

ALSTOM'S SOCIAL RESPONSIBILITY AND INNOVATION

"Meeting today's needs without compromising the ability of future generations to meet their own needs" ⁽¹⁾

(1) World Commission on Environment and Development, Bruntland Report 1987.

Tomorrow, about 9 billion people will call the planet home, mostly living in cities. They will need clean and affordable energy and efficient transportation. Current transport and energy infrastructures will need to change to avoid long-term impacts on the environment, health and climate change. All parties involved in economic development are aware of this fact.

Operating at the heart of these issues, Alstom contributes to Sustainable Development through a socially responsible model, first by deploying the means to create the sustainable power generation, transmission and transport technologies of tomorrow, secondly, by integrating environmental and social concerns in all of its business operations and in its interaction with its stakeholders.

ALSTOM'S CONTRIBUTION TO SUSTAINABLE DEVELOPMENT

A PROACTIVE POLICY OF CORPORATE SOCIAL RESPONSIBILITY

Global challenges can become strategic opportunities

All reports from the International Panel on Climate Change (IPCC) are demonstrating how human activity is affecting climate. Their conclusions are now generally accepted and this increases the pressure on all deciders to deliver with no delay a new global agreement from all nations on reduction in carbon emissions.

The Conferences of the Parties ⁽²⁾ COP 19 in Warsaw (Poland) and COP 20 in Lima (Peru) have paved the way towards a new global agreement to be concluded at COP 21 in December 2015 in Paris (France). This agreement aims to get from every participant's commitments on the reduction in greenhouse gas (GHG) emissions and to participate in building a green fund mechanism to help affected countries in mitigating the consequences of global warming. This will drive in the same time regulation from many countries and infrastructure investments.

(2) Conferences of the Parties (COP) organised by the United Nations Framework Convention on Climate Change.

It is clear that the world is facing growing environmental and social challenges:

- the world's population is expected to reach over 9 billion people in 2050. As a consequence, global demand for energy and infrastructure will grow. By 2035, the global energy demand is anticipated to rise by more than one-third, while 60% of the infrastructure which will supply the world's electricity are yet to be built ⁽³⁾;
- 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 ⁽⁴⁾;
- with demographic and economic growth pushing up GHG emissions and the pressure on natural resources for decades, the climate is substantially changing. It is a fact the only questions remaining are how much and which consequences.

(3) World Energy Outlook 2012.

(4) UN World Urbanization Prospects, World Business Council for Sustainable Development.

The interaction between energy, environment and development concerns urge each actor to adopt a holistic approach. To make corporate action a change lever, it is essential that Corporate Social Responsibility (CSR) be addressed on a strategic level for a company like Alstom involved in energy and railway transport solutions.

Alstom considers that catching the early warning signs announcing megatrends is a key competitive advantage, driving profitable, long-term growth. In that way, pursuing a CSR policy is therefore critical to anticipate and proactively manage the risks and opportunities they entail.

This cross-cutting approach enables the Group to:

- avoid defensive costs – for instance, linked with a non-compliance with international or local legislations and standards, or with expectations from customers, investors and civil society;
- strengthen its reputation and mobilise its internal human resources;
- generate product and process efficiency gains able to anticipate needs of the society;
- identify and assess future and emerging markets.

It involves driving progress by staying one step ahead to better grasp all the Group's sustainability concerns. This position gives Alstom the means to define and implement an integrated CSR policy, which was endorsed by the top management and widely communicated inside the Company in December 2013. This policy, described hereafter, is available on www.alstom.com.

An integrated Corporate Social Responsibility (CSR) policy

Alstom's CSR policy is based around three main axes, guided by quantified and assessed objectives. These objectives are translated into action plans, which create a virtuous circle of progress in economic, social and environmental fields.

Alstom thus strives to:

- **with its technologies and solutions**, help customers effectively limit their environmental impact:
 - support the expansion of renewable energy production,
 - improve resource and energy efficiency in all of its new and existing products,
 - apply sustainable development and eco-design principles;
- **with its partners and stakeholders**, work together for mutual benefit:
 - assess existing and future customers' needs and adapt its offering accordingly,
 - develop a sustainable supply chain,
 - do more to identify environmental and social impacts of projects,
 - involve itself in the life of local communities;
- **with its way of operation**, be a reference to:
 - enforce the highest ethical standards,
 - offer its employees the best safety and working conditions,
 - reduce the environmental footprint of its operations.

The action plans related to this policy are outlined both in the sub-sections related to "Sustainable Development in Alstom's solutions" and in the sections related to "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.

A dedicated organisation at all levels of the Group

A central team, under the responsibility of the Group Human Resources organisation, defines and monitors the implementation of this CSR policy. It is supported in each Sector by a dedicated team in charge of implementing the Group's policies and setting up programmes related to the Sectors' activity. The aim is to spread the Group's CSR vision throughout the organisation, so that all employees know it, understand it, commit to it and actively take part in it.

Within the Board of Directors, the Ethics, Compliance and Sustainability (ECS) Committee has been closely following the Group's CSR policy and actions since 2010. This Committee, composed of three independent Directors, meets three to four times a year to review and assess the Company's strategy, policies and procedures on topics related to corporate responsibility and sustainable development (see Corporate governance – Chairman's report – Board Committees).

Local implementation of the CSR policy is supported by 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. In all the Group's main countries of operation, the Country President is assisted by a CSR specialist in connection with the central team and working with Sectors for specific projects. This local support organisation guarantees a good understanding of the local communities' needs.

Evaluation of the CSR policy versus stakeholders' expectations

CSR actions by the Group are increasingly expected by:

- its employees;
- its customers (increased use of CSR criteria in tenders);
- public authorities (emergence of new CSR regulations);
- its shareholders and potential investors.

Each of those categories of stakeholders is thoroughly followed through regular engagement surveys by employees and external customer surveys.

Alstom is participating in a large number of industry associations in Europe and large countries (*AFEP, MEDEF, C3D, Econsense, BITC, CEMEFI*, etc.) which is a way to get insight from public authorities' expectations and to understand in advance the evolution of regulations. The materiality matrix presented last year has kept unchanged during FY 2014-15⁽¹⁾ and shall be updated in the future in consistency with the evolution of stakeholders' expectations and Alstom's future strategy.

(1) Available in Alstom's Registration Document 2013/14 – Chapter 6 and on www.alstom.com.

Evaluation of the Group's CSR performance by independent third parties

Alstom's Corporate Social Responsibility performance is regularly measured by various rating agencies with different methods and criteria, such as, in 2014, RobecoSAM for the Dow Jones Sustainability Indices (DJSI), and CDP (formerly known as 'Carbon Disclosure Project'). These assessments help identify and analyse the areas of improvement. As a result:

- Alstom was selected in September 2014 for the fourth time in a row as an index component of the DJSI – World & Europe –, after its assessment by RobecoSAM. This rating agency attributed the rating of 76/100 to the sustainability performance, with a particular good rating on the economic dimension. This year, Alstom distinctly improved in antitrust policy, code of conduct/compliance/corruption & bribery, risk & crisis management and environmental policy and reporting. The Group also achieved the best score of its industry category on customer relationship management and labour practices indicators/human rights;
- since 2010, Alstom has been assessed by CDP for its transparent approach in disclosing climate change information; in October 2014, the Group received a score of 94/B (disclosure/performance). For the third consecutive year, Alstom is ranked as part of the Carbon Disclosure Leadership Index for French companies.

SUSTAINABLE DEVELOPMENT IN ALSTOM'S SOLUTIONS

Eco-innovation

The "Eco-innovation" programme is Alstom's product stewardship initiative launched in June 2014 to highlight the performances of Alstom innovative solutions with respect to environmental issues together with economic competitiveness.

The objective is to showcase Alstom's strategy with customers' and stakeholders' key sustainability requirements and concerns. It also aims to present Alstom's commitment for a responsible management approach that balances the economic, social and environmental values of its existing and new innovative solutions.

This programme is based on a solid and transparent methodology elaborated in each Sector and coordinated at Group level which resulted in two main deliverables:

- a portfolio of sustainable and innovative technologies, and
- a tool to evaluate the sustainability benefits of solutions having systemic impact.

Methodology

This programme, consolidated at Group level, is derived in each Sector according their market specificities. A selection process governance frame has been set up, defining the indicators related to products for each Sector and the common principles of selection, which results in a global offering at Group level.

The qualifying process is as follows: each Sector already aims at improving environmental performance of its industrial offer through their eco-design and Life-Cycle Assessment solutions ("Clean Power, Clear Solution" for Alstom Power, "Clean Grid" for Alstom Grid and "Designing Fluidity" for Alstom Transport). Each Sector selects its "best-in-class" products, systems and services based on its relevant indicators and qualifying criteria considering market specificities and as long as it respects common principles of selection (performance through the different life-cycle critical stages, sustainable indicators, no "pollution transfer", benchmark with market standard if possible, etc.).

The performance evaluation of each product, system and service selected from this process results in a quantification of the global sustainable benefits. A dynamic review of the selected products is set up to take into account the market and technology evolutions.

This efficient methodology at Group level involving innovation leads to continuous improvement of Alstom products' environmental footprint and favours potential opportunities for transversal R&D programmes and synergies between Sectors.

Sustainable and innovative portfolio

A first list of innovative products, systems and services featuring advanced sustainable performances has been established through this methodology.

Six examples of disruptive innovations having significant impact in terms of potential reduction of carbon emissions and cost savings have been released: CO₂ capture, utilisation or storage, 660 MW USC CFB⁽¹⁾ Boiler, g³ (Green Gas for Grid) replacing SF₆ in high-voltage applications, Community Energy Management System, HALIADE™ 150-6 MW offshore wind turbine, Pump Storage Plant (PSP) based on variable speed technology. Product sheets highlighting the sustainable innovative performances of these six technologies are available on the [Alstom innovation website](#).

Among the Sectors' products, systems and services, more technologies have been identified as future candidates to be introduced in the eco-innovation portfolio.

(1) USC CFB: Ultrasupercritical circulating fluidised bed.

Sustainability benefits tool

A tool has been developed to estimate the potential economic and environmental benefits of Alstom solutions for the whole electricity value chain. A simplified methodology is used to simulate the set-up of different functions and their impact on the system.

This systemic simulation has been carried out on two use cases, a smart grid project in France and another one in the USA (with the regional transmission operator PJM). This tool has been developed to be sufficiently didactic to be used by the commercial teams and will contribute to differentiate Alstom from competitors.

Global sustainable indicators

These deliverables allow Alstom to estimate the potential sustainable advantages (first GHG emission reduction, and also energy savings, cost savings, etc.) for each product and solution. The potential is described by an indicator of CO₂ emission avoidance per year by 2020. It will recognise Alstom as a technology leader with excellent sustainable performances.

Alstom's commitment to invest in sustainable and innovative solutions will be cost-effective while also reducing the environmental impact for customers.

Solutions from Alstom Transport

Challenges in the rail industry

Worldwide demand for mobility is growing steadily in connection with demographic changes, urbanisation and economic development. The worldwide population is expected to reach 9 billion inhabitants before 2050, of which nearly 70% will live in urban areas ⁽¹⁾. In non-OECD countries, the demand for all modes of passenger transport combined could thus triple by comparison with 2010 ⁽²⁾.

In parallel, public authorities everywhere are concerned about the environmental impacts of transport: traffic jams, air pollution, noise, climate change and depletion of energy resources. Indeed, transport today represents 28% of final energy consumption worldwide and 23% of CO₂ emissions from fuel combustion. Between 1990 and 2011, energy consumption and CO₂ emissions from transport have increased by more than 50% following, in particular, the development of road transport ⁽³⁾.

The benefits of rail transport in terms of air pollution, use of space, safety, energy efficiency and CO₂ emissions make it a true sustainable alternative ⁽⁴⁾ and a key player for the development of global sustainable transport systems.

Alstom designs and delivers comprehensive, efficient and sustainable railway systems for the benefit of all its stakeholders: rail operators, public authorities and passengers. By continuously improving the environmental performance of its solutions, Alstom also strives to reduce their lifecycle cost and reinforce their attractiveness.

(1) Source: UNFPA, United Nations Population Fund.

(2) Source: "Transport outlook – Seamless Transport for Greener Growth" – International Transport Forum – 2012.

(3) Source: IEA, 2013.

(4) Source: "High Speed Rail – Fast Track to Sustainable Mobility" – UIC.

Solutions for sustainable mobility

Smart transport systems should be fluid, efficient, eco-friendly, safe, connected and accessible. Alstom develops rail transport solutions which meet the social and environmental challenges of mobility.

Efficiency at the heart of the city

Throughout the world, tramway networks are an attractive solution for cities seeking a new mode of sustainable transport. They offer high capacity with long-term reliability and the potential for significant growth in order to accommodate future developments.

In the past 15 years, over 1,900 trams of the CITADIS™ product range have been sold throughout the world. With more than 6 billion passengers carried, it is estimated that the CITADIS™ range has allowed more than 5 million tonnes of CO₂ emissions to be avoided up until now. All the tramsets provide a maximum level of comfort and fluidity, and guarantee easy access. With their customised livery and interior layouts, ground level power supply and vegetal cover on the tracks, these tramways are fully integrated into their surroundings.

Taking into account new customer demands and analysis of the passenger experience, Alstom has developed the CITADIS™ X05: improving passenger flow and accessibility, optimising the tram weight and improving the traction system efficiency with the use of permanent magnet motors as well as energy management to lower energy consumption and reduce lifecycle costs.

Alstom is the only manufacturer with a complete range of catenary-less power-supply solutions for tramways that can meet the needs of all its customers. Features include a ground power-supply system (APS), the only service-proven technology eliminating the need for an overhead wire over an unlimited distance; as well as on-board batteries or super-capacitors for autonomous operation over short distances. For example, in Rio de Janeiro (Brazil) for the Porto Maravilha project, the chosen solution combines APS and on-board super-capacitors to cover areas without an electricity supply.

Metros provide efficient solutions for high-capacity urban transport, with minimum space use and low environmental impact. Thanks to minimum local air emissions, metro networks actively contribute to improving air quality in city centres. Through turnkey projects involving its METROPOLIS™ range of trains and URBALIS™ signalling solutions, Alstom offers transport systems for reliable, seamless mobility and optimised ownership costs.

The METROPOLIS™ range of products was designed to propose a large choice of configurations and options, to provide solutions for all transport capacity needs, enhance passenger experience and security, and optimise energy consumption.

URBALIS™ signalling solutions provide automatic control of train movement and safer traffic management. They also enable transport operators to increase network capacity by operating more trains on the same infrastructure, which optimises environmental impacts. URBALIS™ Fluence, the most recent development in the range, has even more integrated on-board intelligence, leading to a 20% reduction in equipment and up to 30% overall energy savings thanks to optimised operations. URBALIS™ Fluence is currently being implemented in the project to renew the French city of Lille's driverless Line 1 metro.

Alstom will supply the latest-generation of rubber-tyred metros to equip the Paris network – MP 14. This has been designed to improve passenger experience, maximise operational efficiency and reduce environmental footprint. It offers an unprecedented level of comfort thanks to new ergonomic seating, LED lighting, on-board information, and on-board video cameras for increased security. It combines low energy consumption and ease of maintenance to optimise the efficiency over the lifecycle. Its 100% electric braking system recovers energy and reinjects it into the network in the form of electricity, thus avoiding the emission of fine particles from brake pads. This system contributes to the reduction of air pollution as well as the metro's energy consumption by up to 20%.

Alstom has also developed AXONIS™, a new light metro system which is economical, quick to build and fits smoothly into the cityscape. This system is particularly designed for cities with high population density and rapid expansion. It is a unique fully integrated metro solution that combines Alstom's most efficient metro sub-systems standardised and optimised together: the METROPOLIS™ range of rolling stock, URBALIS™ signalling, HESOP™ energy recovery system as well as infrastructure built on viaduct sections made from precast modules for swift construction and sections at street level or possibly in tunnels.

Additionally, the APPITRACK™ automated track laying technology makes it possible to install tracks four times faster than with traditional methods, and ensures efficient installation while reducing works-related disturbances.

Aware that energy can represent up to 20% of their total operating costs, operators are paying increasing attention to the energy efficiency of the systems they purchase. HESOP™, the advanced reversible power-supply substation developed by Alstom for urban and suburban rail networks, allows significant savings on operation to be achieved. Indeed it enables almost all electrical energy recoverable from trains equipped with regenerative braking systems to be fed back into the grid. HESOP™ optimises infrastructure as it includes the possibility to reduce the total number of substations needed for a line by up to 20%. HESOP™ also allows reducing heat release from underground operations and associated needs for ventilation systems. To date, more than 100 HESOP™ converters have been delivered or ordered, such as for the Paris T1 Tramway (France, 1 in revenue service since July 2011), London Underground (UK), Milan-Desio-Seregno Tramway (Italy), Riyadh Metro (Saudi Arabia) and Sydney Tramway (Australia).

Suburban and regional transport for day-to-day travel

For the long daily journeys within expanding suburban areas, Alstom offers comfortable and reliable high-capacity public transport solutions. Its suburban trains (X'TRAPOLIS™) and tram-trains (CITADIS™ Dualis and CITADIS Spirit™), in service on urban networks and main lines, form an essential link in the intermodal system.

Regional trains also provide daily commuting services between new urban areas. They connect territories and contribute to their economic growth. The needs they fulfil are as diverse as the areas they serve: high capacity and service frequency, high-speed travel for longer distances, modularity, extreme weather conditions, etc. With its CORADIA™ range, Alstom offers a variety of technical configurations to meet all these needs.

The Regiolis version of the CORADIA™ Polyvalent platform has a high-performance environmental profile: good energy efficiency via an adjustable ventilation system to optimise air flows outside peak hours, optimised sleep modes, a specific approach to favour the use of clean, recyclable materials and good performance in terms of external noise emissions.

The new CORADIA™ Lint, for the Cologne diesel network in Germany, launched in 2014, is fitted with diesel engines that have catalytic converters to treat exhaust gases in order to comply with stage IIIB European regulations for non-road diesel engines. Its architecture allows one engine to be switched off when full power is not needed, thus achieving up to 10% fuel savings. The same train is also operating on the *Dieselnetz Südwest* network in Germany.

In 2014, Alstom also signed Letters of Intent with German *Länder* of Lower Saxony, North Rhine-Westphalia, Baden-Württemberg, and the Public Transportation Authorities of Hesse, for the use of a new generation of emission-free trains equipped with fuel cell drives. The new train will be based on the CORADIA™ regional train. It will be completely emission-free and its noise level will be drastically reduced, compared with the diesel version. Furthermore, through the use of energy storage, as well as an intelligent energy management system, the new train will consume less energy, compared with a conventional diesel multiple unit. Two prototypes will be tested in 2018.

High-speed rail linking regions

Contributing to making rail competitive compared with air and road transport is one of Alstom's strategic priorities as it strives to provide the most attractive and efficient solutions.

Alstom has sold more than 720 very high-speed trains (300 km/h) and more than 500 high speed trains (220-250 km/h), which gives it unrivalled experience in this market. The three products in its current range draw on the best of this expertise:

- The EURODUPLEX™ is the only double-decker very high-speed train in the world. Using 6% less energy than its main competitors, it can carry between 20 and 40% more passengers in high comfort. So on top of its outstanding energy efficiency, it allows operators to offer lower ticket prices and attract more passengers from less sustainable transport modes.
- The AGV™ combines articulated architecture with distributed power. Its global energy consumption is around 20% lower than that of competitors' trains thanks to its articulated design, low weight, reduced aerodynamic drag and high efficiency traction. Environmental efficiency was fully integrated into the train's design, from the low noise emission to the minimised use of friction disks, even on emergency braking, which reduces particle emissions.
- The PENDOLINO™ is a versatile train that allows higher speeds in all the configurations that can be found between the regional railways and the very high-speed systems. When passenger traffic or other reasons do not justify the construction of a very high-speed line, this train offers the best way to cut travel times while optimising use of existing infrastructure. The tilting system prevents the speed reduction and acceleration of conventional trains in curves, so as well as reducing travel time, less braking and accelerating is needed – resulting in better

energy efficiency and less friction particle emissions.

In this market segment, attracting passengers is key. Alstom focuses its efforts in providing a remarkable level of comfort, with flexible interiors that can be adapted to each operator's needs: spacious interior compartments and wide aisles, large window surfaces, lower levels of interior noise and multimedia amenities. Alstom's expertise in ergonomics, dynamics, acoustics or aerodynamics, combined with its in-house Design & Styling division, contribute to create the best passenger experience for the millions of passengers who use Alstom high-speed trains.

A hybrid locomotive to reduce air emissions

Alstom has designed the H3 hybrid shunting locomotive, combining the use of a diesel generator, electric traction and batteries. This technology reduces fuel consumption by up to 50% compared to conventional solutions and facilitates indoor operations by limiting emissions and reducing noise. Contracts with Volkswagen and Deutsche Bahn Regio Bayern in Germany are currently ongoing for the delivery of three and five hybrid locomotives, respectively. The first locomotive was shown at Innotrans 2014 in Berlin and an additional contract was received in 2014 from Audi for two units.

Designing sustainable railway systems

For its products and services, Alstom consistently promotes a lifecycle approach maximising environmental and economic benefits over time.

Eco-design for products and services

The priorities set in Alstom's eco-design policy focus on:

- energy efficiency of rail transport systems;
- reduction of noise and vibrations;
- use of clean, recyclable, and natural materials;
- reduction of air emissions;
- end-of-life management of products, particularly in maintenance activities.

This policy is deployed in design processes which ensure compliance throughout project execution, supported by a network of more than 60 experts (eco-designers, acoustics experts, materials experts, energy engineers, etc.).

2014 saw the first implementation of environmental performance dashboards to record baseline performance of solutions and track progress versus targets. These dashboards are progressively deployed for urban trains and will be extended in the future to main lines and infrastructure products.

Lifecycle assessments are conducted to support technical choices in many projects, such as new metros or tram-trains and the Regiolis version of the CORADIA™ Polyvalent platform designed for French regions. Environmental Product Declarations provide customers with an in-depth picture of environmental impacts throughout the lifecycle. Alstom is currently preparing the Environmental Product Declaration for a metro solution for Montreal in Canada.

In 2014, extensive efforts were made to rationalise and optimise practices in terms of lifecycle assessments across the platforms, which will help deploy lifecycle assessments in a more efficient and systematic way in the future. A common method to deploy environmental analysis for products and identify significant aspects was also issued.

As for signalling equipment, the IMPN safety box, which allows safe stops of traction in case of anomalies (such as a wrong direction), is the first to have benefited from a full eco-design process. Its environmental performance has been improved globally by 30% and it uses 56% less natural resources over the lifecycle. It is also 30% lighter than previous generations. The environmental performance of this equipment was published in accordance with ISO 14025.

Improving energy efficiency

Alstom makes constant efforts to reduce the energy consumption of its trains and systems. The trains designed today consume up to 20% less than previous generations thanks to:

- weight reduction through composite materials and re-design of parts;
- reduced aerodynamic drag;
- more efficient traction systems, either electric or diesel (permanent magnet motors, optimised power packs control system, new traction chains, efficient traction auxiliaries);
- energy-efficient comfort auxiliaries (lighting, heating and air conditioning);
- enhanced electrical braking including electrical braking until standstill;
- efficient energy storage solutions;
- optimised sleep modes.

To reduce the energy consumption of existing systems, Alstom has developed a complete range of services for energy efficiency which includes energy mapping, optimisation solutions, implementation of eco-driving tools, as well as energy storage. The energy mapping offering allows the main usages of energy to be monitored in order to identify gaps and propose enhancements. Implementation of a driver advisory system (DAS) addresses head-on the reduction of energy consumption and maintenance costs while improving punctuality and safety. The retrofit services target energy performance in main energy-consuming components like traction, heating and ventilation or to recover energy from braking.

In 2014, Alstom was awarded a contract by *STC (Sistema de Transporte Colectivo)* which manages public transport in Mexico to renovate 85 subway trains. Previous metro modernisation services contract in Mexico (MP82) has demonstrated up to 35% reduction in energy consumption.

In order to address the energy efficiency of global railway systems, Alstom is also working in partnership with major organisations to introduce smartgrid elements in railway systems through projects such as:

- IN2RAIL, targeting smart metering of rail systems;
- Osiris, to develop energy hub solutions for urban transport (with RATP);

- Merlin, to develop energy efficient traffic management and a new generation of substations for high-speed lines (with SNCF).

Noise reduction

Noise is a key concern, crucial to the acceptance of railway projects and fundamental for passenger comfort. Simulation tools have been developed by Alstom for railway systems to define optimised solutions by integrating the most recent innovations such as:

- redesigned HVAC (resonators, micro-perforated ducts) for reduced interior noise;
- redesigned traction motor rotors (regional trains, metros);
- reduced electro-magnetic noise during acceleration phases;
- optimised doors;
- optimised ventilation: natural or switched off during stops;
- development of quiet power packs;
- high attenuation sleepers to mitigate vibrations from the tracks, which deliver an equivalent performance to floating slab track systems at a lower cost.

On average, new trains are now 3-5 dB more silent than previous generations.

Use of clean, recyclable materials

Alstom is proactive in its design choices to favour recyclable materials. A consequence of the latest eco-design developments is that, on average, trains are now 92% recyclable and 97% recoverable (including energy recovery).

Actions are taken to reduce the quantity of consumables needed in the maintenance process and to extend the lifetime of parts. For example, on new bogies proposed for the CITADIS™ X05, the wheel lifetime has been extended by up to 30% versus the previous generation.

The design process also makes it possible to reduce risks and prepare for the end of the product lifecycle by:

- favouring water-soluble paints and biodegradable oils for most rolling stock;
- favouring riveting and bolting when assembling parts to facilitate recycling;
- providing customers with safety information and decommissioning instructions for materials;
- tracking and substituting hazardous substances falling under the European Regulation for Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH ⁽¹⁾).

Over the past four years, the approach towards substances, managed in collaboration with the whole supply chain, has allowed the detection and resolution of many cases of use of substances listed in Annex XIV or candidates under REACH regulation. For more detailed information, please refer to Section Environmental Performance/Management of controversial substances.

(1) European Regulation No. 1907/2006 of the European Parliament and Council, dated 18 December 2006, for Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Product safety fully integrated in design

Product safety is also a real concern for the railway industry and a major driver for Alstom's business. The performance of Alstom products in this field is well recognised.

Alstom Transport's Quality and Safety policy was updated in April 2014. For the implementation of this policy, a railway safety procedure is in place and defines three needs as follows:

- ensure that safety is implemented & demonstrated in the systems/products delivered to customers;
- maintain safety during the operation and maintenance phase with adequate safety management of maintenance activities when performed by Alstom;
- report and manage any potential safety issues occurring in revenue service.

Railway safety processes defined at Alstom level are complemented by railway safety deployment instructions for signalling activities, trains platforms, services, infrastructure platforms and systems.

In addition, Alstom Transport's Management and Quality Manuals define clear responsibilities in terms of product liability and safety authorisation. These processes and governance apply to all Sector's regions and sites.

To reinforce the railway safety culture within Alstom Transport, a campaign of training at different levels is deployed, targeting all employees through different sessions.

Putting the passenger at the heart of innovation

Alstom believes that passenger comfort is the key element in changing behaviours in favour of sustainable mobility. That is why it puts the passenger at the heart of its innovation policy. Alstom's engineers design products which anticipate the needs of users tomorrow. They particularly take into account the increase in average height of passengers and the ageing of the population.

The new Alstom products offer large windows and wide aisles and guaranteed accessibility for all. Alstom is committed to facilitating access and on-board movement, to adapting ergonomics, notably via touch-sensitive and visual push-buttons, and to improving passenger information systems through real-time maps as well as visual and auditory signals.

CITADIS™ X05 for Sydney will offer high-end comfort, including double-doors for improved access and passenger flows, large balcony style windows, multi-purpose areas and ambient LED lighting. It also offers the highest levels of customer safety including constant CCTV (closed circuit television) monitoring, emergency intercoms and the latest way-finding aids for real time passenger information.

Operating since April 2014 on the French network, the Regiolis version of the CORADIA™ Polyvalent platform is the first train to meet the new European standard on accessibility for people with reduced mobility (*STI PMR*). The version for Lorraine Region has even been equipped with a

specific system to help visually impaired passengers better identify doors.

The new PENDOLINO™ for the Polish operator, PKP Intercity, offers also specific adaptations, such as information in Braille to identify seats, while the new MP14 metro for the Paris network, will be equipped with inductive loops for the hard of hearing.

These innovations, combined with the elimination of controversial substances (see dedicated paragraph in the Environmental section), are in favour of the safety and comfort of passengers, which are the end-users of Alstom products.

As for other businesses of the Group, relationships with other stakeholders (such as customers, suppliers, external bodies) and local communities are part of Alstom Transport's sustainable development activities. For more information, please refer to information provided in the section "Relationships with external stakeholders".

Solutions from the energy businesses (discontinued operations)

Alstom Power

Challenges in the power generation industry

World population is projected to grow by 0.9% per year on average, from an estimated 7.1 billion in 2013 to 9 billion in 2050 ⁽¹⁾.

As a consequence:

- demand for electricity, as a key enabler for economic and societal developments is increasing along a similar trend;
- intermittent renewable energy will account for almost one-third of total electricity output;
- non renewable energy sources will continue to contribute to climate change by combustion process releasing CO₂ and other pollutants to air and to water;
- high inequalities in the world are leading to heterogeneous electricity distribution. It is estimated that today, 1.2 billion people do not yet have access to electricity ⁽²⁾.

(1) Source: UNFPA, United Nations Population Fund.

(2) Source: "Achieving Universal Energy Access" – United Nations Foundation (unfoundation.org).

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 being a socially responsible organisation; Alstom Thermal Power and Alstom Renewable Power are both applying this commitment to integrate sustainable development in the energy markets and countries they serve.

Alstom Power's approach to sustainable solutions

Alstom Power's Product Stewardship strategy

The Alstom Power has continued to deploy their "Clean Power, Clear Solutions" product stewardship strategy, introduced in 2013. The ultimate objective of this strategy is to maximise customer value while contributing to enabling a sustainable growth path in power generation sector with Alstom's products and solutions by:

- **reducing cost of electricity generation**, to ensure assets' competitiveness;
- **lowering environmental footprint**, to lower the life-cycle impact while making 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.

Progress on developing and introducing new sustainable solutions

Since 2013, this strategy has been translated into a comprehensive product stewardship programme aiming at transforming all aspects of product development and management processes to offer a concrete portfolio of products with a measurable contribution to address the sustainability challenges and concerns of the industry. This year, Alstom managed to:

- Introduce the first set of procedures to adapt the business process management practices of both Alstom Thermal Power and Alstom Renewable Power to this strategy. This approach has been made clearly visible in all product promotion campaigns and communication tools both internally and externally. Further process management guidelines and tools are being currently developed to make a proactive and systematic management of the life-cycle impact of Alstom's solutions as integral part of future product development and management.
- Further increase the number of core products and solutions that have been assessed with the Life-Cycle Assessment (LCA) approach. Meanwhile, around 80% of core products in Hydro Business and two major product platforms in Wind Business (Onshore: ECO 100; Offshore: HALIADE™ 150) have been assessed with a full LCA. Further studies on existing and new solutions are being currently undertaken in Alstom Renewable Power. In Alstom Thermal Power, recent upgrades of the GT24/26 platform have been also assessed this year and a new approach for integrating the life-cycle environmental impact analysis into the design tools of new turbines (with turbine blades as a pilot) has been successfully developed and implemented.

Alongside with these efforts aiming at improving the transparency regarding used materials, managing and anticipating the associated risks and continuously improving the impacts of Alstom's future solutions, recent product introductions reflect already Alstom's past and continuous commitment to enabling sustainable development.

This year, Alstom Thermal Power achieved the synchronisation of the 1,000 MW Manjung coal-fired power plant in Perak to the Malaysian grid. The Manjung plant is the first coal-fired power plant in South East Asia built with Alstom Ultra Super Critical technology. With an improvement of 5 points in efficiency, it will reduce the cost of the electricity provided to nearly 2 million households in Malaysia. It will also cut the CO₂ emissions level of each MW produced by 12% and remove 90% of the SO_x emissions with a state-of-the-art Seawater Flue Gas Desulphurisation system. Finally the plant is also equipped with Alstom's TSF 2000® firing system capable of burning a wide range of coal, either Bituminous and sub-bituminous, thereby ensuring fuel supply flexibility and reliability. This new power plant is aligned with the country's energy diversification policy to create a more balanced portfolio of power generation sources that includes gas, coal and renewables, and demonstrates the ability of Alstom to market its advanced solutions in a very competitive market.

On the Alstom Renewable Power side, Alstom has recently broadened its Concentrated Solar Power (CSP) offering by developing a storage solution that will allow converting solar energy into electricity 24 hours a day. This innovation uses the intermediary of molten salts, which absorb heat from the sun rays collected in the solar receiver. The heat can be stored for several hours and used at a later point to produce the steam required to activate a steam turbine and produce electricity.

In December 2014, Alstom's 1 MW tidal stream turbine, installed and connected at the European Marine Energy Centre, has produced 1 GWh for the grid. On the strength of this success, Alstom has improved its tidal stream turbine design by introducing the Oceade™ 18-1.4 MW, which has been chosen along with GDF Suez by the French Government for the pilot farm at Raz Blanchard. The installation of four of these even more efficient, cost-effective and easy to maintain tidal stream turbines, as well as of the Alstom electrical subsea hub ⁽¹⁾, represents a decisive step towards setting up commercial operations in tidal energy.

(1) The electrical subsea hub is developed by Alstom in cooperation with GDF SUEZ as part of the PRISMER project, which won an earlier CEI organised by Ademe on Marine Energy technological bricks.

The Hydro business has had a number of important successes this year including completing the R&D and model testing of Alstom's largest diameter Kaplan runner ever for São Manoel (Brazil) and achieving the highest power ever for a Hooped Pelton Turbine for Grand'Maison (France). Alstom has delivered all five units of China's and Alstom's largest diameter bulb turbines for the Xiajiang project.

For wind On-Shore, the ECO 100 platform approach is to cover all wind conditions and reduce cost of energy by offering one product with three rotors diameters (100/110/122): the POWEROF3™. The 3 MW version is available for the three rotors diameters. The new 3 MW version of the ECO 122 produces 4-6% more energy than the previous ECO 122 version.

Alstom stands as a major player in offshore wind power with its HALIADE™150-6 MW, one of the world's largest offshore wind turbines. This new generation of 6 MW wind turbines incorporates ALSTOM PURE TORQUE®, a proven technology that guarantees the drive train reliability. Each HALIADE™ 150-6 MW unit produces enough electricity to supply about 5,000 households. Featuring innovation and technology, this direct drive offshore wind turbine is adapted to all types of offshore conditions and ensures power at competitive prices.

Further key initiatives have been started many years ago and have continued this year shaping Alstom's portfolio strategy on key sustainability challenges of customers. The following sections provide an update on the specific commitment and performance of Alstom Power on these challenges.

Quantifying the contribution of Alstom Power's solutions to mitigating Climate Change

As already mentioned, 2014 sees a growing acceptance among the public and private sectors that cutting greenhouse gas emissions is compatible with economic growth, as witnessed during the United Nations New York Climate Summit. In 2015, the world is looking toward an agreement at the Convention of Parties (COP) in Paris (in December 2015) that includes emission reduction contribution from all countries. The first round of targets will set the course for the important decade from 2020 to 2030 as the next 15 years of investment will determine the future of the world's climate system ⁽²⁾.

(2) Source: International Energy Agency, World Energy Outlook 2014 (IEA, WEO 2014) & The New Climate Economy Report of the Global Commission on the Economy and Climate (2014).

As a global provider of power generation technologies, Alstom strongly supports the implementation of effective CO₂ emission reduction paths. Since 2010, Alstom Power has continuously assessed the contribution of their portfolio to enabling CO₂ emission reduction for its customers ⁽³⁾. Based on the international standard "GHG Protocol", the Alstom assessment approach offers a unique worldwide database on Operating and Build Margin emission factors reflecting the yearly evolution of CO₂ emissions under a business-as-usual scenario at country level since 2002. The latest assessment (in 2014) covers relevant projects commissioned in 2013 and provides an overview of the achievements of the most recent 10 years (2004 to 2013).

(3) For more details on the Alstom Power's CO₂ emission reduction quantification approach, please refer to the Alstom registration documents 2012/13 & 2013/14, and to www.alstom.com.

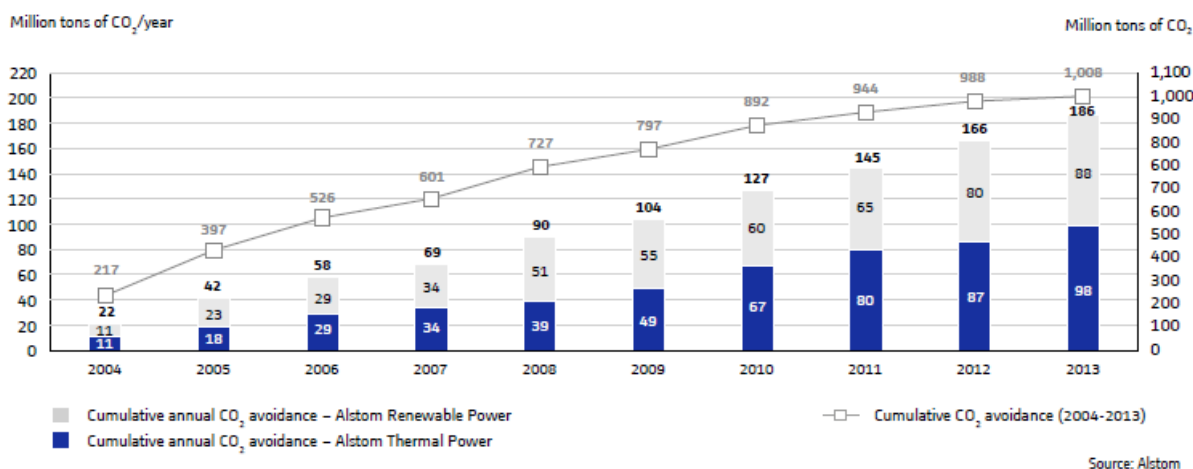
As for previous years, the results have been verified by PricewaterhouseCoopers Audit in accordance with the ISO 14064-3 standard. The corresponding "Reasonable Assessment Report" on 2013 projects, issued in March 2015, is available from Alstom Power.

For more than 1,500 new build and service projects completed, power plant owners were able to reduce a cumulative figure of 1.0 gigaton of CO₂ emissions over 2004-2013. Thanks to Alstom's progress on increasing the share of economically viable low and CO₂-free offerings and on improving the energy efficiency of thermal power solutions, this figure is equivalent to the Indian's power generation emissions in 2012 ⁽¹⁾. With each MWh of generated electricity, plant owners were able to reduce 104 kg of CO₂ ⁽²⁾ resulting into a yearly cumulative figure of over 186 million tons of CO₂ when considering all projects commissioned between 2004 and 2013. The study proves that all fuels and technologies of Alstom Power's portfolio can contribute to emission reduction. Only 6% of the projects accounted for (96 projects) are non-contributing and considered as business-as-usual.

(1) 1.04 gigatons according to IEA, WEO 2014.

(2) Estimated as electricity generation weighted average.

CUMULATIVE ANNUAL AND TOTAL CO₂ AVOIDANCE FOR THE GLOBAL POWER GENERATION SECTOR ACHIEVED WITH THE OPERATION OF THERMAL POWER & RENEWABLE POWER OFFERINGS COMMISSIONED BETWEEN 2004 AND 2013 (BASED ON FIRST YEAR OF OPERATION VALUES)



The accounted portfolio CO₂ emissions intensity⁽³⁾ is estimated at 389 kg per MWh for new equipment and at 492 kg per MWh for all projects. Compared to the global average emissions of power generation in 2003⁽⁴⁾, the Alstom enabled path is equivalent to a compound annual emission intensity reduction of 1.9%. This yearly reduction rate is higher than the one estimated by the IEA under the “New Policies Scenario” (1.5%) over 2013-2040⁽⁵⁾. A decrease in absolute emissions levels has been achieved in three regions (China, Russia and CIS, and Latin America), hosting more than 38% of the accounted Alstom added capacity. This reduction is equivalent to an average de-carbonisation rate of respectively 51 kg of CO₂ per MWh of electricity generated by the corresponding projects in Russia & CIS, 29 in China and six in Latin America.

(3) Estimated as electricity generation weighted average.

(4) Value for end of 2002 (586 kgCO₂/MWh) according to IEA, WEO 2004 adopted.

(5) This compound annual emission intensity reduction is estimated based on data provided by IEA WEO 2014 where the emission intensity of global generation drops from 583 kg/MWh in 2012 to 384 kg/MWh in 2040 under the “New Policies Scenario”.

Demonstrating Alstom engagement on the water-energy nexus

Globally, around 90% of today’s power generation is water intensive. In many regions, water is already a risk factor for a secure power supply. As the demand for power and for water is growing, the relevance of water as a critical and strategic factor in power generation will further result from the regional and site specific impacts of climate change such as increasing air and water temperature, extreme weather, rising sea level and more recurring and longer droughts.

The Alstom Power’s offering strategy is incorporating this challenge while pursuing a balanced and integrated approach on the trade-offs between the water dependency and use and further key aspects of environmental (e.g. climate change mitigation, resources efficiency...), social and economic needs (e.g. affordability and security of supply) of a sustainable power supply. Three main categories of economically viable and socially responsible solutions are proposed for this challenge:

- **reducing water dependency and adapting to changes in water availability:** with a diversified portfolio of power generation technologies reducing the need for and the impact of water withdrawal from external sources. The Alstom Power’s portfolio also enables it to deal with long-term climate change impact uncertainty and seasonal changes in water availability;
- **enhancing water use efficiency:** with solutions to reduce the net consumption rate of high-quality water during plant operations;
- **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.

While being at the forefront of technology development and integration, Alstom is actively engaged into the water-energy nexus debate at many levels. At the 2014 World Water Week in Stockholm, Sweden, Alstom collaborated with the World Bank and the Rockefeller foundation to organise a workshop titled “Valuation, Economics and Finance” focusing on the economics and financial implications of water dependency and use in the energy sector. At this event, Alstom presented the results of a global study on the impact of water economics on investment decisions in new thermal power projects. Furthermore Alstom called for the development of a “Sustainability Protocol” for thermal power plants in the style of the “Hydropower Sustainability Assessment Protocol”⁽⁴⁾ (introduced by the International Hydro Association in 2010⁽²⁾) as a key, project-based tool for an integrated view on the main sustainability aspects along the full cycle of a power project planning and development.

Curtailling air pollution from fossil-fuel use: a measurable and remarkable impact of Alstom solutions

Damage to air quality through air pollutants impacts human health, environment and the whole economic system. Fossil-fuel based power generation, and particularly fuel combustion in boilers is a major source of air pollutants. In view of the projected continuous dominance of fossil fuels in the global energy mix through 2040⁽³⁾, the power generation sector has a major role to play in controlling air pollution.

With over 80 years of experience, Alstom is the market leading supplier of Air Quality Control Systems (AQCS) for fossil-fuel based power generation. A new, credible and third party verifiable quantification approach on the contribution to these solutions to mitigating air pollution has been introduced in 2013. In 2014, the contribution from the operation of AQCS projects completed in 2013 for new and existing steam power plants to removing and to reducing⁽⁴⁾ NO_x and SO₂ emissions⁽⁵⁾ is addressed and included into an assessment covering the last ten years (2004-2013) of start of commercial operations⁽⁶⁾.

- (1) For more information on the protocol, please refer to www.hydrosustainability.org.
- (2) The Alstom Hydro business is supporting the promotion and deployment of this protocol through its commitments to the Hydro Equipment Association (HEA).
- (3) According to the "New Policies Scenario" (IEA, WEO 2014), the share of fossil fuel based electricity generation is estimated at 55% for 2040. Coal would continue dominating this mix with a share of coal-based electricity generation estimated at 31%.
- (4) Air pollutants avoidance is estimated through quantifying and comparing the power plant emission rate to the emission rate without operating the equipment (estimated amount of air pollution removal) and to the emission rate of the corresponding electricity grid at the start of equipment commercial operation (estimated amount of air pollution reduction).
- (5) Four types of air pollutants are considered to be of notorious significance for air quality: Particulate Matter (PM), Sulphur Oxides (SO_x), Nitrogen Oxides (NO_x), and heavy metals represented by Mercury (Hg). At this stage, the quantification approach is focusing on NO_x and SO₂ emissions being, according to many studies, the most significant ones in terms of total damage costs.
- (6) For more details on this quantification approach, please refer to Alstom registration document 2013/14 and to www.alstom.com.
- (7) Alstom analysis based on NO_x emissions data from the European Pollutant Release and Transfer Register (2014).
- (8) Alstom analysis based on SO₂ emissions data from US Environmental Protection Agency (EPA) Air Market Program Data (2015).

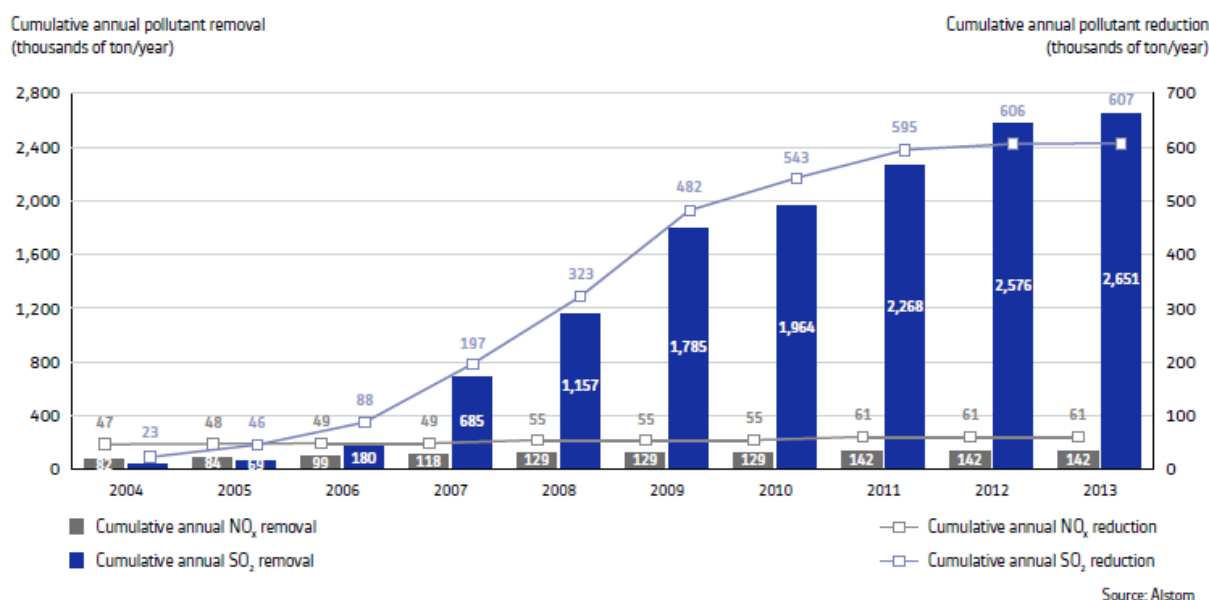
As for previous years, the results have been verified by PricewaterhouseCoopers Audit. The corresponding "Reasonable Assessment Report" on 2013 projects, issued in March 2015, is available from Alstom Thermal Power.

By the end of 2013, the equipment owners of 130 accounted projects were able to remove a cumulative amount of 142,000 tons of NO_x (almost equivalent to the total yearly electricity generation emissions from the United Kingdom in 2012⁽⁷⁾) and 2.65 million tons of SO₂ per year (corresponding to 83% of the USA power generation emissions in 2013⁽⁸⁾), all this thanks to the high removal efficiency rates up to 90% on NO_x and 99.5% on SO₂.

The impact on emission reductions is estimated for the top three regions (USA, Europe and China) in terms of the total accounted Alstom capacity over 2004-2013, covering 100% of the total installed capacity for NO_x and more than 85% for SO₂. Compared to the emission rates of their respective electricity grids, Alstom-equipped power plants were able to reduce 0.9 kg of NO_x and 2.9 kg of SO₂ per MWh of generated electricity. The resulting yearly cumulated NO_x reduction is estimated at 61,000 tons, as much as the emissions of all industrial sectors in Norway in 2012⁽¹⁾. At the same time, 82 projects contributed reducing 607,000 tons of SO₂ yearly in 2013: around 82% of the 2012 emissions of the top three largest emitters among the power producers in the USA⁽²⁾.

- (1) Alstom analysis based on NO_x emissions data from the European Pollutant Release and Transfer Register (2014).
- (2) Alstom analysis based on SO₂ emissions data from the study "Benchmarking Air Emissions of the 100 Largest Electric Power Producers in the United States" (2014).

CUMULATIVE ANNUAL NO_x/SO₂ REMOVAL AND REDUCTION ACHIEVED FROM THE OPERATION OF AIR QUALITY CONTROL SYSTEM OFFERINGS COMMISSIONED BETWEEN 2004 AND 2013 (BASED ON FIRST YEAR OF OPERATION VALUES)



Note:

- cumulative annual removal: quantity of air pollutant removed thanks to AQCS equipment;
- cumulative annual reduction: reduction in air pollutant emission compared to the emission rate of the corresponding electricity grid.

As for other businesses of the Group, relationships with other stakeholders (such as customers, suppliers, external bodies) and local communities are part of Alstom Power's sustainable development activities. For more information, please refer to information provided in the section "Relationships with external stakeholders".

Alstom Grid

Challenges in the grid industry

With the rapid growth in the world's population and technology penetrating every part of the globe, producing and transmitting greater quantities of electricity is today recognised as a critical challenge to be met to drive global economic development. Global demand for electricity is expected to reach 17,400 Mtoes (millions of tonnes of oil equivalent) in 2035, a 33% increase over current use rates. In order to meet this demand, global generating capacity is expected to increase by 75%, with intermittent renewable energies representing 19.5% of global electricity generation⁽¹⁾. The traditional grid is already being stretched to its maximum capacity. Therefore, to successfully rise to the energy-transition challenge, the current electricity transmission and distribution models need to be transformed. To manage these increasing demands for energy – and the increasing complexity that goes with them – the world needs an electric grid that integrates more automation, information and communication technologies. Alstom Grid's products and solutions are designed to meet these energy challenges:

(1) Source: International Energy Agency 2014.

- **Energy efficiency:** transporting an increasing volume of electricity in the power grid. To deliver more power to end-users, grid operators need to connect new power sources such as distributed wind turbines or solar panels, optimise existing power transmission infrastructures and manage closely the supply and demand of electricity.
- **Grid reliability and stability:** preventing the risk of blackouts. Today's power grids are strained due to consumption growth and are becoming more vulnerable to power shutdown, peaks and blackouts. Additionally, the growing complexity of the traditional grid networks (number of consumers, variations in the electricity consumption, intermittent energy resources connected...) means that they are becoming increasingly difficult to manage.
- **Integration of intermittent renewable energies** (wind and solar farms): increasing clean energy circulating in the grid and decreasing the carbon footprint. Beyond the financial challenges, the difficulty lies in multiplying the amount of clean energy sources while reducing the grid's environmental impact.
- **Increasing concern in the electrical industry about the use of SF₆** for electrical equipment isolation due to its significant global warming properties. However, the use of SF₆ is essential to the high voltage grid due to its particular dielectric, breaking and insulation characteristics. Gas-insulated substations (GIS) that use SF₆ 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 electrical grid).

Sustainable solutions and services

Alstom Grid's environmental-friendly solutions facilitate the integration of renewable energies into the grid, boosting energy efficiency and contribute to the reduction of CO₂ emissions.

The Smart Grid

The world's power grid infrastructures are evolving to adapt to afore-mentioned challenges: rising energy demands, a need to integrate intermittent renewable energy sources and increasing regional grid interconnections. Furthermore, energy markets are increasingly deregulated and consumers are becoming more proactive in managing their own electricity use. Smart Grids address these challenges and market evolutions, offering improved network efficiency, capacity and stability, which in turn facilitate the development of a cleaner, more sustainable and cost-efficient energy supply.

Alstom Grid is at the forefront of this transformation with a portfolio of key Smart Grid technologies including smart control rooms, smart power electronics and digital substation solutions. These systems, installed with major operators worldwide, are capable of tracking electricity supply and demand in real-time and optimally dispatching power, reducing CO₂ emissions associated with unnecessary energy generation. Moreover, Smart Grids enable utilities to control the exact operating conditions of their assets in real time. By evaluating the actual physical condition as compared to the asset's design values, online monitoring and asset management solutions help companies operate their assets closer maximum capacity and optimise maintenance decisions, allowing greater flexibility and postponement of certain upgrade investments.

Countries where new urban planning and redevelopment are being done recognise that energy management is critical. Incorporating distributed renewable energy resources within existing electrical grids can only be accomplished by developing new governance schemes, accepting and implementing new technologies while raising public awareness. For Alstom Grid, this is more than just a proof-of-concept. Alstom Grid is very active in global and local smart grid and smart city green demonstration projects under implementation worldwide. The latest achievements include:

- **e-Storage** (France): the project aims at developing cost-effective solutions for the widespread deployment of flexible, reliable, GWh-scale energy storage across the European Union and to enhance grid management systems to allow the integration of a large share of renewable energies. Alstom Grid and EDF test the integration of hydro pump energy storage into the management of the power grid at two levels: through a Smart Dispatch solution for the electricity flows, and through a Market Management System for commercial transactions;
- **réflexE** (France): Alstom Grid and its partner Veolia built a Virtual Power Plant (distributed renewable energy generation and demand side management) combined with solutions in aggregation and decision-making software for distributed energy resource management that also include energy storage;
- **eco2Charge** (France): This project aims to boost the development of electric vehicles (EV) by accelerating the deployment of EV charging infrastructures in buildings, campuses and eco-districts. The project is implemented with the support of the "Vehicle of the Future" programme.

The Supergrid

Another sustainable grid solution is the development of the Supergrid, a high-efficiency power grid which interconnects national energy networks across regions and continents. These energy-efficient highways can transmit bulk power over long distances and integrate large amounts of renewable energy sources. This is an important transformation as long-distance connections are the best way to connect remote energy production sites to dense urban centres; it is also the best way to integrate offshore wind farms far from the coast.

The interconnections between national grids allow utilities to export energy to neighbouring markets, reduce the costs of energy production and

transmission, and improve grid stability.

Supergrid solutions offer various environmental benefits:

- integration of distant large-scale renewable energy sources (hydro, wind or solar) via High Voltage Direct Current (HVDC) which transmits electricity with only 3% energy loss compared to 6% for the traditional Alternative Current (AC);
- power generation installed capacity reduction due to shared reserves between interconnected regions.

In 2014, Alstom was awarded the Labrador Island Transmission Link project in Canada, which will create a robust transmission highway of clean, renewable energy, meeting the demand of homes and businesses across Newfoundland and Labrador. Alstom Grid will use high voltage direct current (HVDC) to transmit energy across 1,100 km from Muskrat Falls, an 824-megawatt renewable hydroelectric generating facility in Labrador, to Soldiers Pond, Newfoundland.

Integration of wind and solar energy

Integrating increasing renewable energy sources into the grid is a priority for many countries, including the European Union and China. Alstom Grid has become one of many utilities' preferred partners in this field, with solutions for renewable energy integration including smart control room expertise and Direct Current (DC) connections.

Alstom provides intelligent software solutions, *i.e.* network management systems to manage intermittent electricity flows, transmission and distribution levels. The Renewable Desk (for transmission networks) and the Distributed Energy Resources Management System (DERMS), for instance, monitor in real-time and integrate both wind and solar- energy sources with the base load – that is, the amount of power needed to meet minimum customer demands. These intelligent systems pave the way for renewable fleet management network protection and control. Smart online stability solutions help to avoid perturbations while integrating the renewable power flow into the grid.

Alstom also offers a range of power transmission solutions for wind farms compliant with feasibility studies, power connection design and power compensation solutions. Floating offshore electrical substations are provided to bring the grid closer to offshore wind turbines. Alstom's first offshore substations were installed in the UK, and subsequently in the North and Baltic Seas off the German and Danish coasts. For the efficient transmission of offshore wind energy to the onshore grid, Alstom Grid has developed HVDC MaxSine™ – a Voltage Source Converter (VSC) ideal for offshore wind integration due to its small footprint and ability to carry power efficiently across distances greater than 50 km. Alstom will use this technology for the Dolwinj project in the north of Germany to connect 900 MW offshore windfarms located 80 km from the on-shore sub-station.

Green Services

Alstom offers innovative and high quality service to optimise electrical infrastructure, heighten equipment return-on-investment and prolong asset service life.

Service solutions provide lifetime support on selected power equipment or on entire networks, from inspections and tests to minor or major maintenance and repair 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 is able to keep pace with environmental standards and operates efficiently with less waste. Alstom offers a wide range of consulting solutions to proactively ensure better, more energy-efficient performance.

Alstom also offers green services to help customers reduce their environmental footprint throughout their equipment ownership, including SF₆ management (handling training and certification, top-up, quality check, recycling, leak detection and repair, and mobile decontamination workshop), and equipment decommissioning, refurbishing and recycling. Cost-efficient, these services, offered through Alstom's experts and experienced field technicians, help customers comply with environmental regulations, reduce SF₆ emissions, pollution and industrial waste, and improve their safety conditions.

Sustainable products and production methods

SF₆-free alternative for high voltage applications

Alstom is the first in the world to launch a clean alternative to SF₆, a gas commonly used in high-voltage equipment. The revolutionary SF₆-free solution, g³ – green gas for grid – was jointly developed with 3M™, a leader in environmentally sustainable solutions. g³ has 98 percent less impact on global warming than SF₆. With performances comparable to SF₆, it is a suitable technology for the development of tomorrow's new generation of clean high- and ultra-high voltage gas and air insulated equipment.

Environmental-friendly product design and life cycle assessment

Eco-design takes into account sustainability to minimise environmental impact at every stage of a product's lifecycle. Alstom Grid'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. Alstom Grid provides eco-design training for all its product designers.

Eco-design uses the life-cycle assessment (LCA) approach to evaluate the environmental impacts of a product at every stage of its life cycle: raw materials, manufacturing (the reduction of natural resources in the components), product operations (lower CO₂ emissions, limits on environmental risks, greater energy efficiency, etc.) and end of life (product recycling capabilities). The LCA allows Alstom Grid R&D to precisely identify the processes and phases with the greatest environmental impact, and highlight priority areas for design improvement. Using the LCA methodology, Alstom Grid has improved the environmental impact of an increasing number of its products resulting in the creation of product environmental profiles.

As an example, the S3C 245 kV disconnecter (manufactured at the Company's Centre of Excellence in Noventa di Piave, Italy) was redesigned with special focus given to material weight reduction. The LCA was carried out by the DSC unit, in collaboration with the Technology Research Centre in Villeurbanne, France – respecting the same criteria as those for earlier models – to demonstrate the environmental benefits of the new generation. Each phase of the product's lifecycle was modelled from manufacturing (including material extraction) to transportation, use and end-of-life. Using SimaPro software and the Ecolnvent database, and employing the ReCiPe method of calculation. A total of 18 environmental indicators were studied. When focused on materials phase impacts, LCA clearly demonstrates the environmental benefits of the new design. An average decrease of 21% on all environmental impacts was recorded, mainly thanks to a reduction of copper, steel and aluminium. Specifically, the LCA reveals a 35% decrease on the metal depletion indicator. Moreover, with a 3% reduction in Joule losses over the whole use phase, the new generation S3C allows utilities to cut the total environmental impact of the disconnecters by 6%, when calculated on its full life cycle.

As for other businesses of the Group, relationships with other stakeholders (such as customers, suppliers, external bodies) and local communities are part of Alstom Grid's sustainable development activities. For more information, please refer to information provided in the section "Relationships with external stakeholders".

FACING CLIMATE CHANGE

Climate change is one of the world's biggest risks of this century. Alstom wants to contribute to mitigate this risk from a business perspective and is, therefore, following the United Nations Framework Convention on Climate Change (UNFCCC) negotiation process closely through member organisation such as International Emission Trading Association (IETA) and Union of European Railway Industries (UNIFE). Alstom considers this its duty for society, employees as well as customers. By advising governments on technology innovation and policy recommendation, the Group takes serious steps in supporting a low-carbon future. Alstom supports its customers to mitigate the risk of new climate policies through its product innovations. Alstom will also participate in the UNFCCC's 21st Conference of the Parties (COP) in December 2015 in Paris (France) to discuss and profile its low-carbon technology. The transport and energy businesses will join a number of respective business organisations to deliver Alstom's climate change related messages as well as to support governments from a business perspective.

Risks

For several years, a yearly risk assessment review has been performed, as part of the annual budget and three-year plan process, which objective is to identify, analyse and anticipate the significant risks of the Group.

In order to address the climate change challenge, Alstom implemented in fiscal year 2013/14 a "Climate change risk" indicator. Climate change risk is being assessed to evaluate the exposure of Alstom's manufacturing activities, sites and buildings to extreme weather conditions such as tropical cyclone, extra-tropical cyclone, hail storm, storm surge, flash flood and tsunamis. The evaluation method took into consideration facilities with over €50 million of property damage and business interruption insurance values in relation with geographical risk indexes and combined to probability ratio provided by insurance companies, in order to identify exposed facilities of the Group.

Following this risk evaluation, Alstom can take immediate action wherever necessary. The main example is the management of Alstom's industrial locations. For the selection of new sites or for major 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.

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, the increasingly visible climate change perspective will drive actions from governments and regulation bodies to limit the magnitude of this climate change by reducing greenhouse gas emissions. It is expected from Paris agreement to incorporate the emission reduction commitments being made at sub-national level. The countries' Intended Nationally Determined Contributions (INDCs) need to reflect the respective countries' efforts to reduce emissions. Furthermore, it is expected that finance would be a central part of the agreement. These outcomes recognising environmental and economic importance should increase the 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. Here are a number of significant examples on how Alstom addresses these business opportunities.

Alstom Transport

Alstom supports Low Carbon Rail Transport Challenge that was presented in September 2014 by the International Railway Association (UIC), representing 240 members on six continents. This initiative responds to the United Nations Secretary General's call to bring bold pledges to the Climate Summit.

The targets are to:

- reduce final energy consumption from train operations by 50% by 2030 and 60% by 2050, relative to a 1990 baseline;
- reduce average CO₂ emissions from train operations by 50% by 2030 and 75% by 2050, relative to a 1990 baseline;
- achieve a 50% increase of rail share of passenger transport (passenger/km) by 2030 and a 100% increase by 2050, relative to a 2010 baseline;
- reach a rail share of freight land transport (ton/km) equal with road by 2030 and 50% greater than road by 2050 ⁽¹⁾.

(1) Source: UIC.

The Dubai Tramway (United Arab Emirates), inaugurated last year, includes many Alstom's technological breakthroughs. It is the first tram in the world able to run in temperatures of up to 50°C and to withstand harsh climate conditions such as humidity and sandy atmosphere.

Alstom will contribute to the objectives not only by developing and delivering railway solutions which are ever more energy-efficient and attractive (such as high performance electrical, diesel and hybrid trains, smart railway systems and modernisation services), but also by building facilities which improve their own environmental practices. For example, Alstom has inaugurated a new production line for CITADIS™ trams at its Taubaté plant, State of São Paulo (Brazil). This new production facility – in which Alstom has invested about €15 million – will serve the Brazilian market and, in a near future, the Latin America region where a number of new tramway projects are emerging. The factory adopts state-of-the-art environmental practices with, for example, the use of rain water to test the leakage of the train.

Energy businesses (discontinued operations)

Alstom Renewable Power will significantly grow through higher demand for renewable energy, but the other energy sectors also have new solutions under development to address specific environmental concerns. This strategy has already been addressed exhaustively in the above sub-sections "Sustainable Development in Alstom solutions", as well as in Chapter 1 – Description of Activities -, but this presentation can be completed by a few examples:

First in Alstom Thermal Power, Alstom strives to:

- Continuously improve generation efficiency of thermal power solutions (reducing emissions per unit of electricity generation);
- Continuously improve the flexibility of traditional generation assets being essential to ensure an effective integration of renewable technologies to the grid. Alstom offers a broad range of both generation and control technologies for both new and existing plants to ensure that efficiency and flexibility is maximised;
- Carry out an intensive effort for developing and/or acquiring the best available Carbon Capture and Storage/Utilisation (CCS/U) technologies that will provide optimum efficiency as well as environmental and commercial benefits to power plant operators worldwide, now and in the future. Acknowledging that fossil fuels will continue to account for about 55% of the global power generation mix in 2040, Alstom is taking a leading role in this regard. Several Alstom demonstrators 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 CO₂ prices) increases. For example, located on land adjacent to the existing Drax Power Station, near Selby in North Yorkshire (UK), the 426 MW new build power plant will burn coal with the potential to co-fire sustainable biomass and meet the equivalent power needs of over 630,000 homes. Fully equipped with CCS technology from the outset, 90% of all the CO₂ produced by the plant will be captured and transported by pipeline for permanent off-shore storage deep beneath the North Sea seabed.

In Alstom Grid, Alstom is the first in the world to launch a clean alternative to SF₆, a gas commonly used in high-voltage equipment. The revolutionary SF₆-free solution, g³ (Green Gas for Grid) – was jointly developed with 3M™, a leader in environmentally sustainable solutions. For more information, please refer to the previous section related to sustainable development in Alstom solutions.

DEVELOPMENT IN EMERGING MARKETS

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, as well as 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. Here are a few examples of what Alstom has achieved.

Alstom Transport

Pushed by the increase of population and urbanisation, the market in emerging countries is growing. Major cities are rapidly expanding and this creates strong needs for efficient transport solutions.

In the last years, the Group accelerated its international footprint development notably in emerging countries by opening an engineering centre in Bangalore (India) in 2001 and a production site in Chennai (India). Alstom has also developed strategic partnerships with key actors for instance in:

- Russia: the local company Transmashholding (TMH);
- South Africa: several local companies within the joint-venture Gibela;
- Algeria: with the creation in 2011 of a joint-venture, Cital, for maintenance and assembly of trams.

In addition, Alstom plans to develop the presence of its commercial and industrial sites while adapting them to each of the regions.

Alstom Transport's organisation was reviewed in 2014. In order to guarantee close proximity to its customers, Alstom Transport is now divided into seven regions which cover the full value chain, from bid preparation, project execution, warranty implementation for trains, infra- and services activities in their regions. This new organisation brings large empowerment of the Regions, such as Asia/Pacific, Latin America and Middle East/Africa.

By reinforcing its local base, Alstom Transport's strategy will benefit from the growth potential in these local markets and take advantage of more competitive pricing. The establishment of new engineering centres outside Europe and the installation of new production sites will enable also the Company to significantly reduce both its engineering costs and its production costs while maintaining its level of excellence.

As already mentioned, Alstom inaugurated on 3 March 2015 a new manufacturing line to produce CITADIS™ trams in Taubaté, State of São Paul (Brazil). This new production facility will serve the Brazilian and Latin American markets, where a growing number of tramway projects are emerging. When fully operational, the site will employ around 150 people. 100% of employees hired and trained come from the Taubaté area.

Energy businesses (discontinued operations)

To stress the importance of Asia as the main global cluster of emerging economies, Alstom continues to strengthen its footprint in Asia, for instance in:

- India: a manufacturing site for steam turbines and generators in partnership with Bharat Forge is being built;
- Vietnam: Alstom and EVN are working on a joint workshop to provide a gas turbine reconditioning services locally to EVN customers and for export.

As far as Latin America is concerned, Alstom and the infrastructure group Andrade Gutierrez inaugurated in 2015 a new factory for the production of steel towers for wind turbines in Jacobina, State of Bahia (Brazil). The Torres Eólicas do Nordeste (TEN) unit is an industrial joint venture between the two companies. Jacobina unit is Alstom's third Wind unit in Latin America. The first one was opened in 2011, in Camaçari (Bahia) to manufacture nacelles, and the second one was opened in 2013, in Canoas (Rio Grande do Sul) to manufacture towers for Brazil's south market and neighbouring countries, such as Argentina, Chile and Uruguay. Alstom has also contributed for the development of the supply chain for nacelles, towers, hubs and blades, positioning itself as a major player in the country.

INNOVATION

Innovation strategy has been put as a priority by Alstom to reinforce its competitiveness and anticipate the future market trends.

To implement this strategy, a new department was created in 2012 at Alstom corporate to support Sectors, achieve Research and Development (R&D) synergies and make the Group more reactive with respect to market and customers' expectations.

The mission of the Innovation and future technologies department is threefold:

- coordinate and establish synergies across Sectors in the upstream part of the R&D and the innovation activities;
- stimulate open innovation with universities, research organisation, leading-edge industrial clusters and start-ups;
- identify early signals and strategic topics.

One of the most important challenges, *i.e.* achieving better coordination and synergies across the Group, is related to a comprehensive governance of innovation.

GOVERNANCE

The innovation governance at Group level relies on three pillars:

Top down "in-house" governance

The top-down "in-house" governance of innovation is conducted through an **Innovation steering committee** chaired by the Chief Innovation Officer, reporting directly to the Chairman and CEO, and gathering all the R&D and innovation top managers every three months. This steering committee addresses the on-going R&D programmes, enhances the sharing of best practices and information on potential partnerships with universities, research organisations and start-ups or small and medium enterprises (SMEs). It also screens the future opportunities for R&D cooperations both at national, European (Horizon 2020 framework) or international levels.

Among the most remarkable results achieved during the last fiscal year, a few significant examples can be highlighted:

- strategic discussions on a future roadmap with EDF R&D and the energy businesses of Alstom;
- identification of digital as key enabler for future energy and transport industries to anticipate the industrial 4.0 wave;
- identification of Systems of Systems paradigm as a new way to design, build and maintain infrastructures;
- establishment of joint laboratories with universities and research organisations.

External perspective

In Alstom's vision to stimulate open innovation, the Group hosts each year an **International Science and Technology Committee (ISTC)** composed of independent international experts originating from different horizons and chaired by Prof. Jean Jouzel, former Nobel Peace prize-winner. This Committee challenges and advises Alstom's innovation strategy and delivers relevant guidance recommendations to orientate the Group's future innovation programmes. This year, the ISTC validated the vision to focus the innovation strategy on Digital and Systems of Systems considering that this will constitute two major and essential enablers for future Energy and Transport businesses.

Bottom-up governance

The last pillar of the innovation governance system deals with a "bottom-up" approach. This is achieved through an **advanced cloud-based collaborative platform** dedicated to the scientific and innovation communities which allows the participants to discuss ideas and projects, and to exchange knowledge, experience and content. The exchanges in these communities are leveraged by an advanced "add-on" tool, using "big data" capabilities that pushes additional contents referring to the subjects addressed by the members.

LAUNCHED INITIATIVES

Science and technology reshaping

The *science and technology reshaping* is supported by strategic partnerships with universities and research organisations. Following the recommendations from the Innovation Steering Committee, the ISTC or from Alstom's scientific communities, it has been decided to reinforce innovation and R&D toward the *digital industry* and the *systems of systems*.

This has been achieved through the creation of Joint Innovation Laboratories (JIL) with *Institut national de recherche en informatique et automatique (INRIA)* in France, with CityU University in Hong-Kong, China, and with Nanyang technological university (NTU) in Singapore. It has to be emphasised that all these JILs are strongly supported by business lines with the objective to upgrade Alstom's product portfolio and use open innovation as an enabler to nurture and to prequalify business developments.

Alstom Venture programme

“Alstom Venture” programme is related to Alstom’s strategy to support innovation eco-systems both in France and abroad, to prepare future partnership networks and be in an ideal position to detect future breakthrough technologies and talents. This programme is structured on three pillars:

- A venture capital fund, Aster Capital, targets breakthrough innovations, just a few years before their widespread adoption, in energy, resources and connectivity domains. Investments in 35 companies were made out of which three were completed this year.
- An incubator/accelerator programme, Horizon GreenTech venture, formed in 2011 in Israel, a country with high innovation potential, helping seed-stage ventures to overcome major challenges by providing initial funding, technological expertise and industrial guidance. Their current portfolio has ten startup companies in domains such as energy storage, renewable energy, new information and communication technologies (ICTs). This year has seen the first contract signed between one start-up of the incubator with a business line of Alstom showing the leverage brought by open innovation in the Alstom product offering.
- A Technology Business incubator created this year with the Jain University in the Karnataka region in India.

A Group innovation contest

A Group innovation contest “I Nove You” strengthens cross-company collaborative work, creating synergies and nurturing cross-cutting innovation. Over the past years, a number of award-winning projects in this competition have played a significant role in Alstom’s success on the market, demonstrating that innovation does bring competitive advantage.

In 2014, the seventh edition of Alstom Innovation Awards was a resounding success with a record number of 717 innovations submitted involving more than 2,200 participants, and representing a 40% improvement over the 2013 edition. Diversity was a hallmark of the awards from cultural, geographic, gender, generational and technological standpoint. Innovations came from 26 countries and from a large range of functions (R&D, Engineering, Human Resources, EHS, Project Management, etc.) which led to a high level of cross-functional initiatives encompassing different business lines and cultures.

A category “Open innovation” has been newly included this year to encourage innovations born from exchange and sharing, both within and outside the Company by cultivating ties with academic institutions and other firms. The g³ product rewarded in this category, a clean alternative to SF₆ for high voltage applications, demonstrates Alstom’s continued consideration for climate change and is also a breakthrough in terms of open innovation through a strategic partnership with 3M™.

Many innovations are also anticipating the development of new technologies and services linked to digitization in energy and transport sectors like the e-passenger experience, the predictive maintenance of grid equipment or the eStorage project to improve management of renewable energies.

Finally, despite a difficult economic context, total R&D efforts across the Group amounted to €674 million in 2014/15 (compared to €733 million in 2013/14), nearly 3.5% of sales (out of which €112 million for Alstom Transport, representing nearly 1.8% of Alstom Transport sales).

ENVIRONMENTAL PERFORMANCE

The report presents the results of the Group on the environmental footprint of permanent facilities.

Five environmental indicators are monitored, for which the Group has set objectives to reduce its environmental impact; other indicators and actions taken in favour of the environment are also presented, including compliance with new regulations or directives.

In this section, environmental results are presented by calendar year and certification results by fiscal year.

In 2014, the Group was in line or ahead of its environmental objectives for the five indicators described hereunder:

- **Energy consumption divided by sales (intensity) and greenhouse gas emissions intensity (GHG):** these indicators demonstrate Alstom’s engagement in energy efficiency and GHG emissions, including for its own operations. For these two indicators, Alstom in 2014 has already hit the 2015 target set in 2008. The major improvement compared to 2014 is attributable to three factors: energy-saving initiatives across the Group (We Share the Power, for example), the adjustment of the industrial footprint (sale of Alstom Power Energy Recovery business, for instance) and a gas consumption favoured by milder winter in Europe in 2014.
- **Water consumption:** this indicator is monitored because of the increasing prevalence of water scarcity specifically in water-stressed areas but more generally in emerging countries where Alstom is developing its business. The reduction objective set in 2008 (-20%) was reached and exceeded in 2013 and the annual reduction since then amounts to 6%.
- **Non-methane Volatile Organic Compounds (VOC) emissions:** this indicator measures the only air pollutant emitted by Alstom operations in a significant quantity. The annual reduction target set three years ago has been substantially exceeded since then.
- **Percentage of recovered waste:** The objective was set at 80% in 2015 together with a net reduction of the quantity of waste sent to waste disposal in order to improve Alstom operations, reduce associated costs mainly in countries where waste recovery is not developed. This objective of 80% has already been reached, thanks to the reduction in waste sent for disposal year after year.

This section has been reviewed by PricewaterhouseCoopers as an independent third party in regard to Article 225 of the French Grenelle law. A sample of 35 sites in 14 countries has been examined. The review report is available at the end of this chapter.

CERTIFICATION OF UNITS

Objective: All manufacturing sites over 200 employees certified ISO 14001.

Results: At the end of fiscal year 2014/15, 100% of the manufacturing sites with over 200 employees are certified ISO 14001. This programme supports the reduction in 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.

Alstom Transport has extended the requirement of ISO 14001 certification to six industrial sites (HC<200) considering their growth potential, four of which have already been certified.

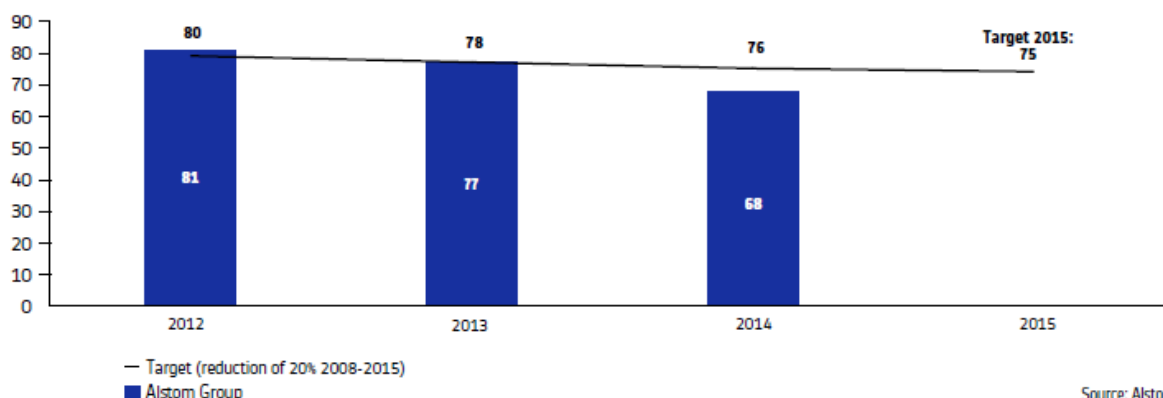
ENERGY CONSUMPTION

Objective: Reduce energy intensity by 20% in permanent facilities by 2015 (reference year 2008).

Energy intensity is measured in terms of the amount of energy used in relation to total sales of Alstom Group. The indicators are calculated with regards to sales of the fiscal year.

Result: At the end of 2014, a reduction in energy intensity (68) by 28% was achieved compared to the 2008 base year (94). The result is already beyond the objective of 75 in energy intensity set for 2015.

ENERGY INTENSITY (*) (in MWh/sales in € million)



(*) Excluding the energy used by the Birr (Switzerland) Research & Development (R&D) test activity (gas and diesel oil as fuel).

Details of energy consumption

ENERGY CONSUMPTION IN PERMANENT FACILITIES

(in GWh)	Transport		Alstom Group at 31/03/2015 ⁽¹⁾		
	2013	2014	2012	2013	2014
Natural gas ^(*)	275	222	685	621	481
Butane, propane and other gases	9	7	44	43	34
Heavy fuel and diesel oil ^(*)	6	10	66	51	38
Steam/heat	41	30	134	134	109
Electricity	186	181	706	703	662
Coal & other fuels	0	0	8	4	1
TOTAL ENERGY CONSUMPTION	517	449	1,642	1,555	1,325

Source: Alstom.

(*) Excluding the energy used by the Birr (Switzerland) Research & Development test activity (gas and diesel oil as fuel).

(1) Alstom Group at 31 March 2015 includes Transport and discontinued operations (Grid, Thermal Power, Renewable Power, Corporate & Others).

The Group total energy consumption decreased by 15% (-13% for Transport) between 2013 and 2014.

Natural gas consumption decreased by 23%, electricity usage remained stable and the use of heavy fuel has been reduced. The ongoing application of energy saving programmes contributed to these results.

The Birr (Switzerland) Research & Development activity tests gas turbine prototypes in real operating conditions using natural gas and diesel fuel oil. Electricity is produced and sent into the Swiss distribution network with no significant impact on the country's electricity CO₂ emission factor.

Since this activity is intermittent, it varies significantly from one year to another; it cannot be integrated into the global objective of the Group and is therefore counted separately. No major test activities were performed this year, which leads to a natural gas consumption of 8 GWh in 2014.

Find out more about best practices and programmes which contribute to reach the Group's targets: www.alstom.com.

GREENHOUSE GAS (GHG) EMISSIONS

GHG emissions related to operations

Objective: Reduce GHG emission intensity by 20% in permanent facilities by 2015 (reference year 2008) ⁽¹⁾.

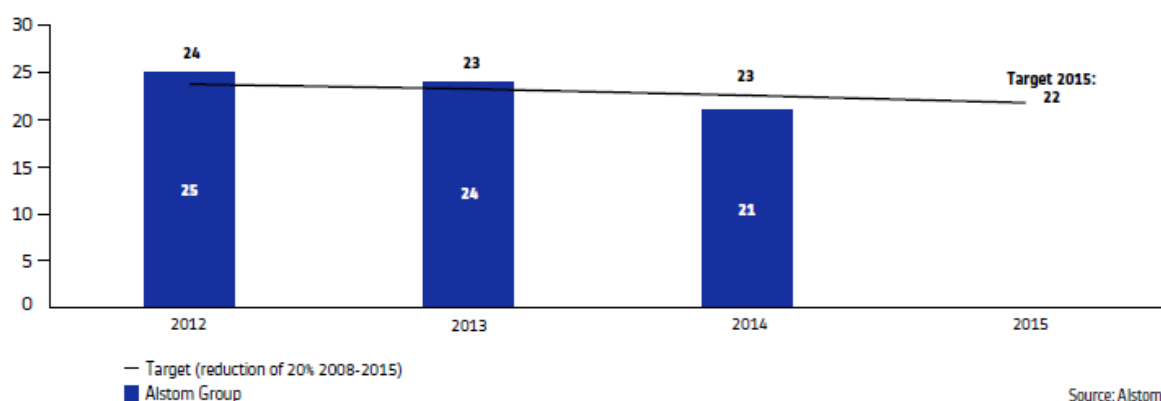
(1) Excluding the CO₂ emissions due to Alstom Grid's SF₆ fugitive emissions and the CO₂ emissions related to the energy used by the Birr R&D test activity (emissions due to gas and diesel oil usage) – updated compared to previous years' registration documents.

GHG emission intensity is measured in terms of tons of CO₂ equivalent produced in relation to Alstom total sales at the end of the fiscal year.

The Group measures separately the GHG attributable to energy usage, fugitive emissions of perfluorocarbons gases (PFC) and hydrofluorocarbons (HFC) (kilotons CO₂ eq.) and the GHG from fugitive emissions of SF₆ (SF₆ gas is specific to Alstom Grid). As such, the comparison with the 2008 objective is limited to GHG emissions from energy consumption (kilotons CO₂ eq.) in permanent facilities.

Result: At the end of 2014, the GHG emission intensity attributable to energy consumption decreased by 22% (21) compared to the reference year, 2008 (27).

GREENHOUSE GAS EMISSIONS INTENSITY ^(*) (in tons CO₂ equivalent/sales in € million)



(*) Excluding the CO₂ emissions due to Alstom Grid's SF₆ fugitive emissions and the CO₂ emissions related to the energy used by the Birr R&D test activity (emissions due to gas and diesel oil usage).

GHG emissions details

GHG EMISSIONS FROM ENERGY USAGE IN PERMANENT FACILITIES ^(*)

(in kilotons CO ₂ eq.)	Transport		Alstom Group at 31/03/2015 ⁽¹⁾		
	2013	2014	2012	2013	2014
Direct CO ₂ emissions from natural gas, butane, propane, coal and oil consumption	65	54	181	162	125
Indirect CO ₂ emissions from steam, heat and electricity consumption	65	60	326	324	277
Total CO₂ emissions from energy consumption	130	114	508	486	402
Other Direct CO ₂ fugitive emissions from PFC and HFC	2	1	2	1	1
TOTAL CO₂ EMISSIONS FROM ENERGY CONSUMPTION AND OTHER DIRECT EMISSIONS EXCEPT SF₆	131	115	510	488	403

Source: Alstom.

(*) Excluding the CO₂ emissions due to Alstom Grid's SF₆ fugitive emissions and the CO₂ emissions related to the energy used by the Birr R&D test activity (emissions due to gas and diesel oil usage).

(1) Alstom Group at 31 March 2015 includes Transport and discontinued operations (Grid, Thermal Power, Renewable Power, Corporate and Others).

Alstom Group's direct and indirect CO₂ emissions from energy consumption decreased by 17% (12% for Alstom Transport) between 2013 and 2014.

GHG emissions related to the use of SF₆

Objective: Reduce SF₆ intensity by 8% between 2012 and 2015.

SF₆ represents a large proportion of Alstom Grid GHG emissions, 61% of the total emissions of greenhouse gases (direct and indirect) and approximately 85% of the total direct emissions in CO₂ equivalent.

No other Alstom activity uses SF₆, and this gas is essential to Alstom Grid's business and its customers, due to its particular dielectric properties. It is used in high- and medium-voltage switchgears and in all components of Gas Insulated Substations (GIS) for its insulation characteristics. However, it presents a global warming potential: nearly 24,000 times more than CO₂. Therefore its importance as a greenhouse gas is critical and the emission of SF₆ into the atmosphere must be prevented as much as possible.

In 2014, Alstom Grid handled approximately 726 tons of SF₆, out of which 5.4 tons were released into the atmosphere on Alstom Grid's permanent sites during testing and filling operations. This represents a leakage rate of 0.7%.

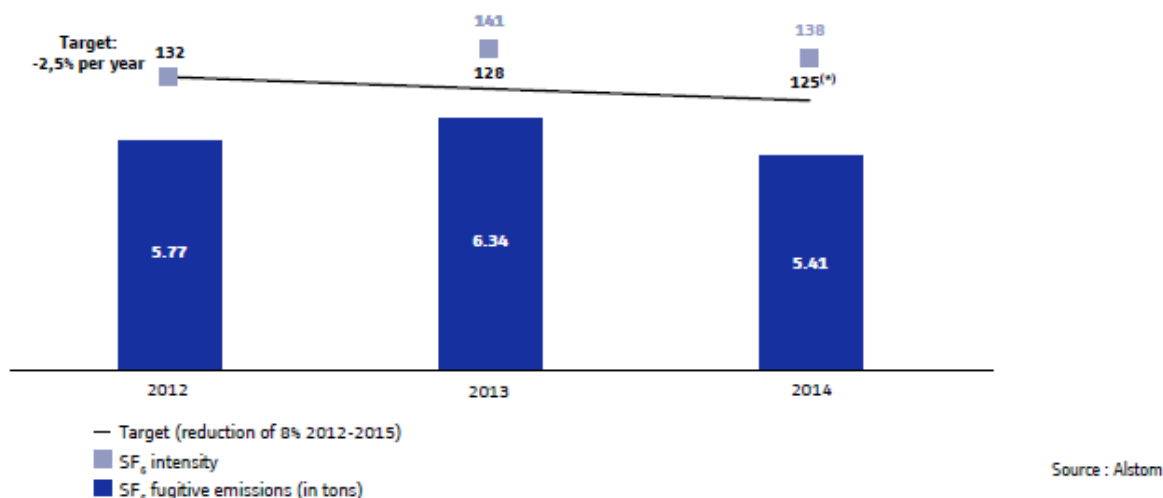
Alstom Grid commits to reduce those emissions by reducing the SF₆ mass in sub-stations thanks to its eco-design approach, as well as by the implementation of best-handling practices on Alstom Grid sites to reduce leakages. The day-to-day implementation of best-handling practices by all those involved in the gas life cycle is, nevertheless, the most important factor in a continuous, environmental-friendly improvement process.

Since 2012, this indicator has been monitored each year with an objective that is in line with the Group's greenhouse gas initial objective of -8% between 2012 and 2015 (i.e. an average of -2.5% per year).

Adhering to the European fluorinated greenhouse gas certification regulation, Alstom Grid has deployed a worldwide training programme on SF₆ management and emission impact prevention. To date, close to 1,000 employees have joined the programme. This ensures that Alstom Grid employees are well aware of this gas' environmental impacts, safety risks, and the proper handling techniques to reduce emissions.

Alstom Grid is the first in the world to launch a clean alternative to SF₆, applicable to high-voltage equipment. The revolutionary SF₆-free solution, g³ – Green Gas for Grid – was jointly developed with 3M™, a leader in environmentally sustainable solutions. g³ has 98 percent less impact on global warming than SF₆. With performances comparable to SF₆, it is a suitable technology for the development of tomorrow's new generation of clean high- and ultra-high voltage gas and air insulated equipment.

INTENSITY OF GREENHOUSE GAS EMISSIONS FROM SF₆ (in tons CO₂ equivalent/SF₆ equipment sales in € million)



(*) The 2015 target was decided based on 2012 figures, but in 2013 inaccuracies in the 2012 data were discovered at certain sites, giving rise to the assumption that the 2012 figure was underestimated.

CO₂ emissions related to business travels

CO₂ EMISSIONS FROM BUSINESS TRAVELS

(in kilotons CO ₂ eq)	Transport		Alstom Group at 31/03/2015 ⁽¹⁾		
	2013	2014	2012	2013	2014
CO ₂ emissions from air travels (*)	23	18	131	115	100
CO ₂ emissions from train travels (*)	1	1	-	2	2
CO ₂ emissions from company cars using gasoline	1	1	8	6	9
CO ₂ emissions from company cars using diesel oil	6	5	16	16	20

Source: Alstom.

(*) Source: Carlson Wagonlit Travel (CWT) – CO₂ 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.

(1) Alstom Group at 31 March 2015 includes Transport and discontinued operations (Grid, Thermal Power, Renewable Power, Corporate & Others).

In 2014 Alstom maintained strict control on air travel encouraging the use of train as much as possible as well as virtual meetings (see "Social performance / Alstom Collaborative Way"). This has contributed to reduce CO₂ emissions related to air travel by 13% and total CO₂ arising from business travel by 6%.

Use of renewable energies

The Group has signed contracts for usage of electricity from renewable sources where economically feasible: Alstom is fully supplied with green electricity in the UK (40 GWh from renewable sources: 74% coming from wind, 14% from biomass, 7% from hydro and 5% from other sources) as well as in Belgium. These contracts have been in force since 2013.

In 2014 and 2015 French electricity contracts negotiated for large sites (around 50% of the needs) use 30% renewable energy sources.

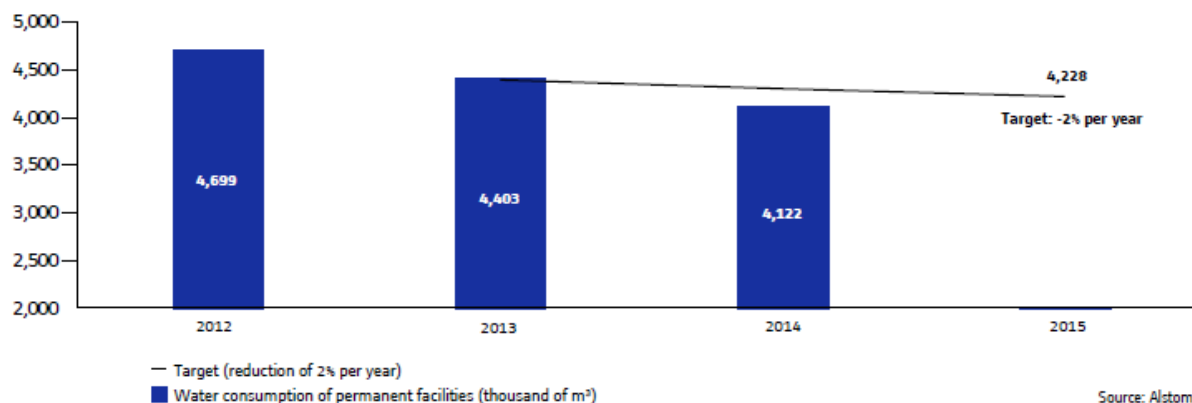
In Germany, the Kassel site uses renewable energy sources and has had a 100% Green Power hydro energy contract since 2008.

WATER CONSUMPTION

Water consumption in the whole Group (all permanent sites)

Objective: Water consumption reduction by 2% per year.

WATER CONSUMPTION OF PERMANENT FACILITIES (in thousands of cubic metres)



In 2014, the overall water consumption decreased by 6% (11% for Alstom Transport). Around 37% of water usage is impacted by a small number of large volume users, which use water for R&D activities in open-circuit cooling systems or for test purposes, with no significant impact on the water quality, temperature or on the natural environment (see detailed figures below).

Find out more about best practices and programmes which contribute to reach the Group's targets: www.alstom.com.

Permanent sites located in water-stressed areas

Special attention is given to sites located in extremely high, high and medium-high water-stressed areas ⁽¹⁾. This category represents 80 locations (>200 employees) with a global water consumption of 848 thousand cubic metres, 20% of the overall water consumption of the Group's permanent sites.

(1) Mapping as per the WRI Aqueduct™ project reference map.

Details of water consumption

WATER CONSUMPTION IN PERMANENT FACILITIES

(in thousands of cubic metres)	Transport		Alstom Group at 31/03/2015 ⁽¹⁾		
	2013	2014	2012	2013	2014
Public network	790	694	2,224	2,244	1,898
Ground water	273	248	2,058	1,765	1,725
Surface water	0	0	387	394	499
TOTAL WATER CONSUMPTION	1,063	942	4,699	4,403	4,122

Source: Alstom.

(1) Alstom Group at 31 March 2015 includes Transport and discontinued operations (Grid, Thermal Power, Renewable Power, Corporate and Others).

WATER CONSUMPTION USED FOR TESTS OR IN OPEN-CIRCUIT COOLING SYSTEMS INCLUDED IN TOTAL WATER CONSUMPTION

(in thousands of cubic metres)	2012	2013	2014
Water used for tests or in open-circuit cooling systems	1,785	1,527	1,543

Source: Alstom.

Waterborne discharges

WATERBORNE DISCHARGES IN PERMANENT FACILITIES

<i>(in tons)</i>	2012	2013	2014
Chemical Oxygen Demand	98	72	93
Suspended matters	55	41	32
Hydrocarbons	1	1	1
Metals	3	0.5	0.2
Source: Alstom.			

The impact on the water discharged by the Group's production facilities is globally considered as limited, relatively to the size of Alstom operations.

AIRBORNE EMISSIONS

Non-methane Volatile Organic Compounds (VOC) emissions

Objective: Reduce non-methane VOC emissions by 2% each year until 2015.

In 2014, the Group improved both VOC emissions data accuracy and measure. In Alstom Thermal Power, VOCs' capture systems newly installed on a major site led to a significant emission reduction as well as some changes in painting processes from Alstom Grid and multiple local initiatives across the Group.

As a result, VOC emissions have significantly decreased compared to 2013 (by 11% for the Group and by 15% for Alstom Transport).

Detail of non-methane VOC emissions

VOC EMISSIONS IN PERMANENT FACILITIES

<i>(in metric tons)</i>	Transport		Alstom Group at 31/03/2015 ⁽¹⁾		
	2013	2014	2012	2013	2014
VOC emissions	143	121	1,227	804	716
Source: Alstom.					
(1) Alstom Group at 31 March 2015 includes Transport and discontinued operations (Grid, Thermal Power, Renewable Power, Corporate and Others).					

Find out more about VOC detailed results, best practices and the programmes which contribute to reach the Group's targets: www.alstom.com.

SO₂ and NO_x emissions

SO₂ AND NO_x EMISSIONS IN PERMANENT FACILITIES EXCLUDING THE BIRR R&D TEST ACTIVITY (explanations are provided in the Energy intensity part)

<i>(in metric tons)</i>	2012	2013	2014
SO ₂	20	15	12
NO _x	114	117	93
Source: Alstom.			

RAW MATERIALS

Alstom, as an engineering company, does not use a significant amount of raw materials as such; it generally uses already transformed material or components. Nevertheless, through its sustainable development policy, Alstom encourages its suppliers to work on raw material reduction whenever possible.

NOISE POLLUTION

Part of Alstom's continuous improvement process, the EHS referential "EHS Roadmap" covers "noise management" as a specific chapter of the Environmental management chapter. Noise analysis is also covered by Alstom EHS risk assessments and impact analysis processes.

GROUND FOOTPRINT

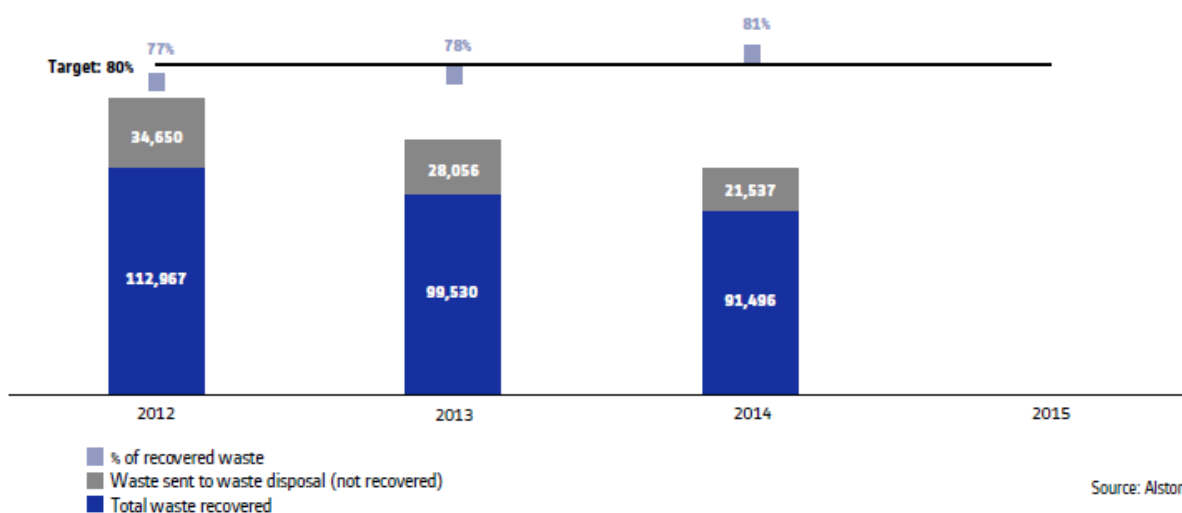
The Ground footprint is not relevant or extensive in Alstom's industrial activity sector; therefore no detailed ground footprint analysis needs to be carried out at Alstom's operation sites.

WASTE MANAGEMENT

Waste production, recovery and disposal

Objective: recovery of 80% of the total waste by 2015.

PERCENTAGE OF RECOVERED WASTE & QUANTITY OF WASTE NOT RECOVERED VERSUS TOTAL WASTE *(in metric tons)*



Waste recovery rate increased this year amounting to 81%, above the objective set by the Group for 2015.

WASTE PRODUCTION IN PERMANENT FACILITIES

	Transport		Alstom Group at 31/03/2015 ⁽¹⁾		
	2013	2014	2012	2013	2014
<i>(in metric tons)</i>					
Hazardous waste	2,943	2,669	19,809	11,062	9,739
Non-hazardous waste	26,110	29,032	127,808	116,524	103,295
TOTAL WASTE PRODUCTION	29,052	31,701	147,617	127,586	113,033
Waste sent to waste disposal (not recovered)	4,850	5,151	34,650	28,056	21,537
PERCENTAGE OF RECOVERED WASTE	83%	84%	77%	78%	81%

Source: Alstom.

(1) Alstom Group at 31 March 2015 includes Transport and discontinued operations (Grid, Thermal Power, Renewable Power, Corporate and Others).

MANAGEMENT OF CONTROVERSIAL SUBSTANCES

Elimination of asbestos

Utilisation of any asbestos or asbestos containing material has been prohibited in Alstom's products since 2006.

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. The Group applies instructions to frame the monitoring process and workers' protection; these instructions have been updated and improved regularly.

Within this framework, Alstom keeps the ambition to eradicate asbestos in its buildings as much as reasonably and economically practicable.

With the development of Service activities, it appeared necessary to better define the conditions under which Alstom employees and contractors worldwide could work on customers' equipment when there is a risk of ACM (Asbestos containing material). An Alstom corporate directive was published in October 2014 and has been in force since then.

REACH regulation management

As a complex product and service supplier working in an international environment, Alstom is impacted by the REACH ⁽¹⁾ regulation in its conception activities and project implementations carried out within and from Europe.

(1) European Regulation No. 1907/2006 of the European Parliament and Council, dated 18 December 2006, for Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

There are two main prospective impacts:

- the obligation to inform the customers about Substances of Very High Concern (SVHC);
- the risk of a lack of supply for hazardous substances; suppliers could stop providing them.

It is generally understood that:

- Alstom does not need to register any substance because it does not import or manufacture any chemical substance in quantities above 1 ton/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.

In order to guarantee compliance with these guidelines, Alstom uses an approach that requires dealing with exclusive representatives in order to import chemicals into the European Economic Area, instructions 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 necessary and the update of the internal process of chemical hazard management.

For three years, Alstom Transport's proactive approach to substances has enabled it to detect and resolve numerous cases of the use of Substances of Very High Concern according to the REACH regulation. More than 22,400 cases of components or parts that contain candidate substances have been detected since 2012. These components are monitored in order to progressively substitute these substances, also called "Substances of Very High Concern" by more environmentally friendly substances. Currently, 42% of detected cases have already been substituted. With respect to substances subject to authorisation, published in Annex XIV of the REACH regulation, around 1,300 cases have been detected and are currently being addressed with suppliers. Thus 82% of Annex XIV cases are now secured and 100% will be secured before the legal deadlines.

Nanotechnologies

Alstom does not present add engineered nanomaterials to its products.

However, on-going Research & Development in components of electrical insulators (for power electronics, switchgears, bushings, etc.) or studies for use in paintings or coatings (hydrophobic or heal coating properties), involve some very small quantities of nanotechnologies, a few hundred grams that are included in laboratory samples of small polymer components. The research projects are conducted at the Supergrid Institute Research centre in Villeurbanne (France).

BIODIVERSITY

A biodiversity assessment conducted in March 2013 to evaluate Alstom's 70 major manufacturing sites (>200 employees) impact, highlighted that 63 of them are located at more than one kilometre from legally protected areas ⁽¹⁾ and/or priority sites for biodiversity ⁽²⁾. Consequently, 90% of Alstom major sites do not operate in or adjacently to legally protected areas ⁽¹⁾ or priority sites for biodiversity ⁽²⁾. Alstom currently does not own 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 ⁽³⁾); but they cover minimal areas compared to the size of biodiversity hotspots.

The biodiversity Graph is available on www.alstom.com.

Source for definitions of IUCN I-VI, Natura 2000, Biodiversity hotspots etc.: www.biodiversitya-z.org.

(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 AND RECOGNITION FOR BEST PRACTICES

Alstom strives to improve employee awareness and recognition regarding environmental concerns. A few examples:

- Alstom Transport in the Netherlands was awarded the highest level (level 5) on the CO₂ performance ladder, initiated by ProRail. In order to keep this high standard, actions had to be taken during the entire year culminating in a successful audit by an external party, Lloyds. A Green Team of volunteers has been established, responsible for taking and coordinating all actions, such as seminars focusing on CO₂ reduction, introduction and further development of green (product) innovations (HESOP and Hybrid locomotives), motivating suppliers and customers to contribute to the CO₂ reduction program, publishing best practices, and, last but not least, reducing the energy and water consumption of the different Alstom sites in the Netherlands. The main result of all actions described is above the re-establishment of the highest CO₂ performance level, a 15% reduction of CO₂ emission in comparison to 2009 and achieving an A-label (highest energy efficiency standard) for the headquarters building in Rijswijk.
- The Stafford site in the UK celebrated after scooping two accolades for green initiatives at the 2014 Stafford Borough Council Green Awards for projects that clearly benefited the environment and that also saved money. The team demonstrated green credentials through a range of projects, including: the installation of four electric car charging points, new heating systems, energy efficient lighting and roof replacements. Events were held for employees to find out more and connect with others to share their journey to and from work. Supporting the local wildlife trust at Allimore Green, 19 volunteers gave up their day to exchange their time and effort to help maintain one of Staffordshire's most diverse wetlands, working on various tasks.
- Alstom Mannheim, in Germany, was awarded the City of Mannheim Environmental Award 2014. The jury recognised the integrated environmental strategy of Alstom, the energy efficiency and resource conservation initiatives, as well as the special commitment at corporate locations.

Other examples of actions to offset the environmental impact of operations can be found in former Registration documents and on www.alstom.com.

SOCIAL PERFORMANCE

GROUP HUMAN RESOURCES POLICY

The announcement on 24 April 2014 that the Energy activities of the Group may be sold to GE created a destabilising environment. In this uncertain context, the Group carried on the implementation and evolution of its Human Resources (HR) policy as a key success factor, irrespective of who the future owner may be.

The Group HR vision remains identical as it focuses on developing, engaging and rewarding employees. Tools and resources are deployed so that, over the medium term, 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 dedication to innovation, learning and an engaged workforce;
- as a company developing and promoting experts and leaders from the Group and all over the world;
- for its lean organisation facilitating the life of employees and the business;
- for its reward of performance and regular feedback.

The HR strategy is based on staffing, knowledge, talent and engagement. It fully supports the main ongoing programmes which are designed to:

- offer the best working conditions;
- adapt the workforce to the Group's activities and markets;
- reinforce Company culture;
- develop competencies and manage careers;
- promote equal opportunities.

During the fiscal year, Alstom maintained its safety focus through the further deployment of its Zero Deviation Plan for high-risk activities. It also continued to:

- adapt its organisation to better match the market and technology evolutions;
- increase operational efficiency: sharing experience and cross-Sector fertilisation; and
- promote internal mobility.

Due to the foreseen changes in the Group's structure the further deployment of 'One Alstom HR' organisation has been slowed down. Nevertheless efforts to deploy a leaner HR organisation to professionalise the HR teams have been maintained.

The network of 1,248 HR Managers is mobilised to support employees in their daily activities. The intranet HR section describes the mandatory HR processes and rules. Its activity is supported by a single Human Resources Information System (HRIS) that encompasses all key processes and is deployed worldwide.

In this section, the results from the HRIS covering the whole Group are presented by fiscal year; the results from the social survey conducted in 29 countries representing 94% of the total headcount are presented by calendar year.

A STRONG FOCUS ON WORK-RELATED HEALTH AND SAFETY

Occupational accident prevention

Alstom's utmost priority is the prevention of occupational accidents and diseases. A successful safety performance cannot be considered as fully achieved if the physical integrity or health of Alstom employees and its contractors' has been affected during the course of activities.

This section has been reviewed by PricewaterhouseCoopers as an independent third party in regard to Article 225 of the French Grenelle law. A sample of 35 sites in 14 countries has been examined. The review report is available at the end of this chapter.

Alstom's work safety goals and current situation

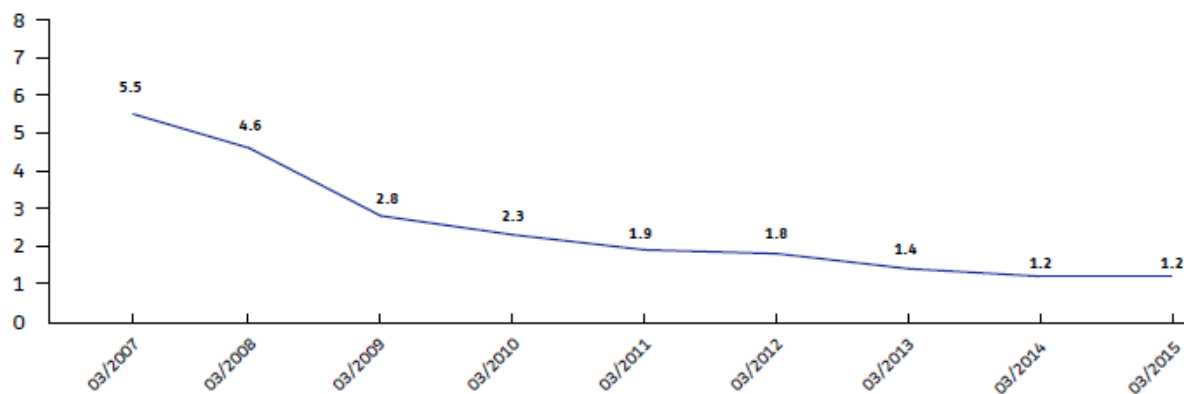
Safety Objectives:

- No fatalities (both for employees and contractors).
- Occupational injury frequency rate (IFR1): Alstom Group targets level 1.0 for the next fiscal year.

Result: Injury Frequency Rate 1 (IFR1): 1.2 at March 2015.

INJURY FREQUENCY RATE 1 (IFR1)

(Number of accidents with sick leave per million hours worked, alstom employees up to 2009, employees & contractors as from 2010)



Source: Alstom

Alstom monitors the safety performance of its contractors with the same ambition as for its own employees. The IFR1 for contractors' employees is very close to that for Alstom employees. However, when it comes to severe accidents, the number of victims is higher among contractors.

Thanks to the global reduction in the number of accidents, the Injury Frequency Rate has been reduced by 74% since 2008. The number of severe accidents, although remaining high, has decreased by 22% compared to 2013/14 at Alstom Group. Nevertheless, work safety remains an absolute priority across the Group.

KEY FIGURES ON OCCUPATIONAL ACCIDENT PREVENTION

	Transport		Alstom Group at 31/03/2015 ⁽¹⁾		
	2013/14	2014/15	2012/13	2013/14	2014/15
Number of employees trained in EHS classroom trainings ⁽²⁾	-	-	3,411 ⁽³⁾	3,250 ⁽³⁾	7,430
Number of employees trained in EHS through e-learning trainings ⁽²⁾	-	-	-	35,196	10,829
Number of fatal accidents of employees (Alstom employees)	0	0	1	0	0
Number of fatal accidents linked with Alstom activities (contractors)	0	0	4	5	1
Number of occupational safety severe accidents reported ^(*) (incl. fatal accidents)	10	10	29	37	29
Occupational Injury Frequency Rate of lost-time accidents (employees and contractors)	2.1	2.0	1.4	1.2	1.2

(*) Occupational safety severe accident definition: On Alstom sites or other companies' sites related to Alstom activities, whichever company (Alstom or other) employs the victim are included in this category, Fatal accidents and 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, as well as any accident causing fracture requiring surgery, whatever the length of the medical leave.

(1) Alstom Group at 31 March 2015 includes Transport and discontinued operations (Grid, Thermal Power, Renewable Power, Corporate & Others).

(2) Source: Alstom University

(3) Data adjusted vs. last year's Registration Document.

Source: Alstom.

Management of occupational safety

Occupational safety is managed through the Environment, Health and Safety (EHS) organisation. A network of approximately 880 managers and professionals (including about 200 in Alstom Transport) in total is organised in each Sector and coordinated at Group level. This network is also in charge of managing environmental risks and preventing accidental pollution from Alstom operations.

A cross-sector EHS Competency Development Programme has been created with the primary objective to support the efficiency of EHS professionals and to give them the opportunity to develop their career in the function. There are four fundamental objectives of the programme:

- reinforce performance standards that achieve Performance Excellence;
- identify learning and development needs both collectively and individually;
- recognise individual strengths and identify development areas for further career development;

- propose next career steps for EHS professionals.

The EHS Competency Development programme is based on a Competency Assessment Tool. This tool allows EHS employees to assess themselves against EHS Know-How requirements of their specific positions, to identify their personal development areas, as well as their related trainings and development actions. All these elements are discussed with the line manager during the performance review with a global consolidation at Sector and Group level. The EHS Competency Development programme aims to develop core professionals with respect to EHS knowledge and behaviours.

The functional management system for EHS is based on a reference guide (EHS reference standard) called "EHS Roadmap", in line with ISO 14001 and OHSAS 18001 requirements. Implementation is verified through self-assessment and audits.

"Alstom Zero Deviation Plan" (AZDP)

This plan launched in June 2012 in order to reduce the number of fatalities and severe accidents from Alstom activities ⁽¹⁾ had a strong effect on the reduction in the number of fatalities. Since May 2012 no fatal accident has affected an Alstom employee and severe accident numbers have declined significantly.

(1) For more information on this programme, please refer to Registration Document 2012/13 (p.249-250) and on www.alstom.com.

As a consequence, AZDP remains the keystone of Alstom's global actions to reach "zero severe accidents".

At the end of 2013, Alstom Safety Directives were extended to cover two additional high-risk activities with 50 critical requirements, the application of which is supported by a "Zero Tolerance to Deviation" policy. In fiscal year 2014/15, Alstom organised another wave of 173 audits to support AZDP. Those audits, were conducted by over 230 EHS professionals, trained in fiscal year 2013/14, over three-day sessions.

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 for France only.

In 2014/15, 53 occupational diseases were registered in France.

Safety awareness programmes and awards

Alstom strives for zero accidents. Here are some examples of Alstom's Health and Safety performance in fiscal year 2014/15:

- After three years of continual EHS investment, the team at Nantes workshop in France received an exceptional result in their 2015 AZDP audit. Their score rose from 81% to 95% in just one year. The workshop has become a safer and more pleasant place to work thanks to various EHS initiatives and investments. These include raised floors for high-level work and pneumatic tools to replace manual jobs. And best of all, the workshop's productivity has increased thanks to these clever improvements, because they allow work to be completed more quickly and easily, as well as more safely.
- The Medupi project in South Africa celebrated 3 million Lost-Time Incident-free hours thanks to a strong "prevention mindset" and teamwork, from contractors to senior management, everyone on site plays a role in preventing accidents. Key to remaining LTI-free for so long are the prevention activities in place such as: 2.5-hour induction process for everyone working on site, Alstom's 10 Life Saving Rules widely publicised on-site, Management involvement in coaching during their walkabouts, no work being permitted on site without authorisation by Alstom and systematic risk assessment before every task.
- Three depots, 441 employees, 3,650 days and zero accident: this is the performance of Alstom Transport Service teams in Romania at the depots of Ciurel, Pantelimon and Berceni. They are dedicated to the Metrorex contract for a 15-year period and provide preventive and corrective maintenance for the metro in Bucharest. Over the last ten years, they have not had a single lost-time accident. This achievement is the result of a very efficient organisation in workshops combined with the daily involvement of employees with regard to respecting EHS regulations.

Assessment of collective agreements on Health & Safety

Occupational safety indicators are included in most profit-sharing agreements as one of the calculation criteria. On-site health and safety committees resulting from regulation or local agreements exist in most industrial locations.

All operational managers whose action impacts EHS have one of their objectives related to EHS results or actions.

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.

	2012/13	2013/14	2014/15
Ratio of employees covered by a life insurance in case of accidental death	99.5%	97.3%	98.0%
Ratio of employees covered by a life insurance giving one year salary	91.0%	93.7%	87.2%

Source: Alstom social survey conducted in 29 countries representing 94% 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.

GROUP WORKFORCE AT 31 MARCH 2015

The figures in the following tables include permanent and fixed-term contracts.

Note: Alstom HRIS stands for Alstom Human Resources Information Systems, a worldwide database supporting Human Resources management.

Breakdown by Region

	At 31 March 2014							At 31 March 2015						
	Africa/ Middle East	Asia/ Pacific	Europe	North America	Central & South America	Total	%	Africa/ Middle East	Asia/ Pacific	Europe	North America	Central & South America	Total	%
Transport	1,119	1,908	21,526	1,316	2,472	28,341	29,9%	1,191	2,238	20,275	1,163	2,676	27,543	30,8%
Discontinued operations	2,153	16,925	34,019	8,323	4,958	66,378	70,1%	2,197	15,828	32,434	6,562	4,895	61,916	69,2%
Thermal Power	1,007	8,694	20,786	5,845	631	36,963	39,0%	992	7,876	19,308	4,046	516	32,738	36,6%
Renewable Power	10	2,774	3,284	784	2,357	9,209	9,7%	23	2,610	3,349	831	2,424	9,237	10,3%
Grid	1,079	5,036	7,968	1,516	1,560	17,159	18,1%	1,129	4,929	7,842	1,515	1,556	16,971	19,0%
Corporate & others	57	421	1,981	178	410	3,047	3,2%	53	413	1,935	170	399	2,970	3,3%
TOTAL	3,272	18,833	55,545	9,639	7,430	94,719	100%	3,388	18,066	52,709	7,725	7,571	89,459	100%
% of total workforce	3.5%	19.9%	58.7%	10.2%	7.8%	100%		3.8%	20.2%	58.9%	8.6%	8.5%	100%	
Out of which long-term absentees (LTA)	4	101	1,375	83	154	1,717		15	100	1,254	83	158	1,610	

Source: Alstom HRIS.

Breakdown by Category (incl. LTA)

	At 31 March 2014				At 31 March 2015			
	Managers & professionals		Other employees		Managers & professionals		Other employees	
	Total	% of total employees	Total	% of total employees	Total	% of total employees	Total	% of total employees
Transport	12,519	44.2%	15,822	55.8%	12,569	45.6%	14,974	54.4%
TOTAL (*)	48,225	50.9%	46,494	49.1%	47,405	53.0%	42,054	47.0%

(*) Alstom Group at 31 March 2015 includes Transport and discontinued operations (Grid, Thermal Power, Renewable Power, Corporate and Others).

Source: Alstom HRIS.

Breakdown by Gender (incl. LTA)

	At 31 March 2014				At 31 March 2015			
	Men		Women		Men		Women	
	Total	% of total employees	Total	% of total employees	Total	% of total employees	Total	% of total employees
Transport	24,011	84.7%	4,330	15.3%	23,299	84.6%	4,244	15.4%
TOTAL (*)	79,294	83.7%	15,425	16.3%	74,381	83.1%	15,078	16.9%

(*) Alstom Group at 31 March 2015 includes Transport and discontinued operations (Grid, Thermal Power, Renewable Power, Corporate and Others).

Source: Alstom HRIS.

Breakdown by Type of contract (incl. LTA)

	At 31 March 2014				At 31 March 2015			
	Permanent contracts	Fixed-Term contracts	Temporary workers	Interns	Permanent contracts	Fixed-term contracts	Temporary workers	Interns
Transport	26,142	2,199	2,906	609	25,848	1,695	2,176	564
TOTAL (*)	86,125	8,594	8,020	2,208	83,736	5,723	7,535	2,108

(*) Alstom Group at 31 March 2015 includes Transport and discontinued operations (Grid, Thermal Power, Renewable Power, Corporate and Others).
Source: Alstom HRIS.

Workforce changes during fiscal year (incl. LTA)

	At 31 March 2014						At 31 March 2015					
	Hiring on permanent contracts	Hiring on fixed-term contracts	Resignations	Redundancies	Dismissals ⁽¹⁾	Other departures ⁽²⁾	Hiring on permanent contracts	Hiring on fixed-term contracts	Resignations	Redundancies	Dismissals ⁽¹⁾	Other departures ⁽²⁾
Transport	2,737	1,203	615	71	136	851	2,442	969	776	359	449	1,064
TOTAL (*)	8,275	7,189	3,212	693	731	3,238	7,022	6,101	3,386	1,074	1,419	2,954

(*) Alstom Group at 31 March 2015 includes Transport and discontinued operations (Grid, Thermal Power, Renewable Power, Corporate and Others).
(1) Calculated on permanent headcount only.
(2) Including retirements, not including disposals and acquisitions.
Source: Alstom HRIS.

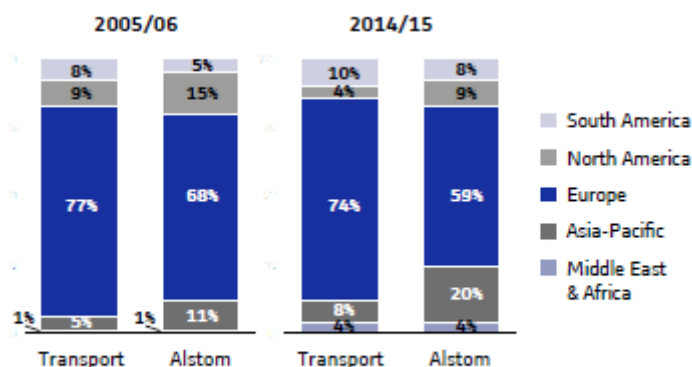
ADAPTING THE WORKFORCE TO THE MARKETS AND ACTIVITIES

At 31 March 2015, Alstom employed 89,459 people.

The priority is to have the competencies needed for the Group's development and to facilitate the integration of newcomers.

The chart below shows the workforce breakdown evolution by region over the past nine years, which demonstrates the development in emerging countries where the markets grow faster.

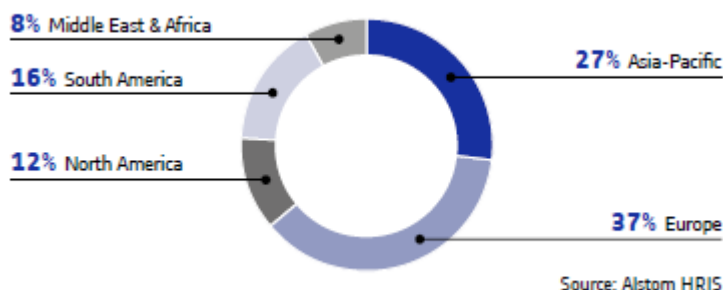
WORKFORCE BREAKDOWN BY REGION (TOTAL WORKFORCE)



Source: Alstom HRIS

Alstom recruited over 7,000 permanent employees over fiscal year 2014/15. It does not face any difficulty in recruiting, due to its reputation and its active relationship and partnership with schools and universities.

RECRUITMENT BY REGION IN 2014/15 (PERMANENT CONTRACTS)



Developing active relationships with universities

Alstom recruited over 7,000 permanent employees over the fiscal year. In order to find the right competencies, relationships with schools and universities are actively managed in more than 35 countries, with a three-fold objective of:

- making Alstom well-known and identifying future employees;
- establishing partnerships, including in research and development;
- participating in the national effort for education and training in the countries where the Group operates.

Alstom has a long-lasting practice of partnerships with universities in countries where it is present. See examples on www.alstom.com.

In addition, Alstom is promoting apprenticeships and welcoming an increasing number of apprentices. Mentors are very involved in the follow-up of the apprentices. In France, sites such as La Courneuve (Alstom Thermal Power) and Reichshoffen (Alstom Transport) have already launched initiatives over a number of years to improve the recruitment and training of young people on work-study programmes. In Reichshoffen, the Group hosts an apprentice training centre (CFA) with 44 apprentices as of 31 March 2015. As a whole, more than 850 apprentices were hired worldwide during the fiscal year.

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 (between 12 to 18 months of seniority) to learn about the Group's activities and values, meet with 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 into the teams and activities. Specific events are organised in order to facilitate the employee's integration, such as HR In Motion, a venue for new HR professionals.

In Alstom Grid, the Newcomer's Discovery Kitchen was launched in January 2013 and since then, over 970 new employees have had access to the online induction session, in addition to the welcome day.

REINFORCING THE COMPANY CULTURE

To maintain a high level of employee engagement, Alstom relies on the respect of Business Ethics and Human Rights, as well as on a common culture based on Alstom's values and common tools implemented across the whole Group.

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 continuous 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 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**, which applies to every employee within the Group. Published in 2001, it was reviewed for the third time in October 2014. It includes a set of practical tools for employees. It is available in 23 languages: English, French, Arabic, Brazilian-Portuguese, Chinese, Croatian, Czech, Dutch, Finnish, German, Greek, Hindi/English, Hungarian, Indonesian, Italian, Japanese, Polish, Portuguese, Romanian,

Russian, Spanish, Turkish and Vietnamese.

The Code of Ethics prescribes essential rules of conduct with regards to the relationships with business partners, the role of Alstom in its environment, the promotion of a team spirit and the commitment to protect the Group's assets.

In addition, the Code of Ethics details the Alert Procedure which allows any employee or any person or third party in relationship with Alstom to report violations of prevention of corruption, competition and securities and accounting laws and regulations. It was enhanced in July 2013 to add two additional means of reporting: a secure website (www.alstom.ethicspoint.com) and a toll-free hotline, both reachable 24 hours a day, 7 days a week, 365 days a year.

- **E&C Group Instructions** which provide detailed guidance to employees on rules and procedures to strictly apply in the areas of gifts and hospitality, political contributions, charitable contributions, sponsorship, sales partners, consulting companies, conflicts of interest, and prevention of corruption with suppliers and contractors and in joint venture and consortium. In 2014 a Group Instruction on facilitation payments was released. It reminds that Alstom prohibits facilitation payments and provides the steps for minimising the risk of being requested to pay a facilitation payment or resisting any request for a facilitation payment.
- **Training sessions and e-learning programmes** are essential to explain the Group's Ethics & Compliance policy. During fiscal year 2014/15, around 7,600 persons (i.e. a cumulative total of approximately 17,500 people since 2009) participated in a compliance session.
- The e-Ethics module related to the Code of Ethics was launched in March 2010 and updated in February 2015. It targets Managers & Professionals for whom it is compulsory. They must retake and complete it every two years. It has been completed by more than 70,400 employees since its launch out of which over 16,200 from Alstom Transport.
- **A community of approximately 300 E&C Ambassadors**, all volunteers who come mainly from the Legal, Finance and HR functions or are Alstom Country Presidents. Their main role is to promote the culture of integrity throughout the Group through E&C Awareness sessions and to be a contact point for questions about ethics and compliance. The E&C Ambassadors have a direct contact with the E&C department which 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 real case studies.
- A variety of **internal communication methods** in order to ensure that all employees are well informed about E&C in Alstom:
 - a visible and regularly updated section on Altair, Alstom's intranet, called "Ethics & Compliance", containing not only E&C Group Instructions, but also information on the prevention of corruption, a monthly newsletter, as well as E&C case studies, advice to employees on how to behave in the event of an ethical dilemma,
 - regular news in Alstom's weekly newsletter (*Newsflash*) and pieces of news in local internal newsletters (at country or site level),
 - an educational video addressing the issue of corruption prevention, available in both English and French on the intranet site as well as on www.alstom.com,
 - posters displayed in all locations.

On 12 September 2011, the Alstom Integrity Programme was awarded a certificate from ETHIC Intelligence. In May 2014 the Alstom Integrity Programme has been certified again following 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 Senior Vice President 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);
- after having sponsored the Chair of Excellence of "Law and Business Ethics" of the University of Cergy-Pontoise, France, over the 2010-2013 period, Alstom has maintained its relationship with the Master of Law and Business Ethics through the establishment of positions for apprentices and seminar presentations.

Respect of Human Rights

The respect of Human Rights is one of Alstom's fundamental commitments. 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 and those of the International Chamber of Commerce (ICC). The charter that Alstom's suppliers and contractors are requested to adhere to, stipulates that they must be compliant with the same principles and national or local regulations which are applicable to their activities in the country(ies).

Alstom is a member of the Global Compact, promoting the respect of human rights within its sphere of influence. Alstom encourages its managers to be involved in their local Global Compact network. In November 2014, the Alstom Chairman and CEO renewed his commitment to the Global Compact.

In the day-to-day management of its activities, Alstom strives to strictly comply with its commitments in its sphere of influence:

- Regarding Human Resources, Alstom applies a 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 conducts an annual survey to ensure the absence of any incident regarding child labour, forced labour, freedom of association or any kind of discrimination. This year, no incident was reported.
- An internal directive on Individual Data Protection 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 orientation. All recorded information shall reflect these principles. All employees have the right to request access to their own data and to obtain the rectification of such data when justified.
- The respect of human rights is one of the criteria examined by the monthly Corporate Risk Committee when assessing the projects: any breach to it may have significant consequences on the feasibility of the project, its financing or implementation, and on the Group's reputation.

Involving employees in the Company

The development of a common culture is important to hold the Group's employees together, which is done through:

- a set of Group's common values and ethical principles (detailed above): 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, 8,680 employees have been involved in this e-learning programme of which 2,747 in the fiscal year. As part of the performance review process, the manager, after in-depth discussion with the employee, evaluates how values are put into practice. Should improvement 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;
- an action plan to encourage their involvement in the life of the Company – some major actions are detailed below – measured through specific indicators.

Specific actions

Employee's involvement and motivation are also critical for Alstom. The Group's strength is based on the dynamism and creativity of its employees and several actions have been taken to encourage them.

Well-being policy

In several countries, specific programmes are in place to improve employees' health and well-being at work. A few examples can be found on www.alstom.com.

Remuneration schemes

Remuneration evolution

Due to the Group's diversity, activities in numerous countries, influence of local inflation and economic situation, no comprehensive indicator has yet been developed. Alstom's policy is to review the employees' base salaries every year, and to have open negotiations with employee representatives where 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. If 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. Nearly 33,000 employees (out of which 85% are managers) benefited from this remuneration scheme at 31 December 2014.

As safety, quality and environment care 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. This may represent up to 20% of the variable remuneration for few employees.

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 50,000 of the Group's permanent employees, according to the Alstom social survey conducted in 29 countries covering 94% of the workforce. For fiscal year 2014/15, a total of 40,000 employees received a payment under a profit-sharing plan.

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 (Alstom 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 and a plan to allocate free shares to all employees (May 2006). At 31 March 2015, the current and former Group employees held 1.05% of the Alstom share capital, either directly or through mutual funds.

Employee retention schemes

In countries where the employment market is attractive, mid- and long- term incentives have been established for some key employees.

Due to the project with General Electric, some critical managers have been offered a retention bonus to secure the completion of the deal implementation and the preparation of the integration into the General Electric organisation. The costs of those retention schemes, subject to the

deal completion, are borne by General Electric.

Alstom Cultural Exchanges (ACE) programme for employees' children

Launched in February 2014, the Alstom Cultural Exchange Programme (ACE) is a CSR initiative implemented as part of the Group's well-being and diversity policies. The objective of the programme is to help employees around the world send their children abroad, hosted by a family of their colleagues, for linguistic or cultural purposes. The ACE programme is supported by an intranet platform where employees can find offers and/or post their own. A discussion forum enables the exchange to be prepared. In the first year and without being widely advertised internally, ACE enabled five exchanges.

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

	Transport		Alstom Group at 31/03/2015 ⁽¹⁾		
	2013/14	2014/15	2012/13	2013/14	2014/15
Europe + Africa/Middle East	1.7%	2.2%	3.1%	3.0%	3.1%
Asia/Pacific	7.0%	10.8%	5.7%	5.8%	5.9%
Americas	4.5%	3.9%	4.3%	4.3%	5.2%
TOTAL	2.4%	3.0%	3.8%	3.7%	4.0%

(1) Alstom Group at 31 March 2015 includes Transport and discontinued operations (Grid, Thermal Power, Renewable Power, Corporate and Others).
Source: Alstom HRIS.

The resignation rate is apparently stabilising, although the situation varies widely from country to country.

Absenteeism

Due to the difference in country regulations, the Group is in a process to work country by country in order to find a common definition of this indicator. Therefore, no consolidated reliable indicator can be communicated this year for the Group. For France, the absenteeism rate amounts to 5.4% this year.

Employee engagement surveys

As Engagement is one of the four pillars of the HR strategy and in order to foster the employees' involvement, Alstom has launched surveys which target to measure employees' opinion and assess employees' engagement on Sectors' decisions (vision, roadmap and strategy) in order to implement appropriate actions.

Alstom Transport

Alstom Transport conducted an Employee Opinion Survey by all its employees in November 2014 with a 64% response rate (2% higher than the 2012 survey). Improvement actions were launched to improve in Sourcing, Engineering, Information Technology and CSR.

Energy businesses (discontinued operations)

In February 2015, Alstom Thermal Power launched its third engagement survey (the previous one was in 2014) targeting all its employees; the response rate was up to 85% (compared to 80% the previous year). In order to enable all employees to participate, specific IT access for employees without a computer (mainly blue collars) was organised. This survey, like the previous one, will lead to action plans which will be adapted to each team.

General Electric project

In order to measure the acceptance and reaction towards the announced sale of the Energy businesses, employee surveys are conducted regularly. In March 2015 a culture survey targeting all managers was launched. All those surveys have a solid response rate; it can therefore be understood that the results obtained are fully representative of the employees' perception.

MANAGING CAREERS AND DEVELOPING COMPETENCIES

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.

Talent management remains a priority in 2014. The Group Talent Management organisation aims to support the Group in its talent development initiatives with a specific focus on diversity and talent pool management and development while optimising the Alstom ways of working.

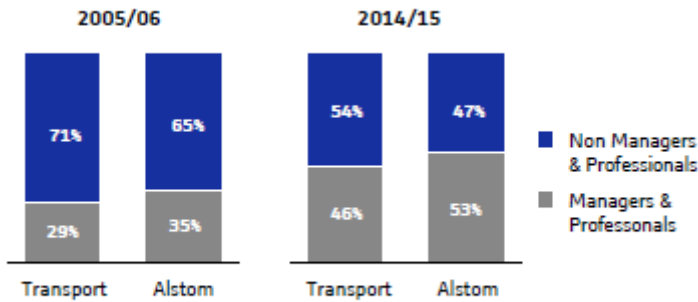
It is based around three pillars:

- community management;
- global recruitment;
- learning solutions and Alstom University.

This global team has people based in India and France (Levallois headquarters). It works closely with the Talent Management teams in both Sectors and Countries.

Evolution of competencies between 2006 and 2015

WORKFORCE BREAKDOWN BY CATEGORY



Source: Alstom HRIS

Career management

Career development programmes

Three pillars have been identified as being the foundation of Alstom's Talent Management practices: Staffing, Knowledge, Engagement and Skills. Career management is a key target: the Group encourages each employee to manage his/her own career in collaboration with his/her line manager and HR manager, using the provided tools. This allows each employee to play a key role in his/her own performance and in his/her advancement. This policy is founded on a strong sense of commitment/engagement.

All employees are treated equally on the basis of their skills, especially with regards to employment, recruitment, talent identification, mobility, training, remuneration, health and safety, which rely on common processes and policies across the Group.

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 14,500 open positions available in Alstom worldwide over the year – around 4,700 still open in March 2015 out of which around 2,200 for Alstom Transport.

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 experts' development programmes

Each Sector manages the technical experts' development through programmes adapted to their specific needs and environment.

Function development programmes

The Group continues to deploy a strategy of career management for several functions: Finance, HR, EHS, Legal, and Communication, in order to develop functional expert communities. These communities are managed at Corporate level. In addition to the management of communities, "Operations" have been considered and a map of competencies with associated career paths has been designed in the Quality function for which a competency model has been issued. The operational communities are managed by the different Sectors but are deployed through a cross-Sector approach.

Managers' development programmes

As regards Management and Leadership skills:

- the AMP ("Accelerated Management Programme") entered its third year with a focus on trainees from emerging countries, which represented 60% of the participants in this programme. The objective is to focus on "Leadership": Leading self – leading others – change leadership and transitional leadership. 60 employees have been trained this year through this programme. The Group also monitors the previous participants' evolution;
- the AMS (Advanced Management Seminar) designed to prepare future top executives: no session was organised during the fiscal year as it has been decided to capitalise on former participants' development.

Career path management

Career path management relies on the combination of three processes articulated in the People Management Cycle (PMC) launched each year on 1 March. The PMC adapts to the business priorities and leads to improvements.

Alstom proposes that managers and employees follow an e-learning module focusing on "Performance Management", definitions of promotability and the development plan structure.

Annual performance interview

Objective: All employees benefit from an annual performance interview.

Indicator: Number of managers and professionals with an annual performance interview.

2012/13	2013/14	2014/15
42,500	43,900	44,200

Source: Alstom HRIS.

The 2014 and 2015 numbers represent only part of the final number, as the time frame to complete the performance review process closes at the end of 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.

As previously mentioned, the inclusion of a discussion about putting the Alstom Values into practice since 2013 is an opportunity to refresh the knowledge of managers about the performance review process.

People Reviews

People Reviews allow the current and future needs of the Group (based on a competency mapping) to be matched with the available competent resources, and career paths to be set with a cross-Sector vision.

The Group includes most of its managers (about 44,000 each year over the last three years) in people reviews carried out at sites, businesses, Sectors, functions and the Group as a whole.

Internal mobility

Objective: Appoint at least 60% of the Group's senior managers through internal promotion.

Indicator: Internal promotion rate of senior managers (1,540 people).

2012/13	2013/14	2014/15
80%	75%	71%

Source: Alstom HRIS.

In most large countries where Alstom is present, regular resourcing forums are held to better identify the available competencies, 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 amounts to 43% in 2015. The objective is to reach 60% in 2015. The posting of vacant positions brings transparency, easier relocation and new career opportunities.

PERCENTAGE OF VACANT POSITIONS INTERNALLY POSTED

2012/13	2013/14	2014/15
33%	48%	43%

Source: Alstom HRIS.

Talent management

Objective: Shape the competencies that the Group needs, taking the employees' expectations into account.

Indicators:

- ratio of employees trained during the fiscal year;
- average number of training hours per employee.

	2012	2013 (*)	2014 (*)
Percentage of employees who have had training	68%	67%	70%
Average number of training hours/employee	19 h	15 h	14 h
Total number of training hours	-	1,286,445 h	1,179,341 h

(*) Scope: social survey conducted in 29 countries representing 94% of the workforce.

Alstom University (AU)

Alstom University's mission is to:

- define and ensure the consistency of the global learning strategy linked to the Group's strategic objectives;
- support the identification of training needs;
- build and manage the global learning offer;
- design and deploy learning solutions in order to develop employees and serve Alstom goals.

In order to be more efficient, the objective is to have a holistic approach of learning within the Group.

Objective: Design and conduct common training for all Group activities.

Indicator: Number of trainees at Alstom University campuses.

	2012/13	2013/14	2014/15
	15,817	11,191	28,766

Source: Alstom University.

Alstom University also manages several projects in order to achieve two goals: putting in place a "lean learning" approach and developing a new learning mindset within Alstom, which means:

- defining the new learning organisation within the Group;
- building a single Alstom Learning offer structured at three levels: Group, Sector, Cluster/Country. The Alstom Learning offer was communicated in September 2014;
- deploying curriculum: in order to localise the deployment of several Alstom University programmes in the main countries;
- identifying, developing and encouraging internal trainers in order to encourage employees to share their knowledge. Being an internal trainer brings the added benefit of developing the trainers' skills and providing them with an opportunity to learn.

2014 achievements

Face-to-face training

	Number of sessions held at 31 March 2015 (*)	Number of people trained
Group/Sector	1,198	22,977
Country/Cluster	594	5,789
TOTAL	1,792	28,766

(*) Including estimate figure for March 2015.
Source: Alstom University.

Out of the 1,792 sessions, Alstom University has organised:

- 338 ethical awareness sessions that reached more than 8,875 employees;
- 192 training and certification sessions that led to an "EHS Passport" being awarded to more than 2,300 employees.

Distance Learning training

- number of Distance Learning licences activated: 814;
- number of virtual sessions: 105, covering 1,258 trainees;
- number of trained participants e-learning customised by Alstom: 25,523, including the e-Ethics module (more than 10,200 trainees) for the promotion of the Alstom's Code of Ethics and values, and High Risk Activities module (more than 5,800 trainees) for the prevention of accidents.

Alstom Collaborative Way (ACW)

The "Alstom Collaborative Way" (ACW) initiated in 2008 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, development and sharing of best practices and know-how.

ALSTOM COLLABORATIVE WAY DEPLOYMENT

	2012/13	2013/14	2014/15
Telepresence: average hours/month per site	52 h (33 sites)	37 h (46 sites)	38 h (49 sites)
Web conferences	82,000 meetings 328,088 participants 72,000 accounts	398,013 meetings 1,207,398 participants 93,519 accounts	605,347 meetings N/A 86,373 accounts 1,180,000 hours
SharePoint collaborative platform	144 159 322 17,000	241 254 537 25,600	318 361 778 36,600

Source: Alstom University.

During the fiscal year, the usage of webconference has been generalised, therefore their number has increased by 52% enabling travel costs to be reduced and the decision-making process to be accelerated.

Knowledge management/transfer

Given the high technology product environment in which Alstom is doing business, as well as in the context of a high level of competition and an ageing workforce in some regions, Knowledge Management and Transfer is a critical activity. Since 2008, the Knowledge Transfer (KT) project targets "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". A common framework (KT Handbook with model, process, guidelines and tools) based on internal good practices and lessons learned had been deployed as well as a collaborative platform (connecting the community of managers, experts, specialists and key employees dealing with knowledge transfer).

In Alstom Thermal Power and Alstom Renewable Power, the KT handbook and KT process are continuously disseminated and training is provided to managers across all businesses. Empowering the business with more independence this year, KT eLearning modules have been provided to reach an even bigger audience. More than 420 KT Community members are connected through the KT collaborative platform.

Currently 59 active KT projects are running in Alstom Thermal Power with specific gate reviews and quarterly reviews. Most projects are delivered in China (18) and India (22).

At Group level, gaining and sharing knowledge, developing expertise and learning from useful experiences are all cornerstones of Alstom's people strategy. To help achieve these goals, Learning Solutions and Alstom University launched the Internal Training Programme in 2014, an initiative aimed at developing internal trainers. Some 320 internal trainers located in Europe, North and South America, India, China and other parts of Asia provide a wide variety of training courses related to the main support functions: finance, purchasing, legal, quality, EHS, project management, etc.

EQUAL OPPORTUNITY

In September 2013, Alstom appointed an HR executive to lead its diversity engagement and initiatives. The roadmap as well as the targets proposed by the Diversity Steering Committee is being submitted to the Board for approval. These are the common KPIs for all countries. Country-specific diversity action plans are under preparation with a two-year roadmap taking into account the global diversity one. The plans will cover the six dimensions of diversity: nationality, gender, age/generations, educational background, social status and ability/disability. The plans must include a three-year plan to balance salary between men and women (already in progress within the current salary review process). In order to foster the awareness and plan implementation, a community of country diversity ambassadors is being created.

It is to be noted that, before this more visible action, Alstom had already started to enhance and promote diversity in its workforce and the past years initiatives have been continued during fiscal year 2014/15.

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.

The question of professional equality between women and men has been at the heart of Alstom's social and HR policy for many years. It is nevertheless noteworthy that the training path leading to the skills required for most Alstom positions primarily attract men. The proportion of women in those *curricula* is about 15% to 20%. This prevents meaningful quantitative comparison. Therefore, Alstom focuses particularly on 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 levels. 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 is located. Despite those efforts, the expected results of Alstom's action plan have not yet fully materialised.

Having started in April 2012, discussions with the European Works Forum and the European Union representation to reach an agreement about Equal Opportunities within Europe have been continued.

INDICATORS RELATED TO WOMEN BY CATEGORY

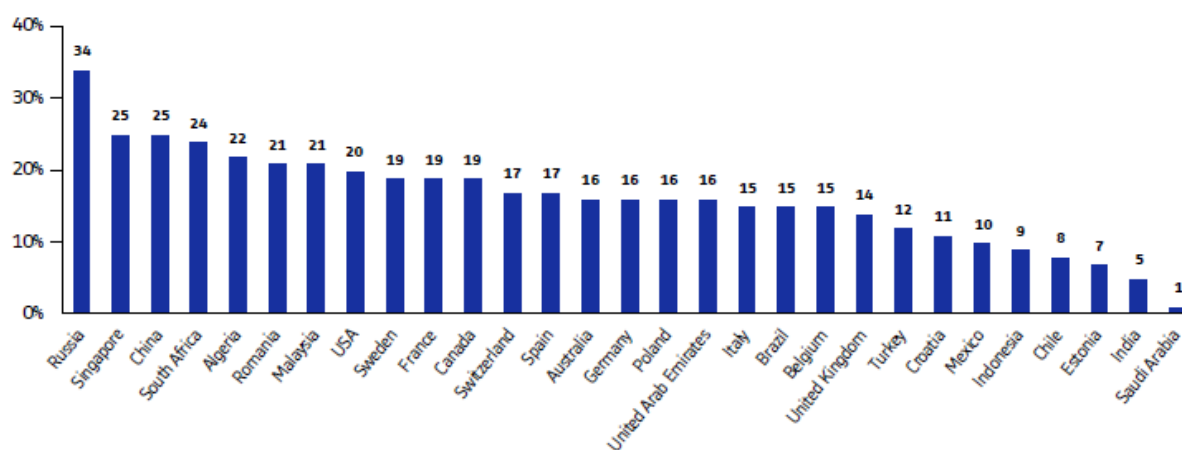
	2012/13	2013/14	2014/15
Percentage of women in the workforce	16.0%	16.3%	16.9%
Percentage of women: management	15.3%	16.2%	16.4%
Percentage of women: executives	11.6%	11.8%	12.0%
Percentage of women trained in training sessions ⁽¹⁾	14.5%	15.3%	15.1%

(1) Source: social survey.
Source: Source: Alstom HRIS.

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 2014)



Source: Alstom social survey conducted in 29 countries representing 94% of the Group's total headcount.

Supporting initiatives dedicated to promotion of women

In addition to actions launched in the previous fiscal year, this year Alstom requested all country organisations to define action plans to promote the employment of women:

- In the USA, Alstom has continued numerous partnerships and participated in many programmes and activities that demonstrate its commitment to diversity and equal employment opportunities, and more specifically for women. This year Alstom sponsored and attended the regional conference of the Society of Women Engineers (SWE) and also supported the national SWE conference. Alstom also entered into partnership with "Getting Hired" to accommodate people with disabilities and Veterans. Alstom continued to be a member of the Equal Employment Advisory Council (EEAC) and 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.
- In France, the partnership with "Déployons nos Elles", a non-profit organisation which promotes industrial jobs in high schools by organising exchanges with women engineers and visits of workshops has been continued. The "Elles bougent" initiative has been continued.
- The Group is involved in 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 previous Registration Documents.

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 line with the already launched initiatives such as the WEB programme (Women Empowerment for Business), or the "EVE" programme (for more information, see previous paragraph), Alstom has started a project to enhance diversity in its workforce. The project is implemented through action

plans in each country under the leadership of the country HR Director and is coordinated at Corporate level.

A Diversity action plan was validated by the Executive Committee in March 2014 and some measures have already been implemented:

- diversity as an objective for HR;
- action plans in countries;
- short list policy: at least one woman or one non-Western European person in all short lists;
- positive discrimination for women or non-European participation in the AMP (Accelerated Management Program);
- as of the 2014/15 salary review, analysis of the salary gap between women and men for the same level of responsibilities.

Alstom has conducted a survey in 29 countries representing 94% 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.

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. Each year, Alstom organises internal training sessions to help HR team members better understand various situations relating to 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 or renewed to encourage a good balance between personal and professional life. Examples can be found on www.alstom.com.

Employment of disabled people

It has been a continuous guideline within Alstom to develop and support the integration and employment of disabled people. This enables those employees to work in a challenging environment while following 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 29 key countries, to measure the integration of people with disabilities in the total workforce. The data are significant only where local regulations have set minimum quotas.

PERCENTAGE OF EMPLOYEES WITH DISABILITIES

	Transport		Alstom at 31/03/2015 ⁽¹⁾		
	2013	2014	2012	2013	2014
France	4.3%	4.8%	3.9%	3.5%	4.4%
Germany	6.3%	6.6%	5.5%	5.6%	5.8%
Italy	2.5%	3.0%	2.4%	2.4%	2.8%
Spain	0.5%	0.4%	0.9%	0.6%	0.5%

Source: Alstom social survey conducted in 29 countries representing 94% of the Group's total headcount.

(1) Alstom Group at 31 March 2015 includes Transport and discontinued operations (Grid, Thermal Power, Renewable Power, Corporate & Others).

For information, this report is available on the Internet site in a version accessible to the visually impaired.

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:

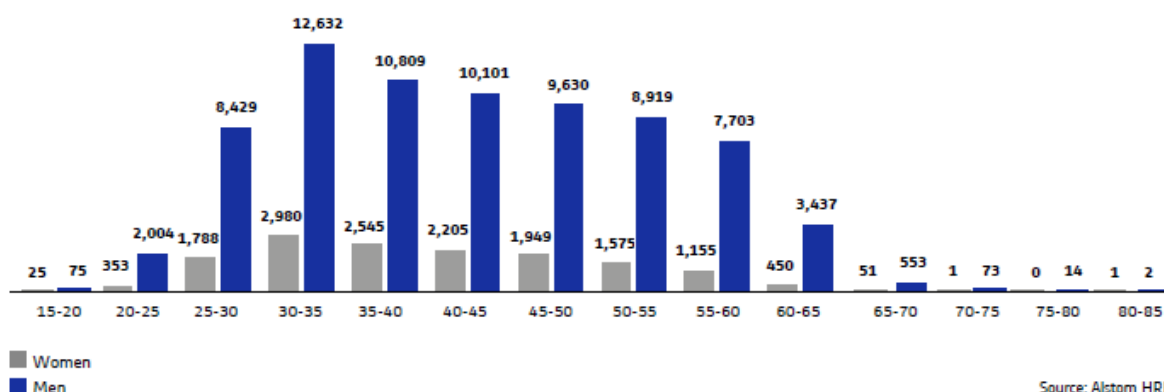
- the number of French senior executives has declined from 52% in 2006 to 45% in 2009, 40% at 31 March 2014 and stable at 40% at 31 March 2015;
- the number of expatriates decreased from 946 at 31 March 2012 to 848 at 31 March 2014. At 31 March 2015, the number amounts to 696 as a result of the Group's effort to empower local managers.

Actions and participations to bodies and organisations targeting the promotion of diversity have been continued in 2014/15. For more details, please consult www.alstom.com.

Managing senior careers

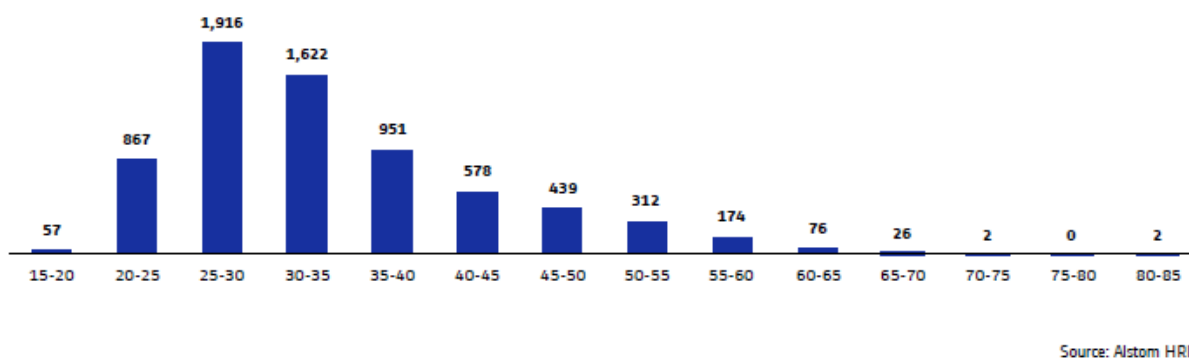
Age is obviously not a discrimination criterion. According the chart below, employees aged over 45 account for around 40% of the Group's headcount. On a more general view, the women/men breakdown vs. age is identical.

AGE PYRAMID BY GENDER (TOTAL WORKFORCE) – MARCH 2015



Besides, 1,031 people aged over 45 were hired over the fiscal year, corresponding to 15% of the new permanent recruits.

AGE PYRAMID OF NEW HIRES 2014/15 – PERMANENT CONTRACTS



EMPLOYEE RELATIONS

An internal survey, conducted in 29 countries and representing 94% of the Group headcount, showed that 67% of employees (vs. 64% last year) 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) met in various formats: 18 select committees, two regular plenary sessions, 14 extraordinary plenary meetings, four meetings of four working groups. The exchanges enabled the business situation and the impact on the workforce to be shared. Most meetings focused on the strategic move and transaction with General Electric. The Group decided to provide the EWF and local employee representation bodies with the support of experts beyond legal provisions to ensure a transparent and fair information process.

Many agreements related to salaries, working time, medical care, restructuring and profit-sharing were signed at local level with the employee representatives during 2014.

The list of the agreements signed in 2014 is available on www.alstom.com.

Management of restructuring impacts

Alstom strives to limit the social impact of decided restructurings. The principle driving the Group's policy is: "nobody is left to cope alone with an employment problem in the event of restructuring". Date February 2011, an agreement between Alstom and the EMF (which has become IndustriAll since that date) came to an end. This agreement was renewed in March 2015 with a scope corresponding to Alstom Transport. The agreement aims at safeguarding employment and accompanying the redeployment of employees. It also organises the social dialogue at European and local levels.

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, out of a total of 17,558 employees, 11% of the employees work on 2x8 shifts, 1.5% on 3x8 shifts and less than 1% 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 10 hours/per employee for calendar year 2014.

RELATIONSHIPS WITH EXTERNAL STAKEHOLDERS

RELATIONSHIPS WITH CUSTOMERS

For Alstom, customer satisfaction and understanding their long-term expectations is a key priority. In this respect, the Group has put in place procedures to better anticipate the needs of its customers and develop tailored solutions. These procedures must be assessed per Sector, as they correspond to different markets and product specificities. However, in all Sectors of the Group, relationships with customers are addressing the following objectives:

- understand customers' expectations and get their feedback through customer relationship management tools, regular surveys and related improvement action plans;
- build a stronger relationship with them through regular events, technical meetings with groups of customers, "customer clubs" around a product, etc.;
- make them familiar with Alstom products and solutions and help them extract the best value through technical trainings provided either at the customer premises or in dedicated Alstom training centres.

The sections below give more details of the way each Sector deploys its customer relationship policy.

Alstom Transport

Alstom Transport aims at sustaining a continuous relationship with its customers through all stages of their buying cycle – from business development to after-sales. For example:

- A modern **Customer Relationship Management (CRM) tool** – called "wall.C" – was deployed early 2013 across the Sales, Strategy and Marketing teams, encompassing over 500 employees. wall.C gives users a 360° view on all customers and thus provides the foundation for enhanced collaboration within the Company to better address customer needs. The first version of the CRM tool supported management of Accounts, Business Opportunities and Customer Satisfaction Surveys. Since March 2014, wall.C's scope has been extended to include bid management, win-loss analyses and also the Rolling Stock installed base within the service organisation and the customer web portal. The wall.C user-base has doubled within two years with more than 1,000 people connected early 2015.
- Alstom executes most of its contracts as projects in the field, installing and commissioning products and systems and integrating or maintaining them within complete transport systems. At any one time, there are some 450 of these projects in execution for contracts with a value over €15 million. To monitor the customer satisfaction on these projects, Alstom undertakes **Project Surveys** that are followed by **project-specific action plans and feedback loops**. Every three years, Alstom carries out a more qualitative **high level satisfaction survey** with customers at account level on a worldwide basis.

- **“Customer Clubs”** addressing Metro, PENDOLINO™ and Tramway systems have become part of Alstom Transport’s commercial metabolism. Customer Clubs are worldwide forums for customers to share their professional know-how and opinions with their peers and with Alstom experts. Customer Clubs for each system type are run every 12 to 24 months jointly between Alstom and one Club member. It is an opportunity for Alstom to listen to what its customers say about their business challenges and their specific needs and to present recent solutions in a customer environment. It also reinforces the customer intimacy beyond the contractual relationship. The profile of the customer participants are typically Strategy, Operations and Technical Directors. In 2014, the second meeting of the Alstom Metro Club took place in May in Panama on the occasion of the inauguration of the Panama metro: in the course of two days, 20 customer representatives from 11 metro operators in Latin America, Europe and Asia had the opportunity to share their ideas and experience on metro systems. In 2015, the Tramway Club was launched in March in Barcelona (Spain) and the second session of the Pendolino Club will take place in autumn.
- Alstom is an active participant in many **exhibitions and conferences** each year with the aim of fostering relationships with customers and updating them on the Company’s latest innovations. Many of these events are at national or regional level, demonstrating the Company’s proximity to customers. Of the global events, two stand out for particular mention:
 - Innotrans, held bi-annually in Berlin (Germany), is a strategic showcase for all stakeholders in the global rail industry,
 - UITP World Congress, held bi-annually but each time in a different location, is a multi-modal event focused on urban mobility.
- Inaugurated in July 2013, the **“Knowledge Centre”**, located in the north of Paris (France), is a new hub equipped with modern training facilities, from which training programmes for Alstom Transport’s customers’ staff are delivered and developed. The centre located on an historic Alstom industrial site and shared with the other Sectors of the Group, offers training sessions to customers to help them maintain and drive Alstom products, while showing them the best way to serve passengers. It is equipped with cutting-edge technology, in particular a 3D room providing virtual reality training.
- For many years, Alstom has run a broad range of **training courses** for customers as part of equipment supply contracts. Today these are managed on a structured and integrated basis. More significantly, in nations that are investing for the first time in public transport, demand is booming for the training of train drivers, technicians and train fleet and rail infrastructure maintainers. Alstom is responding to this demand with a dedicated team which tailors and delivers rail transport training programmes to meet this need of emerging countries.

Energy businesses (discontinued operations)

One common action covered Alstom energy activities: Alstom’s *Conseil Stratégique*, a yearly CEO-level event gathering Alstom top management and the top-30 customers from all around the globe to discuss long-term *scenarii*, as well as some external stakeholders/experts giving their vision of the stakes in the energy world for the next decades. In the context of the GE/Alstom Alliance project, the 2014 event scheduled in June could not take place.

Alstom Power (Thermal Power and Renewable Power)

Alstom Power is dedicated to building customer relationships based on trust and mutual understanding.

The Global Power Sales organisation, based in the countries, covering both Alstom Thermal Power and Alstom Renewable Power, aims to be close to its customers, in order 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 these customers. The “One Face To the Customer” concept ensures the coordination of business activities and thus a better answer to customers’ expectations and satisfaction. In addition, the following actions are carried out:

- For the past ten years, Alstom has organised regular **customer satisfaction surveys** to which nearly 500 people answer each time; the latest one was conducted in 2013. Results are analysed, working groups are put in place to define and implement action plans to increase the satisfaction level. Actions implemented following the 2011 survey are already showing results. Customers are provided with a feedback on their assessment. Customer satisfaction surveys are also conducted at business level during and following the completion of most projects.
- To further strengthen Alstom Power’s customer satisfaction process at an operational level (customer project and plant levels), a joint initiative between Thermal Services and Steam business has been launched to harmonise Alstom’s survey methodology applied across regions, products and businesses. Beyond surveys, the harmonised methodology emphasises on customer issue resolution and systemic business improvements based on the utilisation of Alstom’s quality methods and customer intimacy approach. After a successful pilot, the harmonised customer satisfaction process has been deployed globally across businesses and is now a central piece of customer relationship management during projects and transactional sales with Alstom customers.
- The global **“customer intimacy” programme** now fully deployed aims to understand how best to 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. In particular, to further demonstrate its commitment to improving the quality of its relationship with its customers, Alstom Power has launched a Customer Charter, consisting of ten commitments to which employees are adhering; over 4,000 of them have signed this charter.
- **Working groups** comprising customers and Group experts discuss specific products and technologies. Sharing views and experience, particularly with regards to technical expectations, is extremely useful for Alstom to improve existing products and develop new offerings.
- **“Dedicated to Customer” (D2C) programme** in Thermal Services focuses on listening to Alstom customers at a strategic/upper management level and adjusting the business based on their feedbacks. More than 25 customers covering 942 GW of the world thermal installed base were met in the last two years. Over 1,070 Alstom employees have been engaged to prepare and debrief these meetings and as such, have actively participated in the implementation of the “Dedicated to Customer” culture inside Alstom;
- **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.
- Both Alstom Thermal Power and Alstom Renewable Power propose a wide range of **training courses** to help customer getting 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 them to operate power plants during the construction phase of a project.

Alstom Grid

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 2014, Alstom Grid has further reinforced its processes in order to put the customer at the centre, including:

- The set-up and integration of dedicated Transactional or Point Of Contact surveys in its customer relationship management (CRM) platform. These surveys are deployed at delivery, erection & commissioning or other key project milestones.
- The Act for Customer Trust (ACT) key performance and customer satisfaction indicators, reflecting what customers value: respecting commitment, reducing resolution lead time and minimising customer effort.

A few examples of actions underway:

- In addition to local actions, Alstom Grid carries out yearly **customer quality surveys** that cover various customer satisfaction questions with over 20,000 contacts worldwide. These surveys also include customers' perception of Alstom Grid's sustainable development performance. Customers' negative feedback is assessed on a one-to-one basis through a customer call-back process and is logged in ACT where necessary. It is further analysed through management meetings to define improvement plans.
- Alstom Grid strengthens customer intimacy through **Key Account Management** (between 150 and 180 Key Accounts which cover 80% of the business including utilities and industries). The mission of Key Account Management is to promote and develop customer intimacy, to ensure customer loyalty and increase customer satisfaction. A yearly Key Account Plan ensures in-depth account review, including interviews with key customers to obtain 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 customer intimacy activities for each Strategic Key Account to better understand the customer's business, develop joint solutions and evaluate new technology.
- Alstom Grid also regularly holds **User Groups** worldwide in the fields of Network Management Solutions, Air-insulated Switchgear and Gas-insulated Substations. In 2014, the Network Management Solutions division held five User Groups that were attended by nearly 600 customers covering all regions. User Groups allow installed-base customers to exchange views with peers, interact with Alstom experts, and keep abreast of the latest trends and developments in the industry. By regularly listening to customer feedback during User Groups, Alstom gains unique insight, which helps ensure that the solutions developed evolve with the needs and challenges of its customers. Furthermore, User Groups offer Alstom an opportunity to display its latest products and solutions, allowing its experts and sales teams to expand the customer base, develop relationships and identify business opportunities. In June 2014, the Air-insulated Switchgear division demonstrated in Frankfurt/Main (Germany) its digital substation technology and Asset Management strategies to 82 delegates from 21 countries. The Gas-insulated substations team showcased in Singapore its latest developments in terms of products and digital solutions in front of 190 delegates from 49 companies.
- Alstom Grid is an **active member of CIGRE** (the International Council for Large Electricity Networks), where international experts exchange knowledge, share best practices and discuss the future of the power grid.
- Alstom Grid also offers **technical training** through its Technical Institute network to accompany customers across the lifetime of their equipment. A comprehensive network of 21 training centres worldwide ensures technical training through a proven pedagogical approach by a community of 200 certified trainers or *via* 40 e-learning modules. During the past year, over 20,000 training days were held around the world.

RELATIONSHIPS WITH GOVERNMENTS, INTERNATIONAL ORGANISATIONS AND THINK TANKS

Contribution to the public debate on sustainable development policies

Alstom wants to be known for the quality of its contribution to the public debate around sustainable, environmentally sound rail transport as well as power generation and transmission, 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.

The Group 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 through 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 intellectual property rights (IPR) as a major driver of innovation and investment in Research, Development and Deployment (RD&D);
- the need for continued investment in public and private R&D in sustainable technologies, particularly through:

- public support and collaboration to accelerate ongoing R&D and demonstration of sustainable technologies and services,
- public funding for the piloting and demonstration of pre-commercial technologies,
- international financial institutions support for major infrastructure projects in developing countries,
- financial institutions which make more use of innovative instruments to leverage private investment, notably through risk-sharing, and governments that support and facilitate this;
- the importance of long-term, transparent and stable policy frameworks to support investment in sustainable development, particularly through:
 - meaningful CO₂ prices,
 - stable and predictable market mechanisms,
 - market-based financial for non-commercial low-carbon energy technologies to support and drive their deployment. There should be equal treatment between renewables and carbon capture and storage (CCS),
 - increased penetration of intermittent renewable power; there may also be a need to support storage technologies, back-up capacity, market-balancing and transmission upgrades,
 - capacity mechanisms which can play an important role in ensuring adequacy of supply but should be applied only where generation, grid and storage capacity is inadequate. They should be auction-based, technology-neutral and support market-balancing and storage as well as generation,
 - balanced regulation and standard-setting to support a broad portfolio of sustainable, low carbon, high-efficiency technologies,
 - promotion of sustainable, low-carbon transport options such as rail,
 - effective application of the right technical standards to deploy technologies. Technical standards should ideally promote the use of best available technology (BAT),
 - consistency and mutual recognition of standards and regulation between different jurisdictions (certification & homologation) to reduce costs,
 - robust standards on energy efficiency and incentives to improve efficiency, especially of energy supply, play an important role in driving investment in technologies, both in energy and transport,
 - regulation and standards on air quality to drive investment in environmental control systems, both in energy and transport,
 - minimising the use of natural resources in energy and transport; any legislation, notably on the use of water in power plants, should take into account the technical and economic realities and incentivise deliverable efficiency improvements,
 - growing interest in improving the resilience of energy and transport infrastructure, especially in response to climate change impacts.

The transition to a low-carbon economy is an essential element of ensuring a long-term sustainable operating environment for Alstom's businesses. It provides major opportunities for the deployment of the Group's technologies, and effective action on it is a central part of the Group's wider Corporate Social Responsibility. Major economies need to make ambitious CO₂ emission reduction commitments to drive the transition to low-carbon. A new global climate change agreement at the Paris COP 2015 Summit is central to this. A new agreement should unlock increased volumes of low-carbon finance, stimulate CO₂ pricing and uphold IPR protection.

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.

At international level

- In 2008, Alstom joined the United Nations' Global Compact organisation, 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.
- Alstom is one of two private sector active observers on the Advisory Board of the UN Green Climate Fund (GCF).
- Alstom is a member of the Global Green Growth Forum (3GF) and on its Advisory Board.
- Alstom has been an active member of the International Emission Trading Association (IETA) for some years and is represented on its Board. The Group is also active member at the IETA's Business Partnership for Market Readiness (B-PMR) (see below).
- In 2014, Alstom became part of the World Bank's Carbon Pricing Leadership Coalition, bringing together leaders from governments, business and civil society, to help expand and improve the design and implementation of carbon-pricing policies which maintain competitiveness, create jobs, encourage innovation and deliver meaningful emission reductions.
- Alstom has signed the sustainable development charter drawn up by the International Association of Public Transport (*Union internationale des transports publics, UITP*).
- In 2014, Alstom confirmed its support to the International Union of Railways (UIC) Low Carbon Rail Transport Challenge, "a commitment to deliver railway solutions which are more energy efficient and attractive such as high performance electrical, diesel and hybrid trains, smart railway systems and modernisation services".
- Alstom joined the Sustainable Low Carbon Transport Partnership (SLoCaT).

At regional/country level

- At the European level, Alstom is part of the EU Green Growth Platform, the EU Platform for Smart Grids and Cities, and the EU Smart Energy Demand Coalition. Also, Alstom was a founder and is a leading member of the "Friends of EU ETS" coalition.
- In the USA, Alstom is a member of the US Business Council for Sustainable Energy (BCSE) and the US National Climate Coalition.

- In Germany, Alstom is a member of Econsense, the leading sustainability coalition for business in the country.
- Alstom is a founding member of the Australia-based Global Carbon Capture and Storage Institute.

Involvement in many programmes linked to Sustainable Development

During the fiscal year, Alstom was involved in many programmes directly linked to Sustainable Development:

- Alstom continued to participate actively in the United Nations Framework Convention on Climate Change (UNFCCC) *fora*, sponsoring the World Climate Summit (WCS) at the 20th Conference of the Parties (COP 20) in Lima, Peru, in December 2014. Alstom will also participate in COP 21 in Paris, France, in December 2015 to show how its technologies support the transition to a low-carbon society.
- Alstom played a leading role in business support for the European Emission Trading Scheme (ETS), to support the Commission's proposal on "backloading" of allowances and a market stability reserve.
- Alstom actively engaged in the IETA's B-PMR to help industry in emerging economies to prepare for CO₂ emissions trading: in China, Korea, Mexico and South Africa.
- Alstom actively engaged in the promotion of policies to tackle non-CO₂ pollutants in Asia, through its involvement with the Centre for Clean Air Policy and its chairmanship of the Confederation of Indian Industry working group on next generation environmental standards.
- Alstom supported a number of initiatives in the rail industry. Two examples:
 - In March 2015, Alstom, together with Bombardier Transportation, Deutsche Bahn, Knorr Bremse, Nederlandse Spoorwegen and SNCF – launched Railsponsible in Utrecht, The Netherlands (see more details in next section).
 - Alstom's UK President is co-chair of Rail Supply Group, alongside Secretaries of State for Business and Transport. The group is led by the tier-one suppliers in the British rail industry, including Alstom, Siemens, Hitachi and Bombardier as well as civil contractors, consultants and other engineering firms. The group's mission is to support the development of the UK's rail supply chain – both to ensure successful delivery of domestic projects such as HS₂, Crossrail and London Underground, as well as to develop a supply chain that can effectively export its expertise and products into the global rail market.

RELATIONSHIPS WITH SUPPLIERS AND CONTRACTORS

Since 2007, Alstom has been committed to integrating sustainable development in its purchases, and has made every effort to reduce the environmental, social and ethical risks in its supply chain.

Suppliers' contributions represent an important part of contract execution costs (around 60%). In large global contracts, Alstom needs to use contractors for the execution of work for which it does not have the necessary skills, such as civil works. This leads to a significant number of hours of contracting: for fiscal year 2014/15, contractors worked an estimated 119 million hours at Alstom sites and on construction sites, corresponding to the equivalent of 62,130 people on the basis of a 40-hour work week and 48 weeks/year (65,000 people in 2013/14).

The effective implementation of the sustainable sourcing approach relies upon collaboration between Alstom and its suppliers and contractors, which ensures a more responsible supply chain. These commitments are formalised in the "Alstom Sustainable Sourcing Policy" signed by the Chairman and CEO of the Group and available on www.alstom.com.

By establishing partnerships with its suppliers and contractors, Alstom wants to ensure continuous improvement in raising its suppliers' sustainable development performance and minimising its exposure to risks. This approach is also a driver for innovation and change management in the Group.

Risk reduction in the supply chain

Commitment and qualification of suppliers and contractors

The "Charter for Sustainable Development for Alstom's Suppliers and Contractors", to which all Alstom suppliers have to adhere, requires their compliance with the principles set forth in the United Nations Universal Declaration of Human Rights, the International Labour Organisation's (ILO) Fundamental Conventions, the Guiding Principles of the Organisation for Economic Cooperation and Development (OECD), the Rules of Conduct of the International Chamber of Commerce (ICC) and all of the values described in Alstom's Code of Ethics.

At 31 March 2015, more than 33,700 Alstom suppliers have already expressed their commitment by signing this charter. Compliance with the charter is also integrated in Alstom's general purchasing conditions in order to ensure adherence on a general level. Furthermore, social responsibility topics are incorporated in each Sector's supplier qualification processes. The audits conducted by Alstom auditors therefore include CSR criteria.

Risk mapping

Reducing environmental, social and ethical risks in its supply chain is one of Alstom's main priorities. With a wide range of sites worldwide, Alstom favours purchases from local, generally medium-sized companies. Alstom has a highly diverse pool of suppliers. It has thus become necessary to prioritise the assessment of suppliers located within the Group's sphere of influence and potentially presenting a significant risk factor. Alstom conducts a CSR risk mapping of its suppliers on an annual basis with three criteria:

- product family;
- supplier country;
- total purchasing volume with the Group.

The level of risk for each product family and country is determined by a third party and updated annually. Risk mapping allows the Group to establish priorities for supplier assessment. The analysis methodology is described on www.alstom.com.

The Group has set rules and objectives on a three-year timescale. Should the GE/Alstom Alliance project – and the resulting new scope of Alstom – come into effect, a new three-year forecast plan would be defined for Alstom, aligned with objectives set during the previous period of time.

Assessment of suppliers

To measure their sustainable development performance, suppliers undergo an assessment based on environmental, social and ethical criteria, including their own sustainable development requirements to be passed on to secondary suppliers. The assessments are conducted by EcoVadis, a company specialising in sustainable development evaluations. They are led by a team of CSR experts, who analyse the suppliers' questionnaire responses, documentation and published information on their activities. The assessment process includes references to international standards such as the United Nations' Global Compact, ISO 26000 and the Global Reporting Initiative.

The Group has implemented various pedagogical supports targeting its suppliers and has organised conference calls, in order to help them better understand the assessment process.

At the end of fiscal year 2014/15, 1,636 suppliers had been assessed, representing more than 50% of Alstom's total production purchasing volume.

On 4 March 2015 was officially launched the Railsponsible initiative, whose Alstom is a founder member, alongside with Bombardier, Deutsche Bahn, Knorr-Bremse, Nederlandse Spoorwegen and SNCF. Railsponsible is a European rail industry initiative focused on sustainable procurement to improve sustainability throughout the entire supply chain, through sharing best practices and processes, and to use and share common tools, creating efficiencies. This partnership allows members to use the same suppliers' CSR assessment platform, settling ethical, social and environmental issues into the railway industry's sourcing strategy. There are various benefits of pooling information, both for suppliers and initiative members, as once the supplier's assessment is done upon any member's request, the result can be shared with all other members. By having access to the assessment of suppliers that are not necessarily within its risk mapping, Alstom will benefit from a wider overview of its suppliers' panel CSR performance while lightening the suppliers' burden. For more information: www.railsponsible.org.

Corrective action plans

When their assessment rating is considered unsatisfactory, suppliers must draft and implement action plans to address their identified weaknesses. Alstom's sourcing teams provide support on supplier's performance improvement efforts. Suppliers should be reassessed when they have completed their corrective action plan.

In the event that a non-compliant supplier is not willing to implement a corrective action plan or to commit to making forward progress, Alstom may consider ceasing its collaboration with that supplier.

Integration of best practices and continuous improvement process

Change management with Alstom's buyers

Alstom works with a large number of suppliers worldwide; its entire process is then driven by buyers and aims to integrate sustainable development into the Group's sourcing culture. Alstom is aware that this dynamic requires strong involvement on the part of buyers, and thus, has developed a communication and training programme dedicated to sourcing and supplier-quality teams. The goal of such training is to provide a better understanding of Alstom's requirements in terms of sustainable purchasing, supplier assessment, and how to help suppliers develop corrective action plans. In order to be easily deployed in the various countries where Alstom operates, these training courses are held either online or face-to-face. Their content is reviewed and updated each year to take into account the sustainable development maturity of buyers and suppliers. At 31 March 2015, 810 members of the sourcing community have been trained (out of which 95 for Alstom Transport).

Development of partnerships with suppliers

Since upstream in the projects, Alstom strives to develop a relationship with its suppliers based on collaboration. By allowing a wider visibility and better forecast of the targeted markets, this approach aims to strengthen suppliers' commitment. Based on concrete projects, the human and financial investments resulting from this collaboration ensures a win-win partnership on the long-run.

This shared vision has thrived upon the partnerships developed in Alstom Transport's "Leading Partners" Programme, which gathers Alstom's key suppliers and companies who developed a specific know-how in the railway industry worth being highlighted. Thus, a preference is given to suppliers able to conjugate innovative differentiation and operational performance. Shared innovation, international development support and sustainable development are the three main pillars of this strategy.

In this regard, an example of this is the smart window notably developed with a "Leading Partner" Saint-Gobain, displaying a new "passenger's experience", and which was presented at Innotrans 2014. This innovation from Alstom Transport was also awarded the gold medal within the "Open Innovation" category (rewarding innovative products and solutions co-developed with Alstom's partners) of the Alstom 2014 Innovation Awards.

Within the "best commercial success award" category, was also distinguished by the French employers' association (MEDEF) a partnership between Alstom Transport and Phitech, which resulted in the development of a new visually impaired and blind customers' assistance system, helping them find and access the trains' doors.

As illustrated by these initiatives, Alstom strives to keep watching its sourcing panel, to hatch and grow new ideas and build on this profitable relationship with its suppliers.

Responsible product sourcing

Alstom has also initiated new projects, related notably to "environmental-friendly sourcing", i.e. purchasing products or services with reduced or limited impact on the environment. Given the context of the GE/Alstom Alliance project, the volume of indirect sourcing purchase orders has significantly decreased. Although the number of initiatives launched does not reach last fiscal year's one, Alstom's positioning regarding indirect green contracts remains the same. Thus, new "green contracts" were made this, e.g. for document management, electronic waste, facility management, food service management, forklifts, etc. In order to help buyers integrate green criteria into their requests for quotation, guidelines for each commodity have been provided, with a detailed list of Sustainable Development criteria needing to be considered, as well as recommendation. More information is available on www.alstom.com.

In order to sustain this process, Alstom collaborates with its partners in a “responsible product” approach, integrating eco-design and life-cycle analysis in the product development stage. This collaborative approach enabled the Group to develop more environmental-friendly technologies. For example, Alstom jointly developed with 3M™, a leader in environmentally sustainable solutions, the revolutionary SF₆-free solution, g³ (Green Gas for Grid). For more information, please refer to the previous section related to sustainable development in Alstom solutions.

Key indicators

	Transport		Alstom Group at 31/03/2015 ⁽¹⁾		
	2013/14	2014/15	2012/13	2013/14	2014/15
Number of charters signed by suppliers (cumulative figure)	1,880	2,450 ⁽²⁾	10,900	16,900	33,750
Number of suppliers assessed (cumulative over 4 fiscal years)	404	466	1,515	1,605	1,636
Number of people trained in sustainable sourcing through a specific programme (cumulate figure over 4 fiscal years)	173	95	780	960	810

(1) Alstom Group at 31 March 2015 includes Transport activity and discontinued operations (Grid, Thermal Power, Renewable Power, Corporate and Others).
(2) Excluding charters counted through Terms and Conditions signed.

RELATIONSHIPS WITH LOCAL COMMUNITIES

In 2013, Alstom defined a global policy regarding community investment which is consistently implemented wherever the Group operates. Simultaneously, Alstom acts as a local player and as such, implements local action plans in line with local stakeholders’ expectations and its own policy.

A community investment policy

The Community Investment Policy, adopted in January 2013 and posted on the [Group’s website](#), sets three priorities:

Contribution to education in all countries

In line with the commitment Alstom made at Rio+20 meeting in June 2012, Alstom promotes education among young people through three pillars: supporting students, supporting education institutions and building partnerships with universities.

A few examples of the **support to students**:

- In the UK, Alstom is member of Engineering UK and WISE (Women in Science and Engineering) and has 130 employees certified STEM (Science, Technology, Engineering and Maths) ambassadors, around 40 of whom are from Alstom Transport. They participated in 30 outreach projects at national and regional levels to promote the interest of careers within the industry, targeting both female and male students. In addition, Alstom is part of the UK government’s Trailblazers scheme for apprentices, a group of employers working together to design apprenticeship standards and assessment approaches to make them world class.
- In France, Alstom is member of “Elles bougent”, a non-profit organisation which promotes industrial jobs to high school students by organising exchanges with female students and Alstom engineers and offering tours of workshops.
- In Sweden, Romania and Greece, Alstom encourages students to choose engineering, technology, science and maths related studies by offering scholarships, mentorships, internships and apprenticeships, in order to facilitate interactive dialogues through different events and lectures within educational institutions.
- In Mexico, Alstom provides financial support to Panther UP Robotics team, which is an academic organisation founded by the Pan-American University in Mexico City. It aims to develop sciences and technology by organising competition at regional and international levels. Alstom will support the team’s participation into 2015 FIRST (For Inspiration and Recognition of Science and Technology), a competition aiming at inspiring young talent in technological innovation.
- In Tunisia, Alstom Transport is part of the FACE (*Fondation Agir Contre l’Exclusion*) Bizerte, an initiative to promote professional equality between women and men. Alstom will provide technical support, such as training, hosting visits and mentorship support, to beneficiaries of this initiative.
- In Israel, Alstom supports the Wisam Khamees scholarship Fund benefitting Israeli Arab and Jewish students.
- It is also worth mentioning that Alstom provides help to disadvantaged students to further their study. For example:
- In Brazil, at Itajuba, since 2008, the “Projeto Pescar” initiative has aimed to help 12 young adults every year in obtaining their first job after a one-year training programme. 28 Alstom employees volunteered in this action. In Taubaté, the same kind of programme named “Escola Formare” has been implemented, targeting 20 youngsters in 2014 with 134 Alstom employees as volunteers.
- In China, in 2014, 224 employees participated in “Walking for Love”, a Spring Charity Walk that aims to raise funds for the Migrant Children’s School.
- In France, at Belfort, Alstom provides ten unemployed individuals with the possibility of a 400-hour internship to help them learn new skills in order to secure a future job.

- In Sweden, Alstom participates in *Teknikspranget* (Technical Leap) by hosting three students for four months to encourage them to continue their studies at a higher level.

In regards to **supporting to schools**, a few examples:

- In South Africa, Alstom rehabilitated two public schools welcoming 700 pupils in the neighbourhood of Kusile, Mpumalanga, where a building was rebuilt with quality materials and in Sebudosetu, where the roof was renovated.
- In India, Alstom distributed educational materials to 100 school children, who are from poor families in villages next to Alstom Transport's Sri City site; in Durgapur, Alstom supports schools through free coaching sessions for tribal students of nearby villages and provides library books and school stationeries; and in Shahabad, Alstom supports the maintenance and electricity supply of schools as well as teachers' salaries.
- In Morocco, Alstom is part of the "Initiative Foundation" along with 20 other companies. The Foundation has an annual budget of €200,000 and has been sponsoring since 2010 the extension programme of a local school, Lahraouiyyine, located in a disadvantaged neighbourhood with the close involvement of school and local authorities. Not only has a covered courtyard and laboratories been built, but also 12 new classrooms have been constructed. Aside from the construction, 16 university students from the local university offer private lessons to more than 120 pupils within the school. These volunteer students in return are often given an internship opportunity at one of the 20 partner companies. Alstom welcomes its first intern from this initiative in 2015.

For more information on contribution to Education can be found at www.alstom.com.

When it comes to **relationships with universities**, Alstom partners with more than 100 universities, 37 of which being with Alstom Transport, for joint research programmes in 2014. As an example in France, Alstom recently participated in the creation of a new "Hydro'Like" professorship in partnership with the *Institut national polytechnique de Grenoble*.

The list of universities can be found at www.alstom.com.

Support the local economic development and industrial activities

As a multinational company, Alstom takes on the responsibility to coach and support small- and medium-sized enterprises (SMEs) and start-ups at local level through mentorships and financial supports. Here are a few examples:

- In Algeria, Alstom supports the *Injaz El Djazair* initiative, a non-profit organisation promoting education and in particular the development of start-ups through a regional contest in Middle East.
- In Venezuela, Alstom is part of an initiative led by the French Chamber of Commerce and provides sponsorship to one local female chocolate maker and entrepreneur, to increase the quality of her products and promote them among Alstom employees.
- In France, Alstom develops joint projects with SMEs as part of the "Investments for the Future" programme and in the frame of the clusters it participates in. It also contributes to the Supergrid Institute in Villeurbanne, the Energy Valley activities in Belfort, the Technology Research Institutes in Saclay and in Nantes, as well as in four main competitiveness clusters: Tenerrdis in Rhône-Alpes, *Pôle Nucléaire Bourgogne* in Burgundy, *Pôle Mer Bretagne* in Brittany and EMC2 in Pays-de-Loire.

For more information, see www.alstom.com.

Social support based on the local needs

Alstom cares about the local communities where it operates and is committed to improving the lives of locals through various types of volunteering from its employees. In 2014, Alstom made a specific focus on the participation of its employees in voluntary activities. Formal and informal mechanisms have been developed at different levels to coordinate these volunteering activities.

Below are some significant examples of volunteerism:

- In Australia, Alstom employees participated in an initiative aiming to raise €25,000 to support Children's Cancer Institute Australia (CCIA). Different activities were organised by employees in 2014, such as a basketball match, barbecues, bike rides, and attendance at the Charity's annual dinner. A total of €19,800 has been collected up to March 2015.
- In Brazil, Alstom initiated the "I want to do more" programme, which encourages all employees to propose and participate, on a regular basis, in charitable activities, such as a blood drive or donation to an orphanage. A programme committee has been created on each site to suggest and implement ideas from employees. In 2014, 28 such actions were achieved.
- As an example, Alstom established its own choir, Sol Maior Choir, sponsored by the Corporate Governance Committee. In 2014, 15 employees participated in the Sol Maior Choir. They meet once a week to practice and they provided two external performances as volunteers. One was during the graduation ceremony of a local school, and the other was on Father's Day in a local kidney transplant hospital.
- In Mexico, Alstom adopted an organisation with a CODIRSE (*Comité Directivo de Responsabilidad Social de la Empresa*) to monitor the action plan.
- It has participated in Kardias Race in Mexico City since 2013 in order to raise funds to support children born with heart diseases. In 2014, 146 Alstom employees together with their families and friends joined the race to raise funds to support 9,000 such children.
- In Colombia, Alstom is part of an initiative led by a local foundation to donate and provide medical, social and psychological support for children and teenagers who go through cancer treatment. All Alstom employees have been encouraged to throw plastic bottle caps in a container at the office. Those plastic bottle caps are sold by the foundation for funds.
- In France at Belfort, Alstom is part of the International University Music Festival (*FIMU*), which organises the music festival each year during the Pentecost weekend in the old town, attracting 70,000 visitors. In the 2014/15 fiscal year, Alstom supported and provided mentorship support to 6- to 8-year-old children learning music through different musical workshops. Alstom employees volunteered to be mentors for the children.
- In addition, Alstom Transport offered 400 productive hours to the NGO *APMFS* (*Association pour la Préservation du Matériel Ferroviaire*

Savoyard) to renovate a 700102 locomotive.

- In Germany, Alstom has been part of the Corporate Citizen project "Brücken Bauen" for six years and has built a stable partnership with a local institution which provides support to handicapped children. In 2014, Alstom Transport (Salzgitter) participated in a summer party and organised a ride on a portable railway for 70 children with disabilities.
- In China, Colombia, Poland, Spain, Alstom employees have been motivated to donate clothes, stationaries, food and other items to disadvantaged populations, such as children from poor families, homeless people, and people affected by natural disasters.
- In the UK, Alstom has been working with BITC (Business In The Community) to reinforce its CSR action plan and nominated a "green champion" in each major site. It has set up a volunteering policy with the objective of 500 volunteering hours per year. As an example, it has developed a project to improve an area of waste land next to the Ashby office, including clearance of woodland under the supervision of the NGO Trent River Trust.

For more information on charitable contributions can be found at www.alstom.com.

Through these CSR activities in local communities, Alstom has been recognised as a responsible company by different organisations. For example, Alstom won the 2015 UKRIA (UK Rail Industry Awards) for CSR in recognition of the actions based on four strategic pillars: education, people, community and sustainability. And in Mexico, Alstom received the *Distintivo ESR*, Mexican badge of a socially responsible company delivered by the Mexican Centre for Philanthropy (*CEMEFI*) for the first time in April 2014 and again in 2015 for the Group, and more specifically for Alstom Transport.

THE ALSTOM CORPORATE FOUNDATION

Around the world, Alstom and its partners lead actions with local organisations to improve the living conditions of the local communities surrounding the Group's plants and sites with close participation from the local communities. The Alstom Foundation enables the Group to strengthen these initiatives by providing finance for a variety of concrete actions in economic and social development taking into account the protection of the environment.

The Foundation's Board of Directors, which is the decision-making body, is composed of eight internal representatives and four external ones: Claude Mandil (former Director of the International Energy Agency), 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), who had participated actively in the Foundation's Board since its creation, passed away in December 2013 and has not been replaced since then.

Since its creation in 2007, the Alstom Corporate Foundation has financed 115 projects out of which 20 in 2014/15. All projects are presented and supported by Alstom employees and are mainly implemented in emerging countries. The Foundation has a budget of €1 million per year.

The 20 projects supported by the Foundation in 2014/15 can be classified under four areas:

Access to energy and water

The four projects in this category are intended to facilitate access to energy and water:

- electrification with solar panels, of the Mwenga Hospital, the only hospital in an area covering 120,000 inhabitants in South Kivu, Democratic Republic of Congo;
- set-up of a hot water solar system for cooking and heating needs at Asha Bhavan Centre in India, which provides residential care for disabled children; the installation is provided by Don Bosco Self Employment Research Institute which gives trainings in vocational trades thus helping disadvantaged children get a job;
- extension of water distribution from 30 to 90 houses by upgrading the existing solar water pumping system in Panggang, Indonesia;
- electrification of 18 schools by installing solar panel and creating an electricity charging station for income generation activities in Tanzania.

Economic and social development

In this category, the projects the Foundation supports focus more on economic support while taking into account the other aspects of sustainable development:

- a comprehensive programme to create alternative revenues through technical education for 70 children on eco-construction, in Baixo Sul, Brazil;
- development of urban agricultural activities by cultivating unused urban spaces and developing marketing strategy for the products, in Bogota, Colombia;
- sustainable waste management in Egypt;
- development marketing strategy and branding for the carpentry workshop in Uaxactum, Guatemala, which has been sponsored by the Foundation for four years;
- rehabilitation of the Peligre school and facilities in Haiti;
- creation of a home for 20 girls (orphans), who are above 7 years old, in New Delhi, India;
- reconstruction of two schools affected by Hurricanes Ingrid and Manuel in Mexico, by installing solar panels and sanitary facilities;
- promotion of cultural and academic activities in two schools in South Africa by offering architectural facilities;
- professional trainings for parents and youth with disabilities between 14 to 18 years old, to create self-employment and income-generating actions taking advantage of the local resources in Tajikistan;

- promotion of village farming by providing technical training on agriculture and nutrition in 104 targeted households in Vietnam.

Nature preservation

The four projects related to nature preservation selected this year aim to increase local awareness on how to improve the environment through sustainable daily practices within the communities:

- creation of a greenhouse in one local school of Najaf, Iraq, with usage of renewable energy;
- protection of Papaloapan river watershed through reforestation, trainings of local communities with sustainable technologies, and income generation activities, in Mexico;
- natural resources sustainable and participative management in Easter Island, Chile;
- support of Mamoni Wildlife Conservation Center's strategy in eco-tourism benefiting to local communities, with hydro-electric energy plant renovation, in Panama.

Access to mobility

- development of a bamboo-based eco-composite lumber to build boats using traditional know-how marine carpenters in Bangladesh;
- support of access to mobility of disadvantaged children at suburbs in São Paulo, Brazil, by providing them with trainings on bike mechanics and giving them repaired bikes at the end of the training.

In regards to the deal with General Electric, Alstom Foundation would be connected with the future Alstom, which would focus on transport activities, once the closing of the deal is completed. Thus, the 2015/16 project submission has been postponed until the end of September 2015, followed by the project selection by the end of December 2015.

More information about the Alstom Foundation projects can be found on the following link: www.foundation.alstom.com.

METHODOLOGY

Introduction

The content of this chapter dedicated to Sustainable Development and Alstom's Social Responsibility has been prepared by the CSR central team of Alstom with the collaboration of internal stakeholders: the Sectors for their respective description of sustainable solutions and customer relationship management, as well as many support functions such as Sourcing, Human Resources, Risk Control, Ethics & Compliance, Environment-Health & Safety (EHS) and the Alstom International Network (Country Presidents).

The information collection and consolidation were conducted along with a dedicated process between January and April 2015, under the supervision of an Editorial and Validation Committee led by the Group Vice President EHS & CSR, which validated the choices during three meetings over the period.

In regard to the announced acquisition of Alstom energy activities by General Electric, the information given for the Group at 31 March 2015 has been completed with specific information about the sole Alstom Transport perimeter, whenever it was relevant. In that case the title heading the information shall be "Transport". Subject to the completion of the deal, this information will allow future comparison on the new perimeter of Alstom SA.

The whole chapter has been reviewed by PricewaterhouseCoopers as an independent third party in regard to Article 225 of the French Grenelle law.

Reporting principles

All the data reported (indicators) are coming from different Alstom internal reporting systems, detailed in the respective sub-sections.

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 are 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.

Environmental performance and Health & Safety results

Data covering those topics are gathered with Alstom's reporting and consolidating system "Terenga" which is also used for financial reporting. This ensures the coverage of Alstom's activity very close to 100% of Alstom employees for Health and Safety. Employees of companies working under Alstom's responsibility (contractors) are also covered. For the environmental performance, all permanent activities of the Group are covered. Some temporary construction sites are not covered when Alstom's activity is only a part of a larger site.

On Health and Safety, the reporting is done every month on around 770 sub-units (elementary report units) with 15 basic indicators.

On Environment, the reporting is done by quarter on around 400 sub-units with 40 basic indicators.

The definition of indicators and reporting process are described in a Group-level document (EHS Reporting Manual) managed under the responsibility of the Group Vice-President EHS and CSR.

Social report and actions on local communities

The sources for social reporting indicators are:

- the Alstom HR information system (ALPS), based on PeopleSoft software and operating at all Alstom facilities;
- a social survey conducted in 29 countries on the figures of calendar year 2014 – Algeria, Australia, Belgium, Brazil, Canada, Chile, China, Croatia, Estonia, France, Germany, India, Indonesia, Italy, Malaysia, Mexico, Poland, Romania, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, United Arab Emirates (UAE), United Kingdom (UK), United States of America (USA) –, representing 94% of Alstom's workforce. In some limited cases, the number of countries had to be reduced due to unreliable data provided, but the coverage remained sufficiently high.

In addition, and in order to illustrate the different sections with local initiatives, the following actions are conducted by the CSR central team:

- a "best practice" survey conducted worldwide with the support of Country Presidents;
- a collection of all news related to CSR, published internally in the Group's weekly newsletter (*Newsflash*) and externally through press releases.

Limitation and difficulties

The reporting system for EHS and the HR information system are quite inclusive. However, information coming from contractors may be difficult to verify. Coming from "surveys", some information might be missing, but without having a significant impact on the results.

SYNTHESIS OF INDICATORS/KEY FIGURES 2014/15

Indicators	2012/13	2013/14	2014/15	GRI (2) reference	Page
ENVIRONMENTAL INDICATORS					
Energy					
Energy consumption from natural gas ⁽¹⁾ (in GWh)	685	621	481	EN3	272
Energy consumption from butane/propane and other gases (in GWh)	44	43	34	EN3	272
Energy consumption from residual "heavy" fuel oil and diesel oil ⁽¹⁾ (in GWh)	66	51	38	EN3	272
Energy consumption from coal and other fuels (in GWh)	8	4	1	EN3	272
Energy consumption from imported steam and heat (in GWh)	134	134	109	EN4	272
Energy consumption from electricity (in GWh)	706	703	662	EN4	272
Total energy consumption (in GWh)	1,642	1,555	1,325	EN4	272
Energy intensity (in GWh/sales in € million)	81	77	68	EN3	271
Water					
Water consumption from public water supply (in thousands of m ³)	2,224	2,244	1,898	EN8	275
Water consumption pumped from surface water (in thousands of m ³)	387	394	499	EN8	275
Water consumption pumped from groundwater (in thousands of m ³)	2,058	1,765	1,725	EN8	275
Total water consumption (in thousands of m ³)	4,699	4,403	4,122	EN8	275
Emissions ⁽²⁾, effluents and waste					
GHG emissions intensity (in tons CO ₂ equivalent/sales in € million)	25	24	21	EN16	273
Direct CO ₂ emissions from natural gas, butane, propane, coal and oil consumption (in kilotons CO ₂ eq)	181	162	125	EN16	273
Indirect CO ₂ emissions from steam, heat and electricity consumption (in kilotons CO ₂ eq)	326	324	277	EN16	273
Total CO ₂ emissions from energy consumption (in kilotons CO ₂ eq)	508	486	402	EN16	273
Other direct CO ₂ emissions from PFC and HFC (in kilotons CO ₂ eq)	2	1	1	EN16	273

Indicators	2012/13	2013/14	2014/15	GRI (2) reference	Page
Total CO ₂ emissions from energy consumption and other direct emissions except SF ₆ (in kilotons CO ₂ eq.)	510	488	403	EN16	273
Intensity of GHG emissions from SF ₆ (in tons CO ₂ eq./SF ₆ equipment/sales in € million)	132	141	138	EN16	274
Total SF ₆ losses (fugitive emissions) (in tons)	5.77	6.34	5.41	EN16	274
Company cars CO ₂ emissions from gasoline (in kilotons CO ₂ eq.)	8	6	9	EN16	274
Company cars CO ₂ emissions from diesel oil (in kilotons CO ₂ eq.)	16	16	20	EN16	274
Water emissions – Metals (in tons)	3	0.5	0.2	EN21	276
Water emissions – Chemical oxygen demand (in tons)	98	72	93	EN21	276
Water emissions – Suspended matters (in tons)	55	41	32	EN21	276
Water emissions – Hydrocarbons (in tons)	1	1	1	EN21	276
Non-methane Volatile Organic Compounds (VOCs) emissions (in tons)	1,227	804	716	EN16	276
Air emissions – SO ₂ (in tons)	20	15	12	EN20	276
Air emissions – NO _x (in tons)	114	117	93	EN20	276
Percentage of recovered waste	77%	78%	81%	EN22	277
Total hazardous waste production (in tons)	19,809	11,062	9,739	EN22	278
Total non-hazardous waste production (in tons)	127,808	116,524	103,295	EN22	278
Total waste production (in tons)	147,617	127,586	113,033	EN22	278
Total amount of waste sent to waste disposal (in tons)	34,650	28,056	21,537	EN22	278
(1) Excluding the energy used by the Birr (Switzerland) Research & Development test activity (gas and diesel oil as fuel).					
(2) Excluding the CO ₂ emissions due to Alstom Grid's SF ₆ fugitive emissions and the CO ₂ emissions related to the energy used by the Birr R&D test activity (emissions due to gas and diesel oil usage).					

Non-GRI					
Total water used for open-circuit cooling and for test purpose with no environmental impact (in thousands of m ³)	1,785	1,527	1,543	Non-GRI	275
Number of manufacturing sites with over 200 employees located at more than 1 km from legally protected areas	63	63	63	Non-GRI	279
Proportion of manufacturing sites with over 200 employees located at more than 1 km from legally protected areas (in %)	90%	90%	90%	Non-GRI	279
CO ₂ emissions from air travels (in kilotons CO ₂ eq.)	131	115	100	Non-GRI	274
CO ₂ emissions from train travels (in kilotons CO ₂ eq.)	-	2	2	Non-GRI	274
SYSTEM INDICATORS					
Non-GRI					
Proportion of manufacturing sites of more than 200 employees certified ISO 14001 (in %)	97%	100%	100%	Non-GRI	271
Number of Alstom Zero Deviation Plan official evaluations	160	169	173	Non-GRI	282
SOCIAL INDICATORS					
Employment					
Total workforce incl. Long Term Absentees (LTA)	94,545	94,719	89,459	LA1	283
Workforce by region (incl. LTA)				LA1	283

• Europe	55,550	55,545	52,709		
• North America	10,266	9,639	7,725		
• Central and South America	5,954	7,430	7,571		
• Asia/Pacific	19,575	18,833	18,066		
• Africa/Middle East	3,200	3,272	3,388		
Workforce by category (managers, incl. LTA, <i>in %</i>)	50.0%	50.9%	53%	LA1	283
Total workforce by type of contract (incl. LTA)				LA1	284
• Permanent contracts	86,252	86,125	83,736		
• Fixed-term contracts	8,293	8,594	5,723		
• Temporary workers	8,035	8,020	7,535		
• Interns	2,265	2,208	2,108		
Workforce changes during fiscal year (incl. LTA)				LA2	284
• Hiring on permanent contracts	9,905	8,275	7,022		
• Hiring on fixed-term contracts	7,645	7,189	6,101		
• Resignations	3,274	3,212	3,386		
• Redundancies	837	693	1,074		
• Dismissals (permanent headcount)	656	731	1,419		
• Other departures (incl. retirements, excl. acquisitions/disposals)	3,393	3,238	2,954		
Number of annual performance interviews (managers & professionals)	42,500	43,900	44,200	LA2	289
Labour/Management relations					
Proportion of employees covered by a collective bargaining agreement (<i>in %</i>)	71%	64% ⁽¹⁾	67%	LA4	295
Occupational Health and Safety					
Number of employees' fatalities (Alstom employees)	1	0	0	LA7	281
Other fatalities linked with Alstom activities (contractors)	4	5	1	LA7	281
Number of occupational safety severe accidents reported (incl. fatal accidents)	29	37	29	LA7	281
Occupational injury frequency rate 1 (IFR1) (employees and contractors)	1.4	1.2	1.2	LA7	281
Employees Long-term Absenteeism (LTA)	1,639	1,717	1,610	LA7	283
Absenteeism rate calculated for France	-	-	5.4%	LA7	288
(1) Data adjusted vs. last year's Registration Document.					
Training					
Number of employees trained in EHS classroom trainings	3,411 ⁽¹⁾	3,250 ⁽¹⁾	7,430	LA12	281
Number of employees trained in EHS e-learning courses	-	35,196	10,829	LA12	281
Average training hours per employee	19 h	15 h	14 h	LA10	290
Total number of training hours	-	1,286,445 h	1,179,341 h	LA10	290
Proportion of employees trained (<i>in %</i>)	68%	67%	70%	LA12	290
Number of employees trained by <i>Alstom University</i>	15,817	11,191	28,766	LA12	290
Diversity and equal opportunity					
Proportion of women in the Group (<i>in %</i>)	16%	16.3%	16.9%	LA13	292

Proportion of female managers or engineers <i>(in %)</i>	15.3%	16.2%	16.4%	LA13	292
Proportion of executive women <i>(in %)</i>	11.6%	11.8%	12.0%	LA13	292
Proportion of disabled people per country <i>(in %)</i>				LA13	294
• France	3.9%	3.5%	4.4%		
• Germany	5.5%	5.6%	5.8%		
• Italy	2.4%	2.4%	2.8%		
• Spain	0.9%	0.6%	0.5%		
Prevention of corruption					
Number of employees who have received training on ethics (cumulative figure since 2006, approx.)	9,500	14,300	21,900 ⁽²⁾	SO3	286
Human Rights performance					
Number of assessed suppliers (cumulative figure over 4 fiscal years)	1,515	1,605	1,636	HR 2-6-7	302
Non-GRI					
Number of occupational diseases registered	82	60	53 ⁽³⁾	Non-GRI	282
Rate of internal mobility (nomination of executives) <i>(in %)</i>	80%	75%	71%	Non-GRI	290
Number of employees under short-term incentive scheme	34,400	32,800	33,000	Non-GRI	287
Number of employees covered by a profit-sharing agreement	52,000	52,000	50,000	Non-GRI	287
Ratio of employees covered by a life insurance in case of accidental death <i>(in %)</i>	99.5%	97.3%	98.0%	Non-GRI	283
Ratio of employees covered by a life insurance giving one year salary <i>(in %)</i>	91%	93.7%	87.2%	Non-GRI	283
Proportion of vacant positions internally posted <i>(in %)</i>	33%	48%	43%	Non-GRI	290
Number of charters signed by suppliers <i>(cumulative figure)</i>	10,900	16,900	33,750	Non-GRI	302
Number of people trained in sustainable sourcing through a specific programme (cumulate figure over 4 fiscal years)	780	960	810	Non-GRI	302
Contractors' hours worked at Alstom sites and construction sites <i>(in million)</i>	120	125	119	Non-GRI	300
<p>(1) Data adjusted vs. last year's Registration Document. (2) Including leavers. (3) France only.</p>					

REPORT BY ONE OF THE STATUTORY AUDITORS, APPOINTED AS AN INDEPENDENT THIRD PARTY, ON THE CONSOLIDATED ENVIRONMENTAL, LABOUR AND SOCIAL INFORMATION PRESENTED IN THE MANAGEMENT REPORT

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.

For the year ended 31 March 2015

To the Shareholders,

In our capacity as Statutory Auditor of Alstom, appointed as an independent third party and certified by COFRAC under Nr. 3-1060⁽¹⁾, we hereby present to you our report on the consolidated environmental, human resources and social information for the year ended 31 March 2015, presented in the management report (hereinafter the "CSR Information"), in accordance with Article L. 225-102-1 of the French Commercial Code (*Code de commerce*).

(1) whose scope is available at www.cofrac.fr.

Company's responsibility

The Board of Directors is responsible for preparing the Company's management report including CSR Information referred to in the Article R. 225-105-1 of the French Commercial Code (*Code de commerce*), in accordance with the "Environment, Health and Safety Reporting Manual" used by the Group's sites as well as HR standard "Census Rules" and social survey definitions used by the Company, (hereafter the "Criteria"), available on request to the CSR direction of the Company.

Independence and quality control

Our independence is defined by regulatory texts, the French Code of Ethics (*Code de déontologie*) of our profession and the requirements of Article L. 822-11 of the French Commercial Code. In addition, we have implemented a system of quality control including documented policies and procedures regarding compliance with the ethical requirements, French professional standards and applicable legal and regulatory requirements.

Statutory Auditor's responsibility

On the basis of our work, it is our responsibility to:

- attest that the required CSR Information is presented in the management report or, in the event that any CSR Information is not presented, that an explanation is provided in accordance with the third paragraph of Article R. 225-105 of the French Commercial Code (Attestation of completeness of CSR Information);
- express limited assurance that CSR Information, taken as a whole, is, in all material respects, fairly presented in accordance with the Guidelines (Formed conclusion on the fairness of CSR Information).

Our work was carried out by a team of 11 persons between end of November 2014 and mid April 2015 and took around 17 weeks. We were assisted in our work by our specialists in corporate social responsibility.

We performed our work in accordance with the French professional standards and with the order dated 13 May 2013 defining the conditions under which the independent third party performs its engagement and with ISAE 3000⁽²⁾ concerning our conclusion on the fairness of CSR Information.

(2) ISAE 3000 – Assurance engagements other than audits or reviews of historical financial information.

1. Attestation regarding the completeness of CSR Information

On the basis of interviews with the individuals in charge of the relevant departments, we reviewed the Company's sustainable development strategy with respect to the labour and environmental impact of its activities and its social commitments and, where applicable, any initiatives or programmes it has implemented as a result.

We compared CSR Information presented in the management report with the list provided for by Article R. 225-105-1 of the French Commercial Code. For any consolidated Information that was not disclosed, we verified that the explanations provided complied with the provisions of Article R. 225-105, Paragraph 3 of the French Commercial Code.

We verified that CSR Information covers the scope of consolidation, *i.e.*, the Company, its subsidiaries as defined by Article L. 233-1 and the entities it controls as defined by Article L. 233-3 of the French Commercial Code within the limitations set out in the methodological information presented in the methodology section of Chapter 6 of the management report.

Based on this work and given the limitations mentioned above, we attest that the required CSR Information has been disclosed in the management report.

2. Conclusion on the fairness of CSR Information

Nature and scope of our work

We conducted more than one hundred interviews with the persons responsible for preparing CSR Information in the departments responsible for collecting the information and, where appropriate, responsible for internal control and risk management procedures, in order to:

- assess the suitability of the Guidelines in terms of their relevance, completeness, reliability, neutrality and understandability, and taking into account best practices where appropriate;
- verify the implementation of data-collection, compilation, processing and control process to reach completeness and consistency of the CSR Information and obtain an understanding of the internal control and risk management procedures used to prepare the CSR Information.

We determined the nature and scope of our tests and controls according to the nature and importance of the CSR Information with respect to the characteristics of the Company, the human resources and environmental challenges of its activities, its sustainability strategy and industry best practices.

Regarding the CSR Information that we considered to be the most important (given in appendix):

- at parent entity level, we referred to documentary sources and conducted interviews to corroborate the qualitative information (organisation, policies, action), performed analytical procedures on the quantitative information and verified, using sampling techniques, the calculations and the consolidation of the data. We also verified that the information was consistent and in agreement with the other information in the management report;
- at the level of a representative sample of sites including the sub-units of Charleroi in Belgium, Canoas in Brazil, Ottawa in Canada, Satee, Wuhan and Beijing in China, Grenoble, Belfort, Reichshoffen, Ornans, La Défense, and Valenciennes in France, Kassel, Salzgitter, and Mannheim in Germany, Padappai, Naini, Hosur, Bangalore, Shahabad, and New Delhi in India, Sesto in Italy, Kuala Lumpur and Tanjung Bin in Malaysia, Wroclaw in Poland, Setubal in Portugal, Birr in Switzerland, Ashby, Manchester, Midlands and Preston in the United Kingdom, Charleroi, Windsor, Richmond and Hornell in the United States, selected by us on the basis of their activity, their contribution to the consolidated indicators, their location and risk analysis, we conducted interviews to verify that procedures are properly applied, and we performed tests of details, using sampling techniques, in order to verify the calculations and reconcile the data with the supporting documents. The selected sample represents 20% of headcount and between 15% and 37% of quantitative environmental data.

For the remaining CSR information, we assessed its consistency based on our understanding of the Company.

We also assessed the relevance of explanations provided for any information that was not disclosed, either in whole or in part taking into consideration, if any, industry best practices.

We believe that the sampling methods and sample sizes we have used, based on our professional judgement, are sufficient to provide a basis for our limited assurance conclusion; a higher level of assurance would have required us to carry out more extensive procedures. Due to the use of sampling techniques and other limitations inherent to information and internal control systems, the risk of non-detecting a material misstatement in the CSR information cannot be totally eliminated.

Conclusion

Based on our work, nothing has come to our attention that causes us to believe that CSR Information, taken as a whole, is not presented fairly, in all material respects, in accordance with the Guidelines.

Neuilly-sur-Seine, May 6, 2015	
One of the Statutory Auditors	
PricewaterhouseCoopers Audit	
Olivier Lotz	Sylvain Lambert
Partner	Partner in charge of the Sustainable Development department

Appendix: List of information that we have considered to be the most important

Human resources information

- Total workforce, indicator group total workforce at the end of March 2015.
- Distribution of employees by gender, indicator distribution of total workforce men/women.
- Distribution of employees by geographic area, indicator distribution of total workforce by Region.
- Hiring and termination, indicators number of hiring and termination.
- Absenteeism, indicator absenteeism rate.
- Organization of labour relations, indicator percentage of employees covered by a collective agreement.
- Health and safety conditions.
- Work accident, especially frequency and severity, indicators number of fatal accident (Alstom employees), number of fatal accidents related to Alstom's activities (contractors), number of severe accident reported, frequency rate (Alstom employees).
- Number of training hours, indicator average number of training hours per employee.
- Measures taken in favour of the equality between men and women, indicator proportion of women, proportion of women managers, proportion of women executive officers.
- Respect for freedom of association and right to collective negotiation.

Environmental information

- Company organization to take into account environmental issues and if relevant, environmental evaluation and certification process.
- Amount of environmental provisions.
- Measures to prevent, reduce or repair releases in air, water and soil seriously affecting the environment, indicator VOC ⁽¹⁾ emissions.
- Measures to prevent, recycle and eliminate waste, indicators hazardous and non-hazardous waste production, quantity of eliminated waste (not recovered).
- Water consumption and water procurement regarding local constraints, indicators consumption of water from public water supply, surface water and groundwater.
- Energy consumption and measures taken to improve energetic efficiency and the use of renewable energy, indicators consumptions of natural gas, butane/propane and other gas, oil, steam/heat, electricity, coal and other fuels.
- Greenhouse effect gas emissions, indicators direct ⁽²⁾ and indirect ⁽³⁾ emissions of CO₂, emission of SF₆.

(1) Volatile Organic Compounds.

(2) Emissions due to natural gas, butane, propane, coal, oil and fugitive emissions of PFC and HFC.

(3) Emissions due to steam, heat and electricity consumption.

Social information

- Territorial, economic and social impact of the Company activity in terms of employment and regional development.
- Inclusion of social and environment issues in the purchase policy.
- Importance of subcontracting and inclusion in the relationships with suppliers and subcontractors of their social and environmental responsibility, indicators number of suppliers evaluated, signature of the Sustainability Charter by all suppliers.
- Actions carried out to prevent corruption.

TABLE OF COMPULSORY CSR INFORMATION

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(*) Not applicable.		

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Société Anonyme with share capital €2,169,293,924
3, avenue André Malraux – 92300 Levallois-Perret
RCS: 389 058 447 Nanterre
www.alstom.com

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