emissions from PFC and HFC (in kilotons CO<sub>2</sub> eq.)</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>EN16</b>	<b>239</b>
<b>TOTAL CO<sub>2</sub> EMISSIONS FROM ENERGY CONSUMPTION AND OTHER DIRECT EMISSIONS EXCEPT SF<sub>6</sub> (in kilotons CO<sub>2</sub> eq.)</b>					
<b>553</b>	<b>520</b>	<b>510</b>	<b>EN16</b>	<b>239</b>	
<b>Intensity of GHG emissions from SF<sub>6</sub></b>					
(in tons CO <sub>2</sub> eq./SF <sub>6</sub> equipment sales, in € million) ❖	-	-	132	EN16	240
Total SF <sub>6</sub> losses (fugitive emissions) (in tons)	5.19	4.97	5.77	EN16	240
Company cars CO <sub>2</sub> emissions (in kilotons) from gasoline	8	8	8	EN16	241
Company cars CO <sub>2</sub> emissions (in kilotons) from diesel oil	14	14	16	EN16	241
<b>Total CO<sub>2</sub> Company cars emissions (in kilotons)</b>	<b>22</b>	<b>22</b>	<b>24</b>	<b>EN16</b>	<b>241</b>
Metals (in tons)	2	1	3	EN21	242
Chemical oxygen demand (in tons)	124	204	98	EN21	242
Suspended matters (in tons)	52	40	55	EN21	242
Hydrocarbons (in tons)	1	1	1	EN21	242
Non-methane Volatile Organic Compounds (VOCs) emissions (in tons) ❖	845	1,005	1,227	EN16	243
SO <sub>2</sub> (in tons)	20	45	20	EN20	243
NO <sub>x</sub> (in tons)	123	152	114	EN20	243
Percentage of recovered waste ❖	-	77%	77%	EN22	244
Total hazardous waste production (in tons)	-	-	19,809	EN22	244
Total non-hazardous waste production (in tons) (calculated)	-	-	127,808	EN22	244

❖ Indicators used to monitor the performance of the Group	2010/11	2011/12	2012/13	GRI reference	Page
<b>TOTAL WASTE PRODUCTION</b> (in tons)	-	-	147,617	EN22	244
Total amount of waste sent to waste disposal (in tons)	-	-	34,650	EN22	245
Total water used for open-circuit cooling and for test purpose with no environmental impact (in thousands of m <sup>3</sup> )	-	1,432	1,785	Non-GRI	242
Number of manufacturing sites with over 200 employees located at more than 1 km from legally protected areas	-	-	63	Non-GRI	246
Percentage of manufacturing sites with over 200 employees located at more than 1 km from legally protected areas	-	-	90%	Non-GRI	246
Air travel's CO <sub>2</sub> emission (in tons CO <sub>2</sub> eq.)	-	136,000	130,800	Non-GRI	247
<b>SYSTEM INDICATORS</b>					
Number of sites of more than 200 employees with ISO 14001 certifications	-	-	68	Non-GRI	236
Percentage of manufacturing sites of more than 200 employees certified ISO 14001 (in %) ❖	69%	83%	97%	Non-GRI	236
Number of EHS Roadmap formal assessments and Alstom Zero Deviation Plan official evaluations	-	-	263	Non-GRI	222
Number of Alstom Zero Deviation Plan Official evaluations	-	-	160	Non-GRI	250
<b>SOCIAL INDICATORS</b>					
<b>Employment</b>					
<b>TOTAL WORKFORCE</b> ❖	94,648	93,998	94,545	LA1	251
Workforce by region				LA1	251
• Europe	55,677	54,586	55,550		
• North America	10,847	10,306	10,266		
• Central and South America	5,628	5,763	5,954		
• Asia/Pacific	19,273	20,386	19,575		
• Africa/Middle East	3,223	2,957	3,200		
Workforce by category (managers)	45.53%	47.21%	50.04%	LA1	251
Workforce by Sector				LA1	251
• Thermal Power	48,468	37,991	36,741		
• Renewable Power		9,563	9,757		
• Grid	19,251	19,088	17,984		
• Transport	25,035	25,332	27,284		
• Corporate & Others	1,894	2,024	2,779		
Total workforce by type of contract				LA1	252
• Permanent contracts	85,225	85,449	86,252		
• Fixed-term contracts	9,423	8,549	8,293		
• Temporary workers	6,941	8,401	8,035		
• Interns	2,281	2,388	2,265		
Workforce changes during fiscal year				LA2	252
• Hiring on permanent contracts	5,706	9,922	9,905		
• Hiring on fixed-term contracts	11,545	8,176	7,645		
• Resignations	2,582	4,200	3,274		
• Redundancies	742	651	837		
• Other departures	4,143	4,505	3,393		
Dismissal rate	-	1.03%	0.76%	LA2	252
Number of annual performance interviews ❖	30,300	38,800	42,500	LA2	260
<b>Labour/Management relations</b>					
Employees covered by a collective bargaining agreement	71%	72%	71%	LA4	266

❖ Indicators used to monitor the performance of the Group	2010/11	2011/12	2012/13	GRI reference	Page
<b>Occupational Health and Safety</b>					
Number of employees' fatalities ❖	2	4	1	LA7	249
Other fatalities linked with Alstom activities ❖	11	7	4	LA7	249
Number of occupational safety severe accidents reported ❖	-	-	29	LA7	249
Employees' Occupational injury frequency rate 1 (IFR1) calculated ❖	1.9	1.8	1.4	LA7	249
Severity Rate of lost-time accidents (employees)	0.06	0.06	0.06	LA7	249
Employees Long-term Absenteeism (LTA)	1,205	1,353	1,639	LA7	251
Absenteeism rate calculated	-	-	2.6	LA7	258
<b>Training and education</b>					
Number of employees trained in EHS classroom trainings	859	1,700	3,358	LA12	249
Average training hours per employee ❖	20h	19h	19h	LA10	261
Percentage of employees trained ❖	69%	74%	68%	LA12	261
Number of employees trained by Alstom University	8,900	8,231	15,817	LA12	261
<b>Diversity and equal opportunity</b>					
Percentage of women in the Group ❖	16%	16%	16%	LA13	263
Percentage of female managers or engineers ❖	16.5%	15%	15.3%	LA13	263
Percentage of executive women	11%	11%	11.6%	LA13	263
Percentage of disabled people per country				LA13	265
• France	3.4%	3.4%	3.9%		
• Germany	5.4%	5.5%	5.5%		
• Italy	2.7%	2.7%	2.4%		
• Spain	0.3%	0.4%	0.9%		
<b>Corruption</b>					
Number of managers who have received training on ethics (since 2006) ❖	5,000	7,200	9,400	SO3	256
<b>Human Rights performance</b>					
Number of assessed suppliers (cumulative figure over 4 fiscal years) ❖	850	1,225	1,515	HR 2 – 6 – 7	272
Number of occupational diseases registered	-	-	82	Non-GRI	249
Rate of internal mobility (nomination of executives)	79%	85%	80%	Non-GRI	260
Number of employees under short term incentive scheme	23,000	25,000	34,400	Non-GRI	257
Number of employees covered by a profit-sharing agreement	-	37,000	52,000	Non-GRI	257
Ratio of employees covered by a life insurance in case of accidental death ❖	98%	99%	99,5%	Non-GRI	250
Ratio of employees covered by a life insurance giving one year salary	88%	94%	91%	Non-GRI	250
Percentage of vacant positions internally posted	20%	43%	33%	Non-GRI	260
Percentage of women trained <i>versus</i> total women by calendar year	70%	71%	73%	Non-GRI	263
Number of charters signed by suppliers (cumulative figure) ❖	4,500	8,500	10,900	Non-GRI	272
Number of people trained to sustainable sourcing through specific programs (cumulate figure over 4 fiscal years)	300	680	780	Non-GRI	272
Contractors' Hours worked ( <i>in millions</i> )	121	115	120	Non-GRI	267

(1) Excluding the energy used by the Birr (Switzerland) Research & Development test activity (gas and diesel oil as fuel) – updated compared to previous years' Registration Document.

(2) Excluding the CO<sub>2</sub> emissions due to the Grid Sector's SF<sub>6</sub> fugitive emissions and the CO<sub>2</sub> emissions related to the energy used by the Birr R&D test activity (emissions due to gas and diesel oil usage).

## REVIEW REPORT BY ONE OF THE STATUTORY AUDITORS ON A SELECTION OF SOCIAL AND ENVIRONMENTAL TOPICS AND INDICATORS PUBLISHED IN THE 2012-2013 REGISTRATION DOCUMENT

*This is a free translation into English of the review report by one of the Statutory Auditors issued in French and is provided solely for the convenience of English speaking readers. The review report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.*

To the Chairman and CEO,

Further to your request and in our capacity as Statutory Auditors of Alstom, we have carried out a review for the purpose of enabling us to express moderate assurance on a selection of social and environmental topics and indicators (in the following the "Topics and Indicators") published in the 2012-2013 Registration Document, indicated by a ★ symbol.

The selection of Topics and Indicators is as follows:

- Environment, Health and Safety:
  - Indicator: EHS severe incidents/accidents
- Health and Safety:
  - Indicator: Number of fatal accidents of employees
  - Indicator: Number of fatal accidents linked with Alstom activities
  - Indicator: Number of occupational safety severe accidents reported
  - Indicator: Injury frequency rate of lost time accidents for employees
  - Indicator: Severity rate of lost time accidents for employees
  - Indicator: Frequency rate of occupational injuries for contractors
- Environment:
  - Indicator: Water consumption
  - Indicator: Natural gas consumption
  - Indicator: Butane, propane and other gas consumption
  - Indicator: Heavy fuel and diesel oil consumption
  - Indicator: Steam/heat consumption
  - Indicator: Electricity consumption
  - Indicator: Total energy consumption
  - Indicator: Energy intensity
  - Indicator: Direct CO<sub>2</sub> emissions
  - Indicator: Indirect CO<sub>2</sub> emissions
  - Indicator: GHG emissions intensity
  - Indicator: Company cars CO<sub>2</sub> emissions
  - Indicator: Fugitive emissions from SF<sub>6</sub>
  - Indicator: Fugitive emissions from HFC and PFC
  - Indicator: Non-methane VOC emissions
  - Indicator: Hazardous waste generation
  - Indicator: Non-hazardous waste generation
- Indicator: Waste recovery rate
- Indicator: Waste sent to waste disposal (not recovered)
- ALSTOM EHS management system and ISO certification:
  - Topic: Organisation of the environment, health and safety policy control at Group level
  - Indicator: Number of formal assessments conducted
  - Topic: Sites certification
  - Indicator: Percentage of sites ISO 14001 certified
- Social:
  - Indicator: Workforce
  - Indicator: Workforce by region
  - Indicator: Breakdown by category (managers & professionals / other employees)
  - Indicator: Breakdown by Sector
  - Indicator: Breakdown by gender
  - Indicator: Percentage of women in the workforce
  - Indicator: Percentage of women: management
  - Indicator: Number of resignations
  - Indicator: Resignation rate for employees on permanent contract
  - Indicator: Dismissal rate
  - Indicator: Number of managers and professionals with an annual performance interview
  - Indicator: Percentage of Group's employees covered by a national or intra-company collective bargaining agreement
  - Indicator: Percentage of employees who have had training
  - Indicator: Average number of training hours per employee
  - Indicator: Absenteeism rate
  - Indicator: number of assessed suppliers

These Topics and Indicators were prepared under the responsibility of Alstom's EHS, CSR and HR Departments, in accordance with the standards set out in the "EHS Reporting Manual" used by the Group's sites as well as HR standard "Règles Censur" and social study definitions, these documents applicable for the financial period ended 31 March 2013 are available from the EHS, CSR and HR Departments.

Our responsibility is to express an opinion on the selected Topics and Indicators, based on our work.



## NATURE AND SCOPE OF OUR WORK

We conducted our work in accordance with IFAC – ISAE 3000 “Assurance Engagements Other than Audits or Reviews of Historical Financial Information” and professional standards applicable in France.

We carried out the procedures described below to obtain moderate assurance that no material irregularities exist with regard to the selection of Topics and Indicators. We did not perform all of the procedures required to obtain reasonable assurance (a higher level of assurance).

- We reviewed the reporting procedures used by the Group in light of the consistency, relevance, reliability, objectivity, and understandability of the data.
- At Group level:
  - We performed analytical procedures and verified, on a test basis, that the data underlying the Topics and Indicators had been correctly calculated and consolidated. This work involved, in particular, conducting interviews with the persons from the EHS, CSR and HR Departments responsible for compiling and consolidating the data and drawing up and applying the procedures.
  - We carried out interviews with the persons responsible for EHS and HR reporting tasked with writing on selected topics and reviewed the qualitative and quantitative data providing the basis for these topics.
- At Sector level:
  - We carried out interviews with the persons responsible for Sector EHS reporting and reviewed their control process for data provided by the entities.
- We selected a sample of EHS reporting entities:
  - Germany: Stuttgart (ER159);

- Brazil: Sao Paulo (ER284), Itajuba (ER629), Sao Paulo LAPA Rolling Stock (ER112);
- China: Tianjin (ER120);
- Spain: Altamira (ER351);
- France: Villeurbanne (ER652), La Rochelle (ER140), Levallois (ER138), Belfort (ER263), Le Creusot (ER141);
- India: Padappai (ER623), Baroda Hydro (ER163);
- Indonesia: Surabaya (ER170);
- Italy: Savigliano (ER177);
- Mexico: Mexico Transport (ER184);
- Poland: Elblag Foundry (ER192), Elblag Turbines (ER268);
- Switzerland: Oberentfelden (ER613);
- USA: Rochester US TIS (ER238), Charleroi (ER634), Chattanooga (ER262).

This selection was made on the basis of quantitative and qualitative criteria applied to the Topics and Indicators.

- At the level of the entities selected we:
  - checked that the procedures had been correctly understood and implemented at these sites on the basis of interviews conducted with the persons responsible for preparing the data;
  - performed in-depth checks on a test basis to verify the calculations and reconcile the data with the supporting documents.
- The contribution of these entities to the Group’s consolidated Topics and Indicators accounts for at least 20% of each data used to the calculation of the Topics and Indicators we have worked on.

We were assisted in our work by our sustainable development specialists.

## CONCLUSION

Based on our work, no material irregularities came to light causing us to believe that the Topics and Indicators reviewed were not compiled, in all material respects, in accordance with the standards set out in the “EHS

Reporting Manual” used by the Group’s sites as well as HR standard “*Règles Census*” and social study definitions, documents applicable for the financial period ended 31 March 2013.

Neuilly-sur-Seine, 7 May 2013

One of the Statutory Auditors  
PricewaterhouseCoopers Audit  
Olivier Lotz

Partner of the Sustainable  
Development Department  
Thierry Raes

## TABLE OF CSR COMPLIANCE

Information pursuant to Articles L. 225-100 and L. 225-102-1 al. 5 of the French Commercial Code

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(\*) Not applicable.

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# INFORMATION ON THE GROUP AND THE HOLDING COMPANY

## HISTORICAL INFORMATION

The Group was created in 1989, when the parent company GEC ALSTHOM NV was a holding company incorporated under the laws of The Netherlands, by The General Electric Company plc ("GEC") and Alcatel, its 50-50 shareholders, in order to consolidate in one single Group the businesses since then carried out by certain of their respective subsidiaries. This joint venture realised during a time of consolidation in the energy sector, aimed at benefiting from certain complementary products and markets of Alcatel and GEC respectively.

At the end of 1997, the two shareholders decided to list the Company on the Paris, New York and London Stock Exchanges and to put part of their shares on the market. They chose Paris as the main listing exchange and they decided to transfer to a French public limited company (*société anonyme*), renamed ALSTOM (previously Jotelec), the whole of the activities till then carried out by GEC ALSTHOM NV. Before the IPO and listing on the Stock Exchange of ALSTOM (or the "Company"), almost the whole of the assets directly or indirectly held by GEC ALSTHOM NV was transferred to one of its French subsidiary,

ALSTOM France SA, 100% owned by ALSTOM. This company, since then renamed ALSTOM Holdings, is the sub-holding of the Group, which owns the operational subsidiaries of the Group (see below "Simplified organisation chart of the Group at 31 March 2013").

Since the quotation of ALSTOM in 1998, the Group's scope was deeply changed. The most significant operation was the acquisition of ABB power generation activities in two phases: first, in July 1999, a joint venture was set up and then in May 2000, Alstom bought ABB share in the above-mentioned joint venture. At the same time, Alstom re-focused on its core business, notably by selling its Contracting Sector in July 2001.

The Group sold its Transmission & Distribution and Marine Sectors in 2004 and 2006 respectively. In June 2010, Alstom acquired the Transmission activities of Areva now the Grid Sector of the Group.

The operational activities of the Group are organised in four Sectors since July 2011: Thermal Power, Renewable Power, Grid and Transport.

## IDENTITY OF THE COMPANY

### Company name and registered office

ALSTOM  
3, avenue André Malraux – 92300 Levallois-Perret  
Tel.: +33 1 41 49 20 00

### Legal form, applicable legislation, and competent jurisdictions

Limited liability company (French "*société anonyme à conseil d'administration*") incorporated under the laws of France and regulated notably by the French Commercial Code.

### Duration

Alstom was incorporated under the name "Jotelec" on 17 November 1992 and its existence will expire on 17 November 2091, unless it is earlier dissolved or its life is extended.

### Registration number

389 058 447 RCS Nanterre.

### Code APE

66 19 A.

## SUMMARY OF KEY PROVISIONS OF THE ARTICLES OF ASSOCIATION

### Purpose of the Company

(Extract of Article 3 of the Articles of Association)

The purposes of Alstom are directly or indirectly:

- the conduct of all industrial, commercial, shipping, financial, real property and asset transactions in France and abroad, notably in the following fields:
  - energy,
  - transmission and distribution of energy,
- transport,
- industrial equipment,
- naval construction and repair work,
- engineering and consultancy, design and/or production studies and general contracting associated with public or private works and construction, and
- more generally, activities related or incidental to the above;

- participation, by every means, directly or indirectly, in any operations which may be associated with its purpose, by the creation of new companies, capital contributions, subscription or purchase of stocks or rights, merger with such companies or otherwise; the creation, acquisition, lease or takeover of business goodwill or businesses; the adoption, acquisition, operation or sale of any processes and patents relating to such activities; and
- generally undertaking all industrial, commercial, financial and civil operations and real property and asset transactions that may be directly or indirectly associated with Alstom purposes or with any similar or related.

Furthermore, ALSTOM may acquire an interest, of whatever form, in any French or foreign business or organisation.

## Fiscal year

(Extract of Article 18 of the Articles of Association)

From 1 April to 31 March.

## Shareholders' Meetings

(Extract of Article 15 of the Articles of Association)

### Convening and proceedings – agenda

Ordinary and Extraordinary General Meetings, satisfying the legal conditions for quorum and majority voting, exercise the powers respectively attributed to them by the law. They are convened in accordance with the rules and the terms laid down by law.

Meetings are held at the registered office of Alstom or at any other place determined by the Board, either within the "département" in which the registered office is located or in any other French territory.

The agenda of the meeting is drawn up by the Board of Directors if the Board has called the meeting and, if not, by the person calling the meeting. However, one or more shareholders satisfying the conditions laid down by law may request the inclusion of draft resolutions on the agenda. Questions not appearing on the agenda may not be considered.

### Admission and representation

Ordinary and Extraordinary General Meetings are made up of all shareholders without distinction between the class of shares which they hold.

In all Shareholders' Meetings, shareholders are only entitled to exercise their right to vote if their shares have been recorded in the accounts in the name of the shareholder or the intermediary registered for its account pursuant to the legal and regulatory provisions on the third business day preceding the date of the Shareholders' Meeting at midnight, Paris time, either in the accounts of registered securities held by the Company for registered shares, or in the accounts of bearer securities held by an intermediary authorised for bearer shares. This accounting record is officially acknowledged in accordance with the terms laid down by law.

Shareholders may vote by proxy or by correspondence at General Meetings under the conditions laid down by law.

In order to be taken into account, the voting forms and proxies must be received by the Company at least three days prior to the Meeting, unless a shorter term is decided by the Board of Directors or is stipulated by law.

Pursuant to the Board of Directors' decision, communicated by way of notice of meeting and/or the convocation to the meeting, any shareholder may vote at a Shareholders' Meeting, by proxy or by correspondence

via any electronic means of telecommunication in accordance with the conditions set by law. In these cases, forms for voting at a distance or by proxy, as well as participation certificates, can be completed by way of a duly signed electronic medium under the conditions set forth by the applicable legal and regulatory provisions.

To this end, completing and electronically signing the form can be done directly on the Internet site created by the centralizing agent of the Shareholders' Meeting. The electronic signature of the form can be carried out (i) by entering an identification code and password, under the conditions that comply with the provisions of the first sentence of the second paragraph of Article 1316-4 of the French Civil Code, or (ii) by any other process satisfying the conditions defined in the first sentence of the second paragraph of Article 1316-4 of the French Civil Code. The power to vote by proxy or the vote expressed as such before the Shareholders' Meeting by way of this electronic method as well as, if applicable, the proof of receipt delivered after the power to vote by proxy or the vote is expressed, will be considered as a written proof that is irrevocable and binding to all, excluding cases of sales of securities that are subject to the notification set forth in paragraph IV of Article R. 225-85 of the French Commercial Code.

Any shareholder having voted at a distance, or sent a proxy or requested his or her admission card or an attendance certificate, may at any time sell all or some of his or her shares pursuant to which he or she transmitted his or her vote or proxy or requested one of these documents. Any sale occurring prior to the third business day before the Shareholders' Meeting at midnight, Paris time, shall be taken into account in the conditions laid down by law.

The Board of Directors shall have the powers to organise, within the limits of the law, the attendance and voting of the shareholders at General Meetings by videoconferencing or by any telecommunications means enabling the identification of such shareholders. If applicable, this decision of the Board of Directors shall be communicated in the notice of the meeting and/or the invitation to attend. Those shareholders attending Shareholders' Meetings by videoconference or by these other means are deemed to be present for the purposes of calculating the quorum and the majority.

### Voting rights

Each member of the meeting is entitled to as many votes as the number of shares which he holds or represents.

At all Ordinary, Extraordinary or Special General Meetings, the voting right on shares shall, in cases where such shares are subject to usufruct, be exercisable by the usufructuary. There are no double voting rights.

## Notification of holdings exceeding certain percentages

(Extracts of Article 7 of the Articles of Association)

In addition to the legal obligation to notify the Company of certain shareholding levels or voting rights, any individual or legal entity who holds directly or indirectly, alone or in concert pursuant to articles L. 233-10 *et seq.* of the *Code de commerce* a number of shares in the Company giving a shareholding equal to or in excess of 0.5% of the total number of shares or voting rights issued must notify the Company by recorded letter with proof of receipt within five trading days of this threshold being exceeded. Notification is to be repeated under the same conditions whenever a new threshold of a multiple of 0.5% of the total number of shares or voting rights is exceeded, up to and including threshold of 50%.

To determine these thresholds, shares assimilated to the shares owned as defined by the legislative and regulatory provisions of article L. 233-7 *et seq.* of the *Code de commerce*, will be taken into account.

In each of the above-mentioned notifications, the declaring person must certify that the notification includes all stock held or owned in the sense of the preceding paragraph. Such notification must also state: the declarer's identity as well as that of individuals or legal entities acting in concert with him, the total number of shares or voting rights that he holds directly or indirectly, alone or in concert, the date and the source of exceeding the threshold, as well as if needs be the information mentioned in the third paragraph I of article L. 233-7 of the *Code de commerce*.

Any shareholder whose participation in the shareholding or in voting rights falls below one of the above-mentioned thresholds is also required to notify the Company within the same length of time of five trading days and by the same means.

### Identification of holders of bearer shares

(Extract of Article 7 of the Articles of Association)

The Company may, under the conditions laid down by the legal and regulatory provisions in force, request any officially authorised organisation or intermediary to pass on all information concerning its shareholders or holders of its stock conferring an immediate or subsequent right to vote, their identity and the number of shares that they hold.

### Appropriation of income

(Extract of Article 20 of the Articles of Association)

The profits for fiscal year consist of the revenues relating to the preceding fiscal year, less overheads and other Company expenditure including provisions and depreciation allowances. At least 5% is set aside from the profits less any previous losses if appropriate to form the legal reserve fund. This provision ceases to be mandatory once the value of the fund reaches one-tenth of the share capital.

The remainder (less the above deductions) of the retained earnings and withdrawals from the reserves which the General Meeting has at its disposal shall, if the General Meeting so desires, be distributed among the shares, once the sums carried forward by the said Meeting or transferred by it to one or more reserve funds have been deducted.

After the General Meeting has approved the accounts, any losses are carried forward and imputed to the profits of future fiscal years until they are discharged.

Each shareholder may be granted, at the General Meeting, for all or part of the dividend or interim dividend to be distributed, an option to be paid the dividend or interim dividends in cash or in shares of Alstom, under the current legal and regulatory conditions.

The Articles of Association do not contain any provision, which may delay, postpone or prevent a change of control.

## DOCUMENTS ACCESSIBLE TO THE PUBLIC

The legal documents relating to the Company and the Group, which are required to be accessible by the shareholders according to the applicable law are available for inspection at the Company's registered office and some of them are available on the Group's website ([www.alstom.com](http://www.alstom.com) or [www.alstom.fr](http://www.alstom.fr)), in particular in sections "Investors/Regulated information" as per Article L. 451-1-2 of the French *Code monétaire et financier*, "Investors/Share information/Capital-structure" for the bylaws and "About us/Corporate-governance" for the Internal Rules and regulation of the Board of Directors and Internal Rules of the Committees of the Board.

The Group Annual Reports for the last five fiscal years are also available on the Company's website, section "Investors/Publications/Registration Documents".

## ACTIVITY OF THE HOLDING COMPANY

ALSTOM is the holding Company of the Group. ALSTOM investments consist exclusively of the shares of ALSTOM Holdings. ALSTOM centralises a large part of the external financing of the Group and directs the funds so obtained to its subsidiary ALSTOM Holdings through loans and current account. Fees from its indirect subsidiaries for the use of the ALSTOM name are ALSTOM's main other source of revenue.

For more information, see section "Financial information – Statutory accounts – Comments on statutory accounts".

## INTELLECTUAL PROPERTY

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The Group owns or benefits from licenses for the use of several trademarks, patents and other intellectual property rights. All these rights contribute to the good performance of the business, but none of

the licenses alone currently has a material relevance for the activities of the Group.

## PROPERTY

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The Group carries out its activities on some sites upon which it has rights of different nature. The Group has full ownership of most of its main industrial sites.

The Group set up a leasing strategy for its offices buildings, which applies notably to the headquarters of the Group and of the Sectors.

The gross value of land and buildings fully owned and leased (financial leases) as of 31 March 2013 is à €1,956 million. The depreciation booked for the above is €682 million. These amounts do not include operating leases.

The Group's tangible assets are subject to costs for general maintenance and repairs required for their good functioning, to meet with legal and quality requirements, including environmental, health and safety matters.



MAIN INDUSTRIAL SITES HELD IN FULL PROPERTY (NON EXHAUSTIVE LIST)

		Main businesses
Belgium	Marchienne au Pont	Thermal Power
	Charleroi	Transport
Brazil	Cabo de Santo Agostinho	Renewable Power
	Canoas	Renewable Power & Grid
	Lapa	Transport
	Taubaté	Renewable Power
	Itajuba	Grid
China	Beihzong	Thermal Power
	Shanghai	Grid
	Guanzhou	Grid
	Suzhou	Grid
	Tianjin	Renewable Power
	Wuhan	Thermal Power & Grid
	Yangzhou	Grid
Czech Republic	Brno	Thermal Power
France	Aix-les-Bains	Grid
	Aytré/La Rochelle	Transport
	Belfort	Thermal Power & Transport
	Grenoble	Renewable Power
	Le Creusot	Transport
	Ornans	Transport
	Reichshoffen	Transport
	Tarbes	Transport
	Valenciennes	Transport
	Villeurbanne	Grid
Germany	Berlin	Thermal Power
	Bexbach	Thermal Power
	Kassel	Thermal Power & Grid
	Mannheim	Thermal Power
	Salzgitter	Transport
	Stuttgart	Thermal Power
	Ludwiglust	Grid
	Monchengladbach	Grid
India	Chennai	Transport & Grid
	Durgapur	Thermal Power
	Hosur	Grid
	Naini	Grid
	Shahabad	Thermal Power
	Vadodara	Renewable Power & Grid
Italy	Noventa di Piave	Grid
	Savigliano	Transport
Mexico	Toluca	Grid
Poland	Katowice	Transport
Switzerland	Birr	Thermal Power
	Oberentfelden	Grid
Turkey	Gebze	Grid
United Kingdom	Stafford	Grid
USA	Charleroi (Pennsylvania)	Grid
	Chattanooga (TN)	Thermal Power
	Concordia (Kansas)	Thermal Power
	Richmond (Virginia)	Thermal Power
	Waynesboro (Virginia)	Grid
	Wellsville (NY)	Thermal Power

## MATERIAL CONTRACTS

In the past two years immediately before the issue of this *Document de Référence*, ALSTOM and/or companies of the Group have not entered into material agreements.

Main acquisitions, disposals, partnerships, joint ventures and changes in scope of consolidation are identified in Note 3 of the consolidated financial statements as of 31 March 2013, in section "Management report on consolidated financial statements fiscal year 2012/13 – Main events of fiscal year 2012/13" and in section "Details on shareholdings taken and sold during fiscal year 2012/13".

## DETAILS ON SHAREHOLDINGS TAKEN AND SOLD DURING FISCAL YEAR 2012/13

*Section including information as per Article L. 233-6 of the French Commercial Code.*

### Details on direct or indirect shareholdings taken during fiscal year 2012/13

ALSTOM UK Holdings Limited, minority shareholder of AWS Ocean Energy, a Scottish developer of wave energy converters, has increased its shareholding in AWS Ocean Energy to 56.49%, in two steps on 5 April and 20 December 2012.

On 21 May 2012, ALSTOM GmbH, owner of 51% of the share capital of ALSTOM Lokomotiven Service GmbH, a German company engaged in locomotive maintenance, acquired the remaining 49% from DB Mobility Logistics AG.

On 28 September 2012, NTL Holding, a French company which share capital is held by ALSTOM Transport SA (50%) and Le Fonds Stratégique d'Investissement (50%) acquired from Lohr Industrie 100% of the share capital of NewTL, a new French company formed to hold the business of manufacture and sale of tramways on wheels.

On 24 October 2012, ALSTOM Power Inc. increased in share ownership in BrightSource Energy, Inc., a Delaware corporation, to 20.93% BrightSource Energy, Inc..

On 14 December 2012, ALSTOM Holdings and Korea Electric Power Corporation formed a joint venture in South Korea called KEPCO-ALSTOM Power Electronics Systems, Inc., to engage in flexible alternating current transmission system (FACTS) and high voltage direct current (HVDC). ALSTOM Holdings owns 49% of the joint venture.

On 19 December 2012, ALSTOM Grid Canada Inc. acquired 100% of the share capital of ASAT Solutions Holding Inc., BNW Group Inc. and Waverock Holdings Inc., in the Grid Sector.

On 21 December 2012, ALSTOM Sextant 4 created a joint venture in France with the *Agence de l'environnement et de la maîtrise de l'énergie* – ADEME, named ALSTOM Offshore France SAS, engaged in

offshore wind and tidal energy. ALSTOM Sextant 4 owns 67% of ALSTOM Offshore France SAS.

On 22 January 2013, ALSTOM Hydro Holding created a joint venture company in Bhutan with Druk Green Power Corporation Limited, named Bhutan Hydropower Services Limited, engaged in the service for hydro power plants. ALSTOM Hydro Holding owns 49% of the joint venture company.

On 29 January 2013, ALSTOM Holdings acquired from Rolls-Royce plc 100% of the share capital of Tidal Generation Limited, an English company engaged in tidal energy.

On 1 February 2013, ALSTOM Grid Energia Ltda acquired 100% of the share capital of Engeman Servicos E Manutencao Ltda., a Brazilian company engaged in services for high voltage electrical systems.

On 15 February 2013, ALSTOM Holdings, owner of 70% of the share capital of ALSTOM Grid Finance BV, a Dutch company, acquired the remaining 30% from Schneider Electric Services International.

On 1 March 2013, ALSTOM Transport Holding BV created a joint venture in Kazakhstan with Repair Corporation "Kamkor" LLP, named LLP JV Kazelektroprivod. ALSTOM Transport Holding BV owns 50% of the joint venture.

On 6 March 2013, ALSTOM Grid Finance BV decided to create a joint venture company in Russia in the Grid Sector with Soyuz Holding SA. ALSTOM Grid Finance BV will hold 51% of the company, which will be named ALSTOM-SOYUZ High Voltage BV.

### Details on direct or indirect shareholdings sold during fiscal year 2012/13

On 25 March 2013, ALSTOM UK Holdings Ltd sold to Hong Kong MECC Investments Limited 100% of the share capital of Top Yield Group Limited and of Wholewise International Limited, which are parent companies of the Chinese companies Alstom Sizhou Boiler Auxiliary (Qingdao) Company Limited and Alstom Sizhou Electric Power Equipment (Qingdao) Company Limited.

## SIGNIFICANT CHANGE IN THE FINANCIAL OR COMMERCIAL CONDITION

To the Company's knowledge and as of the date of this *Document de Référence*, no significant change in the financial or commercial condition of the Group has occurred since 6 May 2013, date of approval of the latest statutory and consolidated accounts published.

## FINANCIAL RATING

ALSTOM is rated by the rating agencies Moody's Investors Services and Standard & Poor's since May 2008. These ratings, and their evolution over the year are the following as of 6 May 2013.

Agencies	January 2012 (*)	May 2012 (**)
<b>Moody's Investors Services</b>		
Short-term rating	P-2	P-2
Long-term rating	Baa2 (outlook negative)	Baa2 (outlook negative)
<b>Standard &amp; Poor's</b>		
Short-term rating	A-2	A-2
Long-term rating	BBB (outlook stable)	BBB (outlook negative)

(\*) On 17 January 2012, Moody's Investor Services changed the long-term rating from Baa1 (outlook stable) to Baa2 (outlook negative). The short term ratings remain unchanged.

(\*\*) On 7 May 2012, Standard & Poor's confirmed the long-term and short-term ratings, but revised its outlook from stable to negative.

On 28 May 2013, Moody's Investors Services has placed the rating on review for a possible downgrade.

## INFORMATION ON THE SHARE CAPITAL

As of 31 March 2013, Alstom's share capital amounted to €2,157,106,882 consisting of 308,158,126 shares of the same class and fully paid with a nominal value of €7 per share, following the operations completed during fiscal year 2012/13, which are detailed in the table pages 293 and 294 in section "Changes in share capital" below. On 4 October 2012 ALSTOM completed a share capital increase with cancellation of the preferential subscription right via a private placement amounting in total to €349,999,993.20 including issue premium, and corresponding to the issuance of 13,133,208 new shares, with a par value of €7 each and bearing benefit entitlement (*jouissance*) as from 1 April 2012. The subscription price was €26.65 per share, including an issue premium of €19.65 per share.

As of 16 May 2013, the share capital amounted to €2,158,777,754, divided into 308,396,822 shares of €7 par value each, following the issuance of 238,696 new shares since 31 March 2013 resulting from the exercise of stock options and the allocation of performance shares.

There are no double voting rights or voting rights restrictions attached to the shares comprising the share capital. The number of voting rights is identical to the number of shares.

To the knowledge of the Company, there is to date no pledge on the shares of the Company or of its significant subsidiaries.

Following the consolidation of the Company's shares completed on 3 August 2005, the shareholders had two years, *i.e.* until 4 August 2007, to claim the consolidated shares. On 6 August 2007, the consolidated shares not claimed by their beneficiaries were sold on the stock exchange and the net proceeds of the sale will be held at their disposal for a period of ten years on a blocked account opened with the financial institution appointed by the Company to hold the Company's share registry.

Following the decision of the Ordinary and Extraordinary General Meeting of 24 June 2008 in its 16<sup>th</sup> resolution, the par value of the share was split in two on 7 July 2008. Each share of par value €14 comprising the share capital as of this date was in full right, exchanged for 2 shares of par value €7 each and entitled to the same rights as the previous shares.

As a consequence of these operations, the number of shares that could possibly be obtained by the beneficiaries of stock options and free allocation of shares, as well as the redemption ratio of the ORA were adjusted.

## FINANCIAL AUTHORISATIONS

Section including information as per Article L. 225-100 of the French Commercial Code.

The table below sets forth the financial authorisations that are in force as of 6 May 2013 and their use during fiscal year 2012/13:

Nature of the authorisation	Maximum nominal amount authorised	Nominal amount used during expired fiscal year	Available amount	Expiry/Duration
<b>ISSUANCE OF SECURITIES</b>				
Delegation of competence to issue shares and securities giving access to the share capital with preferential subscription right and/or by capitalisation of reserves (AGM 26 June 2012, resolution No. 9)	Share capital: €600 million (corresponds to 29.1% of the share capital) <sup>(1) (6)</sup> Debt securities: €2 billion <sup>(2)</sup>	None	Share capital: €508,067,544 (corresponds to 23.6% of the share capital) <sup>(6)</sup> Debt securities: unchanged	26 August 2014 (duration: 26 months)
Delegation of competence to issue shares and securities giving access to the share capital with cancellation of the preferential subscription right and option to offer a priority right (AGM 26 June 2012, resolution No. 10)	Share capital: €300 million (corresponds to 14.6% of the share capital <sup>(6)</sup> , less any capital increase with cancellation of the preferential subscription right and private placement and any capital increase in consideration of contributions in kind issued by virtue of resolutions No. 11, 12 and 13) <sup>(1) (3)</sup> Debt securities: €1.5 billion <sup>(2)</sup>	None	Share capital: €208,067,544 (corresponds to 9.6% of the share capital) <sup>(6)</sup> Debt securities: unchanged	26 August 2014 (duration: 26 months)
Delegation of competence to issue shares and securities giving access to the share capital with cancellation of the preferential subscription right and private placement (AGM 26 June 2012, resolution No. 11)	Share capital: €300 million (corresponds to 14.6% of the share capital <sup>(6)</sup> , less any capital increase with cancellation of the preferential subscription right and public offer and in consideration of contributions in kind issued by virtue of resolutions No. 10, 12 and 13) <sup>(1) (3)</sup> Debt securities: €1.5 billion <sup>(2)</sup>	Share capital: €91,932,456	Share capital: €208,067,544 (corresponds to 9.6% of the share capital) <sup>(6)</sup> Debt securities: unchanged	26 August 2014 (duration: 26 months)
Delegation of competence to increase by 15% the amount of the initial issue with maintenance or cancellation of the preferential subscription right (AGM 26 June 2012, resolution No. 12)	Not to exceed 15% of the initial issuance, and to be deducted from the maximum amounts authorised by the delegations of authority under which the initial issuance is carried out (resolutions No. 9, 10 and 11) <sup>(1) (3)</sup>	None	Maximum nominal amount authorised	26 August 2014 (duration: 26 months)
Delegation of authority to increase the share capital by up to 10% of the share capital in consideration of contributions in kind (AGM 26 June 2012, resolution No. 13)	10% of the share capital to be deducted from the overall limits set in resolutions No. 10 and 11 <sup>(1) (3)</sup>	None	Maximum nominal amount authorised	26 August 2014 (duration: 26 months)
<b>OFFERINGS TO EMPLOYEES AND EXECUTIVES</b>				
Delegation of authority to issue shares and other securities granting rights to the share capital reserved for members of a Group savings plan (AGM 26 June 2012, resolution No. 14)	2% of the share capital at the date of the Shareholders' Meeting, less any amount issued by virtue of resolution No. 15 <sup>(1) (4)</sup>	None	Maximum nominal amount authorised	26 August 2014 (duration: 26 months)
Delegation of competence to issue shares for the benefit of a category of beneficiaries (AGM 26 June 2012, resolution No. 15)	0.5% of the share capital at the date of the Shareholders' Meeting, to be deducted from the overall limit set in resolution No. 14 <sup>(1) (4)</sup>	None	Maximum nominal amount authorised	26 December 2013 (duration: 18 months)

Nature of the authorisation	Maximum nominal amount authorised	Nominal amount used during expired fiscal year	Available amount	Expiry/Duration
Authorisation of free allocation of existing or new shares to employees (AGM 22 June 2010, resolution No. 17)	1% of the share capital at the date of the Shareholders' Meeting, to be deducted from the overall limit set in resolution No. 18 <sup>(5)</sup>	781,540 shares <i>i.e.</i> 0.25% of the share capital as of the attribution date <sup>(7)</sup>	614,450 shares <i>i.e.</i> 0.20% of the share capital <sup>(8)</sup> , to be deducted from the overall limit set in Resolution No. 18	22 August 2013 (duration: 38 months)
Authorisation to grant stock options to subscribe or purchase shares (AGM 22 June 2010, resolution No. 18)	2.5% of the share capital at the date of the Shareholders' Meeting, less any amount issued by virtue of resolution No. 17 <sup>(5)</sup>	1,312,690 options <i>i.e.</i> approx. 0.43% of the share capital as of the attribution date <sup>(7)</sup>	3,435,235 options less any amount issued by virtue of Resolution No. 17, resulting in a remaining balance available of 1,108,795 options <i>i.e.</i> 0.36% of the share capital <sup>(8)</sup>	22 August 2013 (duration: 38 months)

#### SHARE BUYBACK AND REDUCTION OF THE SHARE CAPITAL

Share buyback authorisation (AGM 26 June 2012, Resolution No. 8)	10% of the share capital as of 31 mars 2012	None	Maximal authorized amount	26 December 2013 (duration: 18 months)
Authorisation to reduce the share capital (AGM 28 June 2011, Resolution No. 11)	10% of the share capital	None	29,253,368	28 June 2013 (duration: 24 months)

- (1) Global limitation of the capital increases resulting from these seven authorisations to €600 million corresponding to 29.1% of the share capital as of 31 March 2012 (before any adjustments).
- (2) Global limitation of the amount of debt securities resulting from these authorisations to €2 billion.
- (3) Global limitation of capital increases resulting from these four authorisations to €300 million corresponding to 14.6% of the share capital as of 31 March 2012 (before any adjustments).
- (4) Global limitation of capital increases related to employee shareholding to 2% of the share capital (before any adjustments).
- (5) Global limitation of capital increases resulting from these authorisations to grant stock options and free shares to 2.5% of the share capital as of the Shareholders' Meeting (before any adjustments). This amount does not reduce the global amount of €600 million.
- (6) On the basis of the share capital as of 31 March 2012.
- (7) Corresponding to the long term incentive plan (LTI No. 15) implemented on 6 November 2011 entirely subject to achievement of the Group's performance targets over three fiscal years (See Registration Document 2012/13, section "Corporate Governance/Interests of the officers and employees in the share capital" and see Note 21 to the consolidated financial statements as of 31 March 2013).
- (8) On the basis of the share capital as of 31 March 2013.

It will be proposed to the next Shareholders' Meeting to be held on 2 July 2013 to renew under the same conditions the authorisations to grant free performance shares and conditional stock options granted by the Shareholders' Meeting of 22 June 2010 which will expire during fiscal year 2013/14 with an overall ceiling set unchanged for both of these authorisations at 2.5% of the share capital on the date of the Shareholders' Meeting.

Under the ninth resolution of the next Shareholders' Meeting it will be proposed to cancel the previous authorisation granted by the combined General Shareholders' Meeting dated 22 June 2010 for the unused balance of shares, and to grant a new authorisation to the Board of Directors valid for a period of thirty-eight months, enabling it to carry out allocations of free shares, either existing or to be issued, up to a limit of a number of shares representing 1% of the share capital of the Company on the date of this Shareholders' Meeting, for the benefit of persons it shall select from among eligible employees and corporate officers (*mandataires sociaux*) of the Company and of the companies or economic interest groups related to it in the meaning of Article L. 225-197-2 of the French Commercial Code, whether they are located in France or outside of France.

Within this ceiling, the potential allocations granted to corporate officers (*mandataires sociaux*) of the Company would remain limited to 0.02% of the share capital on the date of the Shareholders' Meeting (before adjustments), as in the current authorisation.

It is hereby specified that the par value amount of the shares freely allocated under this authorisation would be deducted from the share capital increase ceiling referenced in the tenth resolution relative to the proposed allocation of stock options, such that the amount of the share capital increase that could potentially result from free allocations of shares and stock option allocations under the ninth and tenth resolutions is capped at 2.5% of the share capital of the Company on the date of the Shareholders' Meeting.

The tenth resolution of the next Shareholders' Meeting is a proposal to also cancel the existing authorisation granted by the Shareholders' Meeting of 22 June 2010, for its unused part, and to grant to the Board a new authorisation for a period of thirty-eight months from this date, to grant to the beneficiaries it will designate from amongst the employees and corporate officers of the Company and of companies or economic interest groups affiliated to the Company under the conditions set out in Article L. 225-180 of the Commercial Code, stock options giving rights to subscribe new shares to be issued by the Company, or to purchase existing shares in the Company, up to a total number of options granted pursuant to this authorisation, which may not give the right to subscribe or purchase a number of shares exceeding 2.5% of the share capital at the date of the Shareholders' Meeting.

The shares freely allotted pursuant to the ninth resolution, if any, shall be deducted from this overall global limit.

Within this ceiling, allocations made to corporate officers (*mandataires sociaux*) of the Company cannot represent more than 0.10% of the share capital on the date of the Shareholders' Meeting (before adjustments), as in the current authorisation.

The policy followed, the performance criteria used and their fulfilment are exposed in detail in the Chairman's Report in section "Corporate Governance/Interests of the officers and employees in the share capital" and in Note 21 to the consolidated financial statements for fiscal year 2012/13.

It will also be proposed to the next Shareholders' Meeting to renew the authorisation allowing the Company to purchase its shares (see page 297 hereafter) and to reduce its share capital of up to 10% of its amount by cancelling all or part of the shares that would be purchased by the Company within the scope of any share buyback authorisation.

## CHANGES IN SHARE CAPITAL

	Number of shares issued	Nominal amount of capital increase (in €)	Paid in capital amount (in €)	Resulting total number of shares	Capital (in €)
<b>31 MARCH 2010</b>				<b>293,841,996</b>	<b>2,056,893,972</b>
Increase in share capital resulting from the exercise of options and free allocation of shares (30 April 2010)	9,716	68,012	223,653.50	293,857,712	2,056,961,984
Increase in share capital resulting from the free allocation of shares under the plan Alstom 2007 (11 May 2010)	101,760	712,320	-	293,953,472	2,057,674,304
Increase in share capital resulting from the free allocation of shares under the plan Awards for All 2006 (20 May 2010)	109,776	768,432	-	294,063,248	2,058,442,736
Increase in share capital resulting from the exercise of ORA <sup>(1)</sup> , options and free allocation of shares (31 May 2010)	11,092	77,644	144,789.28	294,074,340	2,058,520,380
Increase in share capital resulting from the exercise of ORA <sup>(1)</sup> , options and free allocation of shares (30 June 2010)	39,505	276,535	287,548.17	294,113,845	2,058,796,915
Increase in share capital resulting from the exercise of options and free allocation of shares (31 July 2010)	67,631	473,417	720,637.80	294,181,476	2,059,270,332
Increase in share capital resulting from the exercise of options and free allocation of shares (31 August 2010)	6,775	47,425	43,126.40	294,188,251	2,059,317,757
Increase in share capital resulting from the exercise of options (30 September 2010)	25,227	176,589	247,859.60	294,213,478	2,059,494,346
Increase in share capital resulting from the exercise of ORA <sup>(1)</sup> and options (31 October 2010)	16,795	117,565	178,257.79	294,230,273	2,059,611,911
Increase in share capital resulting from the exercise of ORA <sup>(1)</sup> , options and free allocation of shares (30 November 2010)	5,883	41,181	45,084.57	294,236,156	2,059,653,092
Increase in share capital resulting from the exercise of options and free allocation of shares (31 Dec. 2010)	29,308	205,156	286,693.20	294,265,464	2,059,858,248
Increase in share capital resulting from the exercise of options (31 January 2011)	37,430	262,010	465,069.50	294,302,894	2,060,120,258
Increase in share capital resulting from the exercise of options and free allocation of shares (28 February 2011)	72,447	507,129	1,176,311.79	294,375,341	2,060,627,387
Increase in share capital resulting from the exercise of ORA <sup>(1)</sup> and options (31 March 2011)	43,963	307,741	672,313.53	294,419,304	2,060,935,128
<b>31 MARCH 2011</b>				<b>294,419,304</b>	<b>2,060,935,128</b>
Increase in share capital resulting from the exercise of options (30 April 2011)	20,649	144,543	280,713.68	294,439,953	2,061,079,671
Increase in share capital resulting from the exercise of options (31 May 2011)	19,750	138,250	307,890.50	294,459,703	2,061,217,921
Increase in share capital resulting from the exercise of options (30 June 2011)	48,484	339,388	793,850.70	294,508,187	2,061,557,309
Increase in share capital resulting from the exercise of options (31 July 2011)	7,513	52,591	72,048.00	294,515,700	2,061,609,900

	Number of shares issued	Nominal amount of capital increase (in €)	Paid in capital amount (in €)	Resulting total number of shares	Capital (in €)
Increase in share capital resulting from the exercise of options (31 August 2011)	133	931	176.00	294,515,833	2,061,610,831
Increase in share capital resulting from free allocation of shares under the plan LTI No. 10 (30 September 2011)	118,480	829,360	-	294,634,313	2,062,440,191
Increase in share capital resulting from the exercise of options (31 October 2011)	515	3,605	800.00	294,634,828	2,062,443,796
Reduction in share capital resulting from the exercise of options (3 November 2011)	(150,000)	(1,050,000)	(2,684,901.12)	294,484,828	2,061,393,796
Increase in share capital resulting from the exercise of options (30 November 2011)	8,358	58,506	59,072.00	294,493,186	2,061,452,302
Increase in share capital resulting from the exercise of options (31 December 2011)	4,966	34,762	13,225.60	294,498,152	2,061,487,064
Reduction in share capital resulting (16 January 2012)	(50,000)	(350,000)	(855,242.07)	294,448,152	2,061,137,064
Increase in share capital resulting from the exercise of options (31 January 2012)	8,600	60,200	41,600.00	294,456,752	2,061,197,064
Increase in share capital resulting from the exercise of options and free allocation of shares (29 February 2012)	58,608	410,256	595,490.40	294,515,360	2,061,607,520
Increase in share capital resulting from the exercise of ORA <sup>(1)</sup> and options (31 March 2012)	18,320	128,240	103,808	294,533,680	2,061,735,760
<b>31 MARCH 2012</b>				<b>294,533,680</b>	<b>2,061,735,760</b>
Increase in share capital resulting from the exercise of options (30 April 2012)	3,079	21,553	26,075.52	294,536,759	2,061,757,313
Increase in share capital resulting from the exercise of options (31 May 2012)	81,657	571,599	3,214.40	294,618,416	2,062,328,912
Increase in share capital resulting from the exercise of options (30 June 2012)	190,071	1,330,497	907,313.60	294,808,487	2,063,659,409
Increase in share capital resulting from the exercise of ORA <sup>(1)</sup> and options (31 July 2012)	5,353	37,471	17,840.00	294,813,840	2,063,696,880
Increase in share capital resulting from the exercise of options (31 August 2012)	16,291	114,037	81,745.60	294,830,131	2,063,810,917
Increase in share capital resulting from the exercise of options (30 September 2012)	17,830	124,810	72,793.60	294,847,961	2,063,935,727
Increase in share capital without preferential subscription rights within the framework of an offer referred to in article L. 411-2-II of the French Monetary and Financial Code (4 October 2012)	13,133,208	91,932,456	250,735,537.71	307,981,169	2,155,868,183
Increase in share capital resulting from the exercise of options (31 October 2012)	367	2,569	560.00	307,981,536	2,155,870,752
Increase in share capital resulting from the exercise of options (30 November 2012)	28,600	200,200	162,688.00	308,010,136	2,156,070,952
Increase in share capital resulting from the exercise of options (31 December 2012)	27,311	191,177	231,520.00	308,037,447	2,156,262,129
Increase in share capital resulting from the exercise of options (31 January 2013)	20,419	142,933	147,649.60	308,057,866	2,156,405,062
Increase in share capital resulting from the exercise of options (28 February 2013)	25,526	178,682	154,020.48	308,083,392	2,156,583,744
Increase in share capital resulting from the exercise of ORA <sup>(1)</sup> and options (31 March 2013)	74,734	523,138	641,448.52	308,158,126	2,157,106,882
<b>31 MARCH 2013</b>				<b>308,158,126</b>	<b>2,157,106,882</b>

(1) Subordinated bonds reimbursable into shares issue 2% December 2008.



## OWNERSHIP OF ALSTOM SHARES

Information as per Articles L. 225-102 and L. 233-13 of the French Commercial Code.

To the Company's knowledge based on notifications received by the Company, the table below shows the voting rights and the shares held by shareholders with more than 0.50% of the Company's share capital as of 31 March 2013:

	Share capital as of 31 March 2013		Share capital as of 31 March 2012		Share capital as of 31 March 2011	
	Number of shares	% of the share capital and voting rights <sup>(1)</sup>	Number of shares	% of the share capital and voting rights <sup>(1)</sup>	Number of shares	% of the share capital and voting rights <sup>(1)</sup>
Public	157,200,380	51.01%	146,132,081	49.61%	146,097,150	49.64%
Bouygues SA	90,543,867	29.38%	90,543,867	30.74%	90,543,867	30.75%
Franklin Resources Inc.	21,595,004	7.01%	16,225,465	5.51%	14,940,234	5.07%
Amundi	6,211,754	2.02%	5,432,726	1.84%	5,883,494	2.00%
Norges Bank	5,835,364	1.89%	5,835,364	1.98%	5,829,965	1.98%
Natixis Asset Management	4,409,981	1.43%	4,438,557	1.51%	4,325,570	1.47%
Employees <sup>(2)</sup>	4,024,891	1.31%	4,260,214	1.45%	3,896,674	1.32%
FMR LLC	3,057,003	0.99%	7,229,711	2.45%	15,023,564	5.10%
Caisse des Dépôts et Consignations	3,056,418	0.99%	3,155,418	1.07%	4,151,266	1.41%
UBS Global Asset Management	3,019,002	0.98%	3,019,002	1.03%	863,487	0.29%
Credit Suisse Group AG	2,526,162	0.82%	1,665,544	0.57%	2,864,033	0.97%
Edmond de Rothschild Asset Management	1,731,003	0.56%	3,435,566	1.17%	-	-
BNP Paribas Asset Management	1,714,498	0.56%	1,450,104	0.49%	-	-
HSBC Global Asset Management <sup>(3)</sup>	1,680,679	0.55%	1,710,061 <sup>(4)</sup>	0.58%	-	-
Oppenheimer Funds	1,552,120	0.50%	-	-	-	-
<b>TOTAL</b>	<b>308,158,126</b>	<b>100.00%</b>	<b>294,533,680</b>	<b>100.00%</b>	<b>294,419,304</b>	<b>100.00%</b>

(1) % calculated based on the share capital as of 31 March of each year and not based on the share capital on the date of the declaration.

(2) Shares held by employees and former employees of the Group savings plan as of 31 March 2013, which corresponds to approximately 0.71% held directly and approximately 0.60% held through FCPE.

(3) As of 31 March 2013 (i) the Alstom shares held by HSBC Global Asset Management are not aggregated to HSBC Holdings Plc. declarations any longer pursuant to Article 223-12 of the General Regulation of the French *Autorité des marchés financiers* and (ii) HSBC Holdings Plc. had declared that it held 1,319,326 Alstom shares, i.e. 0.43% of Alstom share capital and voting rights.

(4) Including the Alstom shares held both by HSBC Global Asset Management and HSBC Holdings plc.

To the knowledge of the Company, on the basis of declarations of threshold crossing received, excluding notifications received from registered brokers, no other shareholder holds, directly or indirectly, more than 0.50% of the share capital or voting rights of the Company as of 31 March 2013.

After 31 March 2013, the Company has received the following declarations of threshold crossing:

- FMR LLC notified that it held on 2 April 2013, 3,110,222 shares (1.01%), on 4 April 2013, 3,065,072 shares (0.99%), on 10 May 2013, 3,243,954 shares (1.05%), on 15 May 2013, 5,389,954 shares (1.75%), on 16 May 2013, 6,318,954 shares (2.05%) and on 22 May 2013, 7,760,115 shares (2.52%);
- OppenheimerFunds Inc. notified that it held on 3 April 2013, 1,864,430 shares (0.61%), and on 22 April 2013, 1,514,586 shares (0.49%);
- Amundi notified that it held on 10 May 2013, 6,220,829 shares, (2.02%); and
- Franklin Resources Inc. notified that it held on 24 May 2013 23,271,612 shares (7.55%).

To the knowledge of the Company there is no shareholders' agreement concerning the share capital of the Company.

As of 6 May 2013, 46,445 shares are held by the individual Directors of the Company and 21,000 shares are held by the members of the Executive Committee (excluding Chairman and Chief Executive Officer), representing in total approximately 0.02% of Alstom's share capital and voting rights as of 31 March 2013. The company Bouygues SA, Director of Alstom, holds 29.38% of the share capital and voting rights of the Company as of 6 May 2013.

A table identifying the operations as per Article L. 621-18-2 of the French Monetary and Financial Code is available in section "Corporate governance – Interest of the officers and employees in the share capital".

Alstom does not hold, directly or indirectly through companies it controls, any of its own shares and each Director holds at least the number of shares recommended by the Director's Charter annexed to the Board Internal Rules, i.e. 500 shares.

## SECURITIES GIVING ACCESS TO THE SHARE CAPITAL

The securities giving access to the Company's share capital are composed of:

- the rights resulting from free allocations of shares; and
- stock options to subscribe shares.

The subordinated 2% bonds due December 2008 reimbursable in Company's shares ("ORA") were reimbursed in shares on 31 December 2008, as described below.

There are no other securities granting rights to the share capital of the Company.

### Subordinated 2% bonds due December 2008 reimbursable in Company's shares ("ORA")

In December 2003 the Company issued subordinated 2% bonds due December 2008 for €901,313,660.80 and reimbursable in Company's shares ("ORA") with preferential subscription rights which may lead to the issue of a maximum of 643,795,472 new shares with a ratio of 0.0628 Alstom share of €7 par value, after adjustments of the redemption ratio following the operation on the share capital.

On 31 December 2008 the ORA were reimbursed in shares pursuant to the terms and conditions of the bonds. As of 31 March 2013, 81,266 ORA, representing 0.01% of the issue, were held by bondholders who did not yet notify the Company if they request at redemption the number of shares resulting either from the rounding down to the nearest whole number (with cash compensation by the Company) or the rounding up to the nearest whole number (with cash payment by the bondholder).

### Free allocations of shares

See sections:

- "Corporate governance – Interest of the officers and employees in the share capital – Stock options plans and performance share plans"; and
- "Corporate governance – Interest of the officers and employees in the share capital – Free shares plans for the subscribers outside France to "Alstom Sharing Offers".

### Stock options

See section "Corporate governance – Interest of the officers and employees in the share capital – Stock options plans and performance share plans".

## POTENTIAL SHARE CAPITAL

As of 6 May 2013

	Total number of shares that may be issued	Amount of corresponding capital increase (in €)	% of the share capital as of 31 March 2012
Shares that may result from the exercise of existing stock option plans (*)	8,384,599	58,692,193	2.72%
Shares that may be issued on the basis Performance Shares Plans (*)	1,831,272	12,818,904	0.59%
Shares that will be issued on the basis of the free allocation of shares for the subscribers outside France to Alstom Sharing Offers	226,044	1,582,308	0.07%
<b>TOTAL (*)</b>	<b>10,441,915</b>	<b>73,093,405</b>	<b>3.38%</b>

(\*) Subject to satisfaction of all performance conditions linked to fiscal years 2013/14 and 2014/15. See section "Information on the share capital – Interests of the officers and employees in the share capital – Stock options plans and performance shares plans" and Note 21 to the Consolidated Financial Statements for fiscal year 2012/13.

## REPURCHASE OF SHARES

*Information as per Article L. 225-11 of the French Commercial Code.*

### Use by the Board of Directors of the authorisation granted by the Shareholders' Meeting

Acting pursuant to Article L. 225-209 of the French Commercial Code, the Ordinary and Extraordinary General Meeting held on 26 June 2012 authorised the Board of Directors to purchase on a stock exchange or otherwise, and by any means, Alstom's shares within the limit of a number of shares representing 10% of Alstom's share capital as of 31 March 2012, *i.e.* a theoretical number of 29,453,368 shares for a maximum purchase price of €70, subject to adjustments in relation to operations on the share capital and for a duration of 18 months after the General Meeting expiring on 26 December 2013. The Company did not use this authorization during fiscal year 2012/13.

### Presentation of the share purchase programme submitted to the approval of the Ordinary and Extraordinary General Meeting called on 2 July 2013

The section below constitutes the presentation of the share purchase programme which will be submitted to the approval of the Ordinary and Extraordinary General Meeting called on 2 July 2013, pursuant to Article 241-2, of the General Regulation of the French *Autorité des marchés financiers*.

#### Number of shares and portion of the share capital held directly or indirectly by Alstom

Alstom does not hold directly or indirectly any shares composing its share capital and any securities giving access to its share capital.

#### Split of objectives

Not applicable.

#### Objectives of the share purchase programme

This share purchase programme may be used:

- with the purpose to cancel the shares acquired under the conditions laid down by law;
- with the purpose of allocating or selling shares to employees, former employees or corporate officers of the Company and its affiliated companies as defined in Articles L. 225-180 and L. 233-16 of the French Commercial Code, in particular through employee purchase scheme, stock option plans or free allocations of shares pursuant to the conditions specified by law;
- in order to hold the shares purchased, or sell, transfer or exchange the shares purchased as part of or following any external growth transactions within the limit set forth in the 6<sup>th</sup> paragraph of Article L. 225-209 of the French Commercial Code;
- in order to deliver shares upon exercise of rights attached to securities giving access to the share capital;

- to ensure the liquidity of the market and to lead the Company's market through an authorised investment services provider within the framework of a liquidity contract complying with a code of ethics agreed upon by the French Stock Market Authority (AMF);
- as well as in order to implement any market practice that could potentially be allowed by the AMF and, more generally, to carry out any other transaction in compliance with applicable regulations.

The purchase, sale, transfer or exchange of these shares may occur, in accordance with the rules set by the relevant regulatory bodies, on regulated markets or off the market including multilateral trading facilities (MTFs) or via a systematic internaliser, by any means, including through block transfer or the use or exercise of any financial instruments, derivatives, particularly, through optional transactions such as the purchase and sale of options and at any time within the limits set forth by laws and regulations, excluding during any take-over period on the Company's share capital.

#### Maximum portion of share capital and maximum number of shares which may be repurchased

Pursuant to Article L. 225-209 *et seq.* of the French Commercial Code, the Board of Directors is allowed to purchase Company shares up to the number of shares that represent 10% of the Company's share capital as of 31 March 2013, *i.e.*, a theoretical maximum number of 30,815,812 shares of €7 nominal value, and a theoretical maximum aggregate purchase price of €2,157,106,840 based on the maximum purchase price set hereafter.

#### Maximum purchase price

The purchase price may not exceed €70 per share, subject to adjustments relating to transactions affecting the Company's share capital. In the event of transactions dealing with the Company's share capital and, in particular, in the event of an increase in the share capital by the incorporation of reserves and the allocation of shares, free of charge, as well as in the event of a split or a consolidation of the shares, the maximum price indicated above shall be adjusted by a multiplying ratio equal to the number of shares included in the share capital before the transaction divided by the number of these shares after the transaction.

#### Duration

The share purchase programme will valid during 18 months after the Shareholders' Meeting called to be held on 2 July 2013, *i.e.* 2 January 2015.

#### Characteristics of the shares which may be purchased

Shares listed on the Euronext Paris (Compartment A).

Name: ALSTOM.

ISIN Code: FR 0010220475.

Ticker: ALO.

## ISSUE OF DEBT SECURITIES

On 1 October 2012, the Board of Directors renewed the delegations of authority to the Chairman and Chief Executive Officer, for a one-year period, to issue, in one or more times, bonds within a maximum nominal amount of €2 billion.

Using this authorisation, the Company completed the issuance presented below, within the framework of its Euro Medium Term Note Programme ("EMTM Programme") registered with the listing authority in Luxembourg (the "Commission de surveillance du secteur financier").

Authorisation date	Issue date	Amount	Maturity	Interest rate
1 October 2012	11 October 2012	€350 million	11 October 2017	2.25%

## DIVIDENDS PAID OVER THE LAST THREE FISCAL YEARS

It will be proposed to the Ordinary and Extraordinary General Meeting called on 2 July 2013 to distribute dividends for a total amount of €258,852,825.84, corresponding to €0.84 per share of €7 nominal value. It represents a rate of distribution of 32% of the Group's net profit.

The dividend coupon will be detached from the share on 4 July 2013 and can be paid out in cash as from 9 July 2013. Under the assumption that, on the dividend payment date, the Company holds some of its own shares, the amount of the dividend on such shares would be carried over.

When such dividend is paid out to individuals residing in France for tax purposes, the dividend is eligible for a tax reduction of 40% resulting from Article 158-3-2° of the French General Tax Code. The dividend is subject to income tax at the progressive rate after a 21% fixed full tax withholding set forth in the fourth paragraph of Article 117 of the French General Tax Code.

The following dividends were distributed in respect of the previous fiscal years:

Fiscal year (in €)	2011/12	2010/11	2009/10
Dividend per share (*)	0.80	0.62	1.24

(\*) Amount eligible for the tax reduction of 40% resulting from Article 158-3-2 of the French General Tax Code.

See section "Financial statements – Statutory accounts – Appropriation of the net income for the period ended 31 March 2013".

## ELEMENTS WHICH COULD HAVE AN IMPACT IN THE EVENT OF A TENDER OFFER

Information as per Article L. 225-100-3 of the French Commercial Code.

### Structure of the Company's share capital

A table detailing the structure of Alstom's share capital is presented in section "Additional information – Information on the share capital – Ownership of Alstom shares".

### By-laws articles restricting the exercise of voting rights and the transfer of shares, or other clauses of agreements known by the Company

None.

### Direct or indirect shareholdings in the Company

As of 6 May 2013, Bouygues SA holds 29.38% of the share capital and voting rights of Alstom.

See also section "Additional information – Information on the share capital – Ownership of Alstom shares".

### List of holders of any security granting special control rights

None.

## Control mechanisms within employee shareholding schemes

The rules of the Alstom savings plan ("FCPE Alstom") provide that the Supervisory Board of the FCPE Alstom is entitled to vote in Alstom Shareholders' Meetings, and not employees directly.

Therefore the Supervisory Board only is entitled to decide on the answer to be given in case of a public offer. The FCPE ALSTOM held 0.60% of the Company's share capital and voting rights as of 31 March 2013.

## Shareholders' agreements that may restrict the transfer of shares and the exercise of voting rights

To the knowledge of ALSTOM, there are no shareholders' agreement that may restrict the transfer of Alstom's shares and/or the exercise of Alstom's voting rights.

## Specific rules governing the nomination and replacement of Directors, and the modification of the Company's by-laws

None.

## Board of Directors' powers

The Shareholders' Meeting held on 26 June 2012 authorised the Board of Directors to acquire the Company's shares, within the limits set forth by laws and regulations, excluding during any take-over period.

It will be proposed to the next Ordinary and Extraordinary General Meeting to be held on 2 July 2013 to renew this authorisation, excluding during any take-over on the Company's share capital. See also section "Additional information – Information on the share capital – Repurchase of shares".

## Agreements that may be amended or terminated in case of a change of control of the Company

The financing agreements, the terms of bonds issues and bonding programmes of the Group include change of control clauses.

All Alstom's bond issues, including the one presented in section "Information on the Share capital – Issue of debt securities", contain each a change of control clause that allow any bondholder to request the early reimbursement of its bonds during a specific period of time, in case of change of control of Alstom.

The committed Credit Facility, amounting to €1.350 billion, signed on 16 December 2011 and maturing in December 2016 and, which is fully undrawn, contains a change of control clause that allows each financial institution party to this agreement to request the cancellation of its credit commitment and the early reimbursement of its participation in the credit in case of change of control of Alstom.

The revolving committed bonding facility of a maximum amount of €9 billion maturing 27 July 2016 also contains a change of control clause which may result, in case of a change of control, in the programme being suspended, in the obligation to procure new bonds to replace outstanding bonds or to provide cash collateral, as well as the early reimbursement of our other debts as a result of their cross-default or cross-acceleration provisions.

The joint venture agreements that we have signed generally contain change of control clauses, that may trigger the obligation to sell our shareholding in these joint ventures.

## Agreements providing indemnities to Board members or employees, if they resigned or are dismissed without actual and serious reason or if their employment ends due a public offer

None. See section "Corporate governance – Corporate governance and Executive and Non-Executive – Directors' Compensation Report".

## SHAREHOLDER INFORMATION

The role of the Investor Relations team is to provide the whole financial community – individual shareholders, institutional investors and financial analysts – with complete and regularly updated information on the Group's financial situation, strategy and its implementation.

## Active communication policy for individual shareholders

Besides the Annual General Meeting, Alstom develops opportunities to meet and communicate with its individual shareholders. During the fiscal year 2012/13, the Group took part in information meetings in Nantes, Paris and Nancy in France – organised in association with the F2IC (the French Investment Club Federation) and the CLIFF (the French Association for Investor Relations).

The Group also organises site visits in France for individual shareholders to give them a better insight into the way the business works. This year, some of them had the opportunity to visit the Aix-les-Bains plant and discover the production of high-voltage gas insulated substations, or to take a tour of the La Courneuve site in charge of power plants' services. Another group had a chance to discover the Le Creusot factory, specialising in the field of railroad bogies, brakes and wheel dampers.

In addition to periodical financial publications, Alstom offers its shareholders a range of information tools, including the shareholders' letter published twice a year in conjunction with the main financial events of the Group.

In 2013/14, the Group plans on maintaining an active communication with its individual shareholders through similar events and by developing its digital communication.

### Relations with institutional investors and financial analysts

Roadshows are organised on several occasions over the year in major US and Europe financial centres (France, the United Kingdom, Switzerland, Germany and Sweden) in addition to individual and group meetings with investors and analysts throughout the year.

The Group also organises an annual analysts/investors day to present its strategy and activities. This year, the event gathered around 40 analysts and investors and was dedicated to Renewable Power and Grid Sectors, with a specific focus on off-shore wind, HVDC and Smart Grid. This meeting was held in Nantes and was followed by a site visit at Le Carnet, near Saint-Nazaire in the West of France, where the first HALIADE™150-6 MW turbine has been installed onshore for a series of tests aiming to its certification.

The Group also participates in general or sectorial conferences organised by brokerage firms in France, the United Kingdom and the United States of America. During the fiscal year, the Group also had the opportunity to present its Corporate Governance policy as well as its Social and Environmental Responsibility.

### Stock market news

In 2012/13, the Alstom share price increased by 8.5%. On 31 March 2013, the share price reached €31.75 and the stock market capitalisation of the Group was €9.8 billion.

### Keeping investors informed

[www.alstom.com](http://www.alstom.com)

The Investors' section of the Alstom website has been especially designed to provide shareholders with easy access to all of the Group's financial communications: share price quotes, the possibility to download the past 5 years' historical data, financial results, presentations, Registration Documents, shareholders' letters, dates of important meetings, frequently asked questions, as well as a subscription service to receive the Group's press releases by e-mail. Printed copies of the Registration Document and shareholders' letters can be obtained in French and English by sending a request to the Investor Relations Department.

### Contacts

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E-mail: [investor.relations@chq.alstom.com](mailto:investor.relations@chq.alstom.com)

Toll free number from France: 0800 50 90 51, from Monday to Friday, from 9 am to 7 pm.

From abroad: +33 1 45 30 85 75 (calls will be charged at your local operator's standard international rate).

## LISTING OF THE SHARES

### As of 31 March 2013

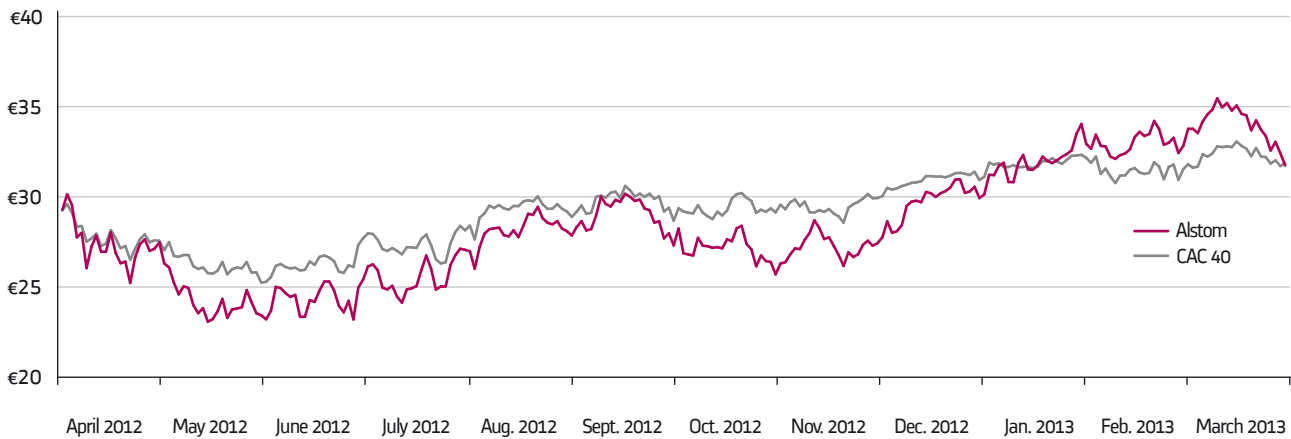


Place of listing:	NYSE Euronext Paris
ISIN Code:	FR0010220475
Ticker:	ALO
Nominal value:	€7
Number of shares:	308,158,126
Market capitalisation:	€9,780,188,942
Main indexes:	CAC 40 SBF 120 Euronext 100

The Alstom shares are no longer listed on the London Stock Exchange since 17 November 2003, nor on the New York Stock Exchange since 10 August 2004.

The Company has chosen not to create or otherwise sponsor an American Depositary Receipt (ADR) facility in respect of its shares. Any ADR facility currently in existence is "unsponsored" and has no ties whatsoever to the Company. This means that the Company cannot be relied upon to ensure the proper operation of such facility or to protect the rights of ADR holders, and the Company expressly disclaims any liability or submission to jurisdiction to any courts in the United States in respect of such facility. Persons choosing to deposit Alstom shares into such a facility or to acquire ADRs issued from such a facility do so at their own risk and on the basis of their own analysis of such facility.

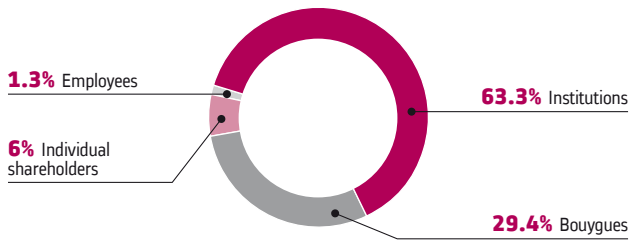
SHARE PRICE EVOLUTION (in €) – APRIL 2012/MARCH 2013



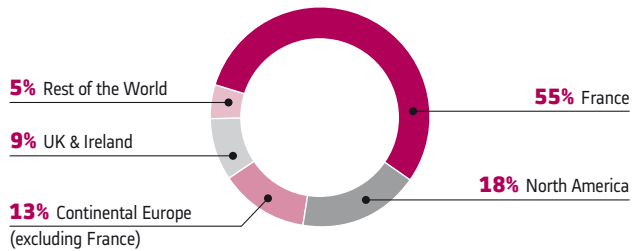
Alstom basis as of 30 March 2012: €29.26.  
Source: Euronext Paris.

Shareholder structure

According to a shareholder study carried out by Euroclear France and IPREO, the Group estimates that it has roughly 230,000 shareholders. On 31 March 2013, the share capital was distributed as shown below:

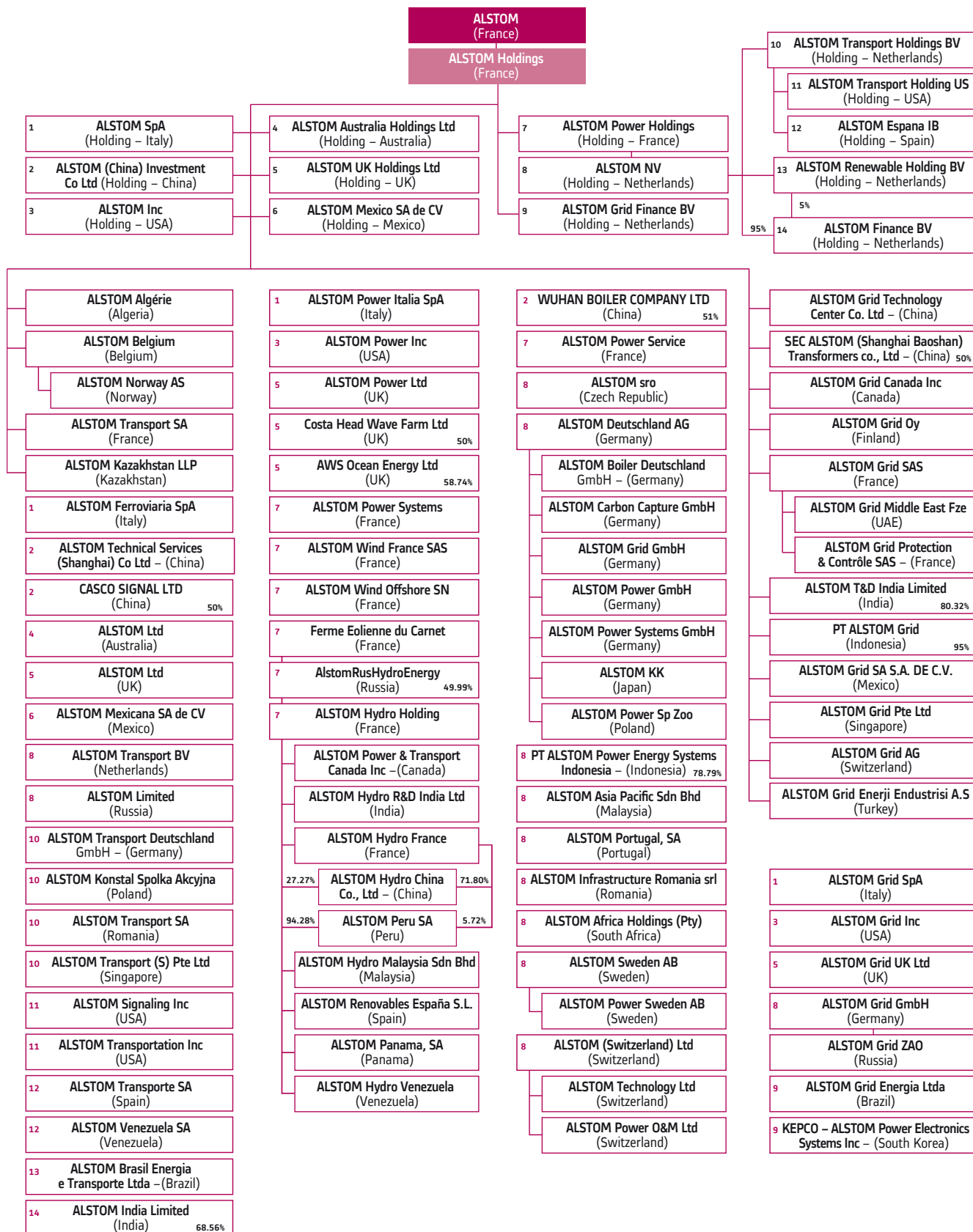


CAPITAL STRUCTURE BY REGION





# SIMPLIFIED ORGANISATION CHART AS OF 31 MARCH 2013



Nota : Unless otherwise stated, companies are directly or indirectly wholly owned. The reference number in pink given to some subsidiaries indicates their direct or indirect link in share capital with the holding company having the same number, in black.

## INFORMATION ON THE ANNUAL FINANCIAL REPORT

The Alstom Annual Financial Report for fiscal year 2012/13, established pursuant to Article L. 451-1-2 of the French Monetary and Financial Code and Article 222-3 of the General Regulation of the French *Autorité des marchés financiers*, is made up of the sections at sub-sections of the French Registration Document identified in the table below:

Sections of the Registration Document	Pages of the Registration Document
"Consolidated financial statements"	76 to 132
"Statutory accounts"	135 to 149
"Management report on consolidated financial statements fiscal year 2012/13", which constitutes the Board of Directors' report on the Group management for the fiscal year ended 31 March 2012 and to which the Chairman's report (Article L. 225-37 of French Commercial Code) is attached	52 to 72
"Group description of activities", which is included in the Board of Directors' report on the Group management for the fiscal year ended 31 March 2013	6 to 49
"Risk factors", which is included in the Board of Directors' report on the Group management for the fiscal year ended 31 March 2013	156 to 163
"Financial authorisations", which includes the table of the authorisations to increase the share capital	291 to 292
"Repurchase of shares"	297
"Elements which could have an impact in the event of a tender offer"	298 to 299
"Statutory Auditors' report on the consolidated financial statements"	133 to 134
"Statutory Auditors' report on the statutory financial statements"	152
"Statutory Auditors' report" (Article L. 225-235 of the French Commercial Code)	206
"Statutory Auditors' fees for fiscal year 2011/13"	130, 218
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## INFORMATION ON THE REGISTRATION DOCUMENT

### INFORMATION INCLUDED BY REFERENCE

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Pursuant to Article 28 of EC Regulation No. 809-2004 of the Commission of 29 April 2004 regarding prospectuses, the following information is included by reference in this Registration Document:

- the consolidated and statutory financial statements for the fiscal year ended 31 March 2012, the Auditors' reports thereto and the Group's management report, as shown at pages 76 to 132, 135 to 149, 133 to 134, 151, 52 to 73, 156 to 163 and 6 to 50 respectively, of the Registration Document No. D.12-0548 filed with the French Stock Market Authority (*Autorité des marchés financiers*) on 25 May 2012; and

- the consolidated and statutory financial statements for the fiscal year ended 31 March 2011, the Auditors' reports thereto and the Group's management report, as shown at pages 62 to 120, 123 to 137, 121 to 122, 139, 38 to 58, 144 to 152 and 6 to 35 respectively, of the Registration Document No. D.11-0522 filed with the French Stock Market Authority (*Autorité des marchés financiers*) on 26 May 2011.

The sections of these documents not included here are either not relevant for the investor, or covered in another part of this Registration Document.

### STATEMENT BY THE PERSON RESPONSIBLE FOR THE REGISTRATION DOCUMENT <sup>(1)</sup>

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After taking all reasonable measures, I state that, to my knowledge, the information contained in this Registration Document is accurate. There is no other information the omission of which would alter the scope thereof.

I state that, to my knowledge, the statutory accounts and the consolidated financial statements of Alstom (the "Company") for the fiscal year 2012/13 are established in accordance with applicable accounting standards and give a true and fair view of the assets and liabilities, financial position and results of operations of the Company and all enterprises included in the consolidation perimeter, and the management report included in pages 52 to 72 and pages 156 to 163 and 6 to 49 presents a true and fair view of the evolution of the operations, results of operations and financial position of the Company and all enterprises included in the consolidation perimeter, as well as a description of the main risks and uncertainties faced by them.

I have obtained from the Auditors, PricewaterhouseCoopers Audit et Mazars SA, a letter of completion of work in which they indicate that they have verified the information relating to the financial situation and financial statements given in this Registration Document and have read the whole Registration Document.

The historical financial information presented or included by reference in the Registration Document has been the subject of reports by the Auditors included on pages 133 to 134 and 152 for the year ended 31 March 2013, and included by reference in this Registration Document for the years ending 31 March 2012 and 31 March 2011. The Auditors' reports on the consolidated financial statement for fiscal years 2012/13 and 2011/12 do not contain any observation. The Auditors' report on the consolidated financial statements for fiscal years on 2010/11, issued without qualification, contain an observation relating to changes in methods following the IFRS standards applicable for the first time during the concerned fiscal year (see page 121 of the Registration Document 2010/11 filed with the French Stock Market Authority (*Autorité des marchés financiers*) on 26 May 2011).

Levallois-Perret, 29 May 2013.

**Patrick Kron**  
Chairman and Chief Executive Officer

<sup>(1)</sup> This is a free translation of the statement signed and issued in French language by the Chairman and Chief Executive Officer of the Company and is provided solely for the convenience of English speaking readers.

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