

Extracts from the Reference Document

2014

# **CORPORATE SOCIAL RESPONSIBILITY AND SUSTAINABLE DEVELOPMENT REPORT**

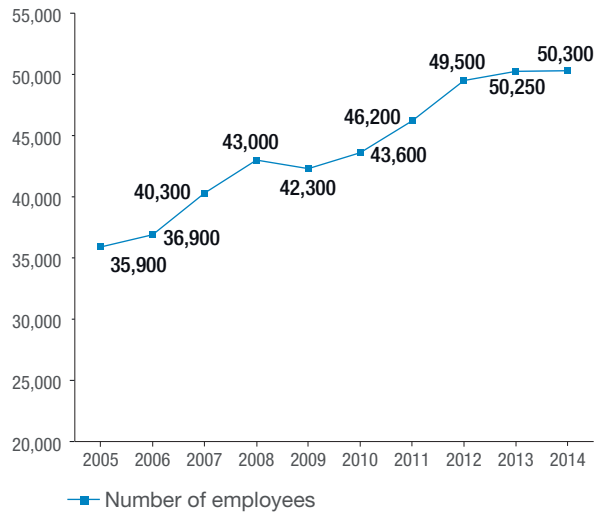


*Creative Oxygen*

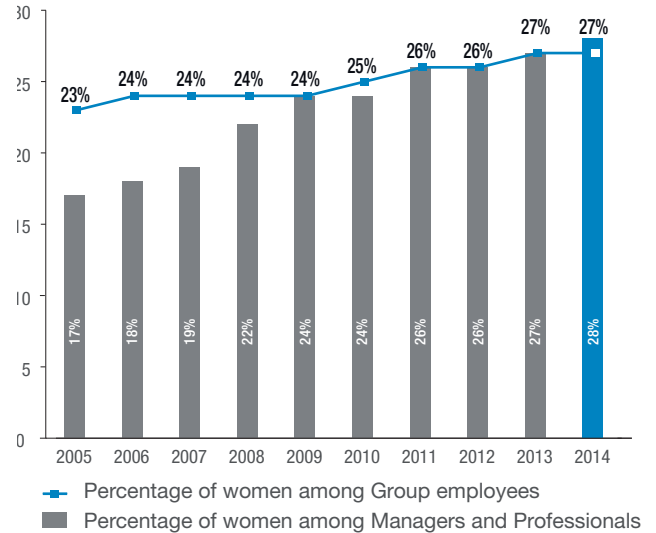


## INVOLVED WOMEN AND MEN

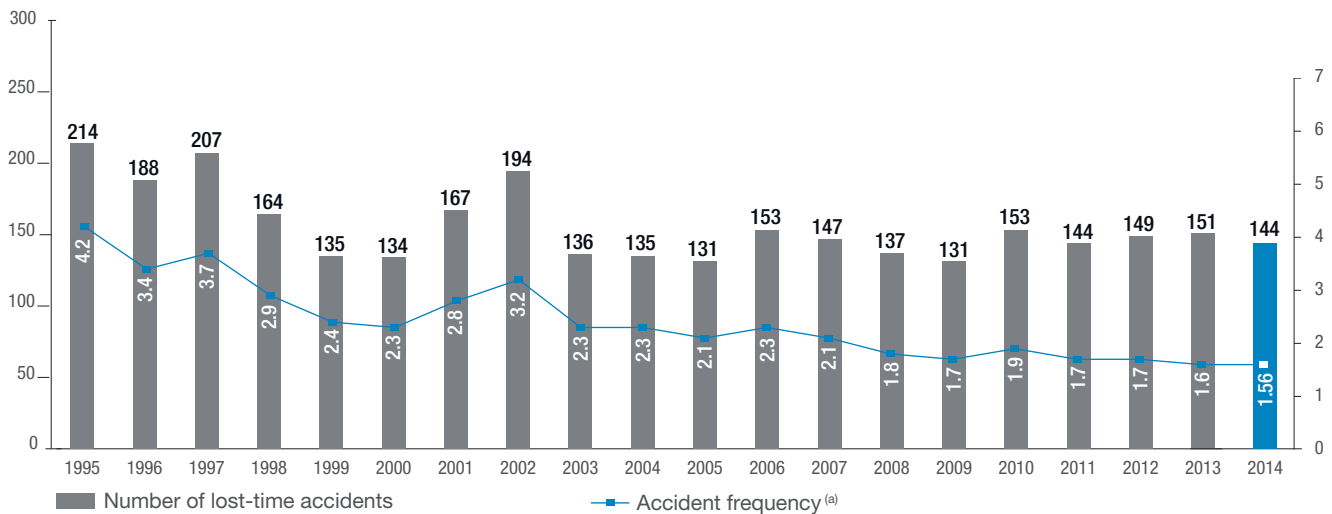
Number of employees since 2005 (10 years)



Diversity evolution since 2005 (10 years) - % of women among Group employees



Number and frequency of lost-time accidents of Group employees since 1995 (20 years)



(a) Number of lost-time accidents with at least one lost-day per million hours worked by Group employees.

**Air Liquide Foundation**

**180 projects**  
in 42 countries since its creation

**220 employees** involved

### Corporate Governance in 2014

**83%** of Board members are independent Directors

**33%** of Board members are women

**58%** of Board members are of foreign nationality (non-French)

### Internal Governance in 2014

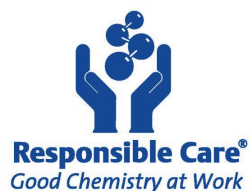
**94%** of the Group's employees belong to an entity that has a local Code of Conduct

**93%** of the Group's revenues have been covered by the Industrial Management System (IMS) over the last five years

**>90%** of revenues have been subject to internal control system processes



## AIR LIQUIDE APPROACH TO SUSTAINABLE DEVELOPMENT

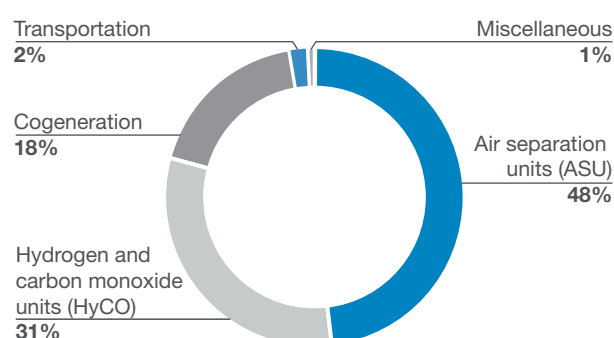


## ENVIRONMENTAL FOOTPRINT

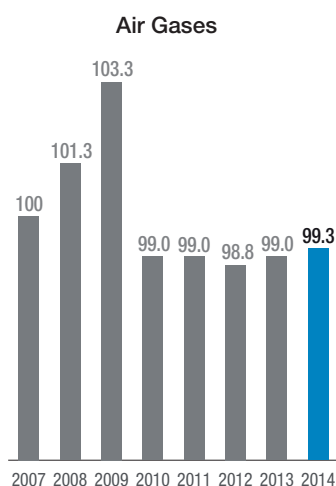


**40** applications preserve life and the environment and represent **45%**<sup>(a)</sup> of Group sales.

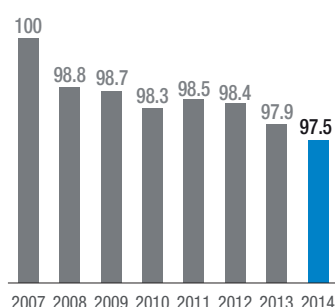
### Breakdown of 2014 direct and indirect greenhouse gas emissions



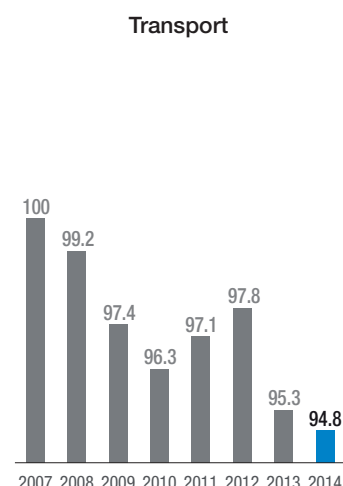
### Energy consumption per m<sup>3</sup> of produced gas (2007 base 100)



### Hydrogen



### Distance traveled per ton of gas delivered (2007 base 100)



(a) 2013 data. Update to 2014 data available mid-2015.





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## 2014 CORPORATE SOCIAL RESPONSIBILITY AND SUSTAINABLE DEVELOPMENT REPORT

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## > INTRODUCTION

The Group's ambition is to be the **leader in its industry, delivering its long-term performance and acting responsibly. Corporate Social Responsibility is therefore a key company objective.** It is how Air Liquide acts and works with its **stakeholders**, shareholders, employees, customers and patients, suppliers, local communities and public authorities.

Today, Air Liquide's Corporate Social Responsibility approach is made-up of **three important areas**:

- **serve our customers and patients, and contribute to society at large;**
- **develop our people and run our operations;**
- **build relationships with our shareholders and all other stakeholders.**

The 2014 Corporate Social Responsibility and Sustainable Development Report attests to this ambition. It is based on many indicators which demonstrate the Group's contribution to its customers' performance and its patients' quality of life, the relationships of trust with its shareholders and partners, the

commitment of its teams, and the high standards of its industrial operations.

This report is divided into **two sections**.

The **first section** presents the **key indicators and highlights** of 2014 for the three areas on which Air Liquide bases its approach to Corporate Social Responsibility.

The **second section** includes **all of the Group's Key Responsibility Indicators**. These indicators are put into three categories: the **Environment, Social and Societal** aspects, **Governance and customers**. This categorization is often referred to as **ESG**.

Just like financial reporting, this **extra-financial reporting** has been reviewed each year since 2003 by an independent verifier belonging to the network of one of the Statutory Auditors. They analyze and verify a selection of indicators not only at the Corporate level but also at industrial sites and within the Human Resources departments of the subsidiaries. This year, 17 sites and departments were audited. Since 2003, 109 sites and departments have been verified.

## ➤ 2014 PERFORMANCE REPORT: HIGHLIGHTS AND KEY INDICATORS

Air Liquide's Corporate Social Responsibility and Sustainable Development approach is divided into **three areas**:

- serve our customers and patients, and contribute to society at large;
- develop our people and run our operations;
- build relationships with our shareholders and all other stakeholders.

For each of these areas, the 2014 performance is illustrated by one or more **Key Responsibility Indicators**.

In 2014 Air Liquide launched a new approach to prioritizing its CSR <sup>(a)</sup> objectives. Known as **Materiality Analysis**, this will contribute to define the Group's objectives and Key Responsibility Indicators beyond 2015.

### 1. Serve our customers and patients, and contribute to society at large

This involves **contributing to the health of our patients and to the environment of our customers**, primarily through **innovation** and **service**. It also requires us to engage with the **communities** in which we operate, particularly through the **Air Liquide Foundation**.

#### 1.1. Satisfying our customers and patients

As part of Air Liquide's Corporate Social Responsibility and Sustainable Development approach, customer and patient satisfaction is a priority for the Group. Air Liquide carries out surveys to measure customer and patient satisfaction, and establishes action plans to continuously improve satisfaction levels.

##### KEY INDICATOR

Percentage of Group sales related to entities where a customer or patient satisfaction survey has been carried out in the last two years.

##### 2015 OBJECTIVE

**Increase customer satisfaction and loyalty as well as patient satisfaction.** By 2015, customer and patient surveys and related action plans will cover entities accounting for **85% of the Group's sales**.

##### 2014 PERFORMANCE

In 2014, the percentage of Group sales related to entities where a customer or patient satisfaction survey has been conducted and a related action plan implemented was 80% compared to 76% in 2013. This increase is in line with the target of 85% of Group sales to be covered by a satisfaction survey in 2015.

(a) Corporate Social Responsibility.

## 1.2. Protecting our patients' lives and the environment for our customers

The Group is developing **solutions to protect its patients' lives and its customers' environment**. More than 40 industrial gas applications allow our customers to improve their environmental footprint and reduce their own CO<sub>2</sub> emissions.

### KEY INDICATOR

Percentage of Group revenue related to life and the environment.

### PERFORMANCE

In 2013, **45% <sup>(a)</sup> of Group revenue was related to life and the environment**. The percentage of Air Liquide's revenue related to life and the environment increased sharply **between 2005 and 2013, going from 33% to 45%** of the Group's total revenue. This increase demonstrates Air Liquide's commitment to developing applications related to protecting life and the environment as an integral part of its activities.

The Group is also committed to allocating a substantial portion of its innovation expenditure to **improving customer processes and the quality of patient lives**.

### KEY INDICATOR

Percentage of Group innovation expenditure linked to life and the environment.

### 2014 PERFORMANCE

In 2014, **almost 60% of the Group's innovation expenditure was allocated to efforts to protect life and the environment**.

## 1.3. Social and human commitment

**Social and human commitment** is an ongoing concern for Air Liquide. The Group undertakes philanthropic initiatives that focus in particular on protecting life and the environment and developing local **communities**. These initiatives are either carried out directly by Group subsidiaries or by the **Air Liquide Foundation**.

### KEY INDICATOR

Number of countries having carried out at least one philanthropic project directly or through the Air Liquide Foundation, from 2011 and 2015.

### 2015 OBJECTIVE

Put the expertise of the Group's **teams at the service of communities by carrying out at least one philanthropic project per country by 2015**. Within this framework, the Group commits to supporting, over the long term, the Air Liquide Foundation so that it can help reach this objective through the projects.

### 2014 PERFORMANCE

In 2014, Air Liquide supported **projects in six new countries** through its subsidiaries and its Foundation, **which brings the total number of countries in which a corporate philanthropy project has been carried out since 2011 to 43**, compared to 37 countries in 2013. The Air Liquide Foundation's philanthropy activity is therefore gradually being expanded to all countries where the Group operates.

(a) 2013 data. 2014 data will be available mid-2015.



## 2. Develop our people and run our operations

This involves making sure our employees are safe and developing their expertise and commitment, in line with the Group's ethical principles. It also involves optimizing our management of **natural resources and the environmental impact of our activities**.

### 2.1. Employees

When it comes to our employees, our first concern is their **safety** and working conditions. The Group is committed to **developing employee talent** and promoting **diversity** within the company.

#### KEY INDICATORS RELATED TO EMPLOYEE SAFETY

##### KEY INDICATORS RELATED TO SAFETY

- Number of lost-time accidents of Group employees
- Frequency rate of lost-time accidents of Group employees
- Number of accidents of subcontractors and temporary workers

##### 2015 OBJECTIVE

Continue to improve the safety of employees with a goal of reducing each year the frequency rate of lost-time accidents.

##### 2014 PERFORMANCE

In 2014, the number of lost-time accidents of Group employees was 144, compared with 151 in 2013. The employee accident frequency rate was 1.56 compared to 1.62 in 2013, and continues to reduce. This improvement is in line with the Group's goal to reduce the frequency of lost-time accidents of Group employees rate every year. Furthermore, there were no fatal accidents involving Group employees in 2014.

In 2014, the number of lost-time accidents of subcontractors and temporary workers was 92, compared to 110 in 2013.

#### KEY INDICATORS RELATED TO EMPLOYEE DEVELOPMENT AND DIVERSITY

##### "OUR TALENTS" KEY INDICATOR

This "Our Talents" Index Key Indicator measures the progress of the development, diversity and commitment of the Group's employees.

##### 2015 OBJECTIVE

**Ensure employee development, diversity and commitment** by raising the "Our Talents" Index from 100 in 2010 to 115 by 2015.

The objective is to encourage the organization to set up progress actions in these areas. The index is calculated based on a baseline of 100 in 2010.

##### 2014 PERFORMANCE

The value of the "Our Talents" index remained stable between 2013 and 2014 at 107.

##### KEY INDICATORS RELATED TO EMPLOYEE DEVELOPMENT AND DIVERSITY

- Percentage of women among Managers and Professionals
- Number of training days per person, per year

##### 2014 PERFORMANCE

In 2014, the percentage of women Managers and Professionals increased from 27% in 2013 to 28%. This means that for the first time, the percentage of women Managers and Professionals is higher than the overall percentage of women in the Group (27%). It also illustrates the good representation of women in Air Liquide's management – the result of the long-term policy to hire and promote women within the Group.

In 2014, the number of training days per employee, per year was 3.5 days, which was comparable to 2013.

## 2.2. Ethics

Ethics are also an integral part of the values that Air Liquide employees must respect. Subsidiaries implement a local Code of Conduct complying with 10 key concepts laid down by the Group. This approach combines respect for local practices and regulations with Air Liquide's ethical commitment.

### KEY INDICATOR

Percentage of employees belonging to an entity with a local Code of Conduct.

### 2014 PERFORMANCE

In 2014, the percentage of employees belonging to an entity with a local Code of Conduct was 94%, remaining stable from 2013. The 6% of employees who do not yet have a local Code of Conduct primarily concerns entities recently acquired by the Group and undergoing consolidation.

## 2.3. Conducting Group operations while protecting the environment

### ENERGY CONSUMPTION AND EFFICIENCY IN OUR PRODUCTION ACTIVITIES

Our Responsibility in this area mainly consists of **continuously improving the efficiency of the units producing and transporting the Group's products.**

### KEY INDICATORS

- Evolution of energy consumption for air separation units per m<sup>3</sup> of gas produced
- Evolution of energy consumption for hydrogen units per m<sup>3</sup> of gas produced
- Evolution of the distance traveled per ton of gas delivered (Industrial Merchant activity)

### 2015 OBJECTIVE

Improve by at least 2% from 2011 to 2015 the energy efficiency of the following activities: air separation units, hydrogen units, and product deliveries.

### 2014 PERFORMANCE

#### Efficiency of air separation units

Between 2013 and 2014, the energy consumption of air separation units per m<sup>3</sup> of gas produced increased slightly from an index of 99.0 <sup>(a)</sup> to 99.3.

#### Efficiency of hydrogen units

This efficiency continued to improve, going from an index of 97.9 <sup>(a)</sup> in 2013 to 97.5 in 2014, the highest efficiency ever observed by the Group for this type of unit. Since 2011, the efficiency of these units has improved by 1%.

#### Efficiency of industrial gas transportation

This efficiency has continued to improve from an index of 95.3 <sup>(a)</sup> in 2013 to 94.8 in 2014. Since 2011, this efficiency is up by 2.3%, exceeding the Group's goal of a 2% improvement between 2011 and 2015.

(a) 2007 base of 100.

## GROUP GREENHOUSE GAS EMISSIONS

### KEY INDICATORS

- Group direct greenhouse gas (GHG) emissions
- Group indirect GHG emissions
- Total (direct and indirect) Group GHG emissions
- GHG emissions by type of units: ASU, HyCO, Cogeneration, etc.

### 2014 PERFORMANCE

**The Group's direct emissions** fell from 11.8 million tons of CO<sub>2</sub> equivalent in 2013 to 11.6 million tons in 2014, i.e. a decrease of 2.4%. This resulted from a decrease in cogeneration emissions after the Group sold some of the units that was compensated for by an increase in emissions from the hydrogen units related to the development of sales of this molecule.

**The Group's indirect emissions** were up 15% from 9.9 million tons of CO<sub>2</sub> equivalent in 2013 to 11.4 million tons in 2014. This was primarily due to the commissioning of large air separation production units in China which use energy sources, namely electricity or steam, that have a higher carbon content than many other countries.

**The Group's total emissions** were up 5.6% from 21.8 million tons of CO<sub>2</sub> equivalent in 2013 to 23 million tons in 2014 as a result of the above-mentioned changes in direct and indirect emissions.

**The breakdown of the Group's total emissions** for 2014 is as follows:

- 48% for air separation units (42% in 2013);
- 31% for hydrogen units (32% in 2013);
- 18% for cogeneration (23% in 2013);
- 2% for transport (same as in 2013);
- 1% for small production units (same as in 2013).

The change in this breakdown between 2013 and 2014 basically reflects the above, namely more air separation units in China using higher carbon content energy and fewer cogeneration emissions related to disposals in this area.

## 3. Build relationships with our shareholders and all other stakeholders

This involves consolidating our relationships with **shareholders**, extending our Corporate Social Responsibility and Sustainable Development approach to our **suppliers**, and developing trust-based dialogue with **public authorities** in the countries in which the Group operates.

### 3.1. Shareholders

Shareholders have always played a key role and have loyally supported the Group for over a century. Air Liquide has established a relationship of trust with its shareholders by

associating them with its continuous growth and its successful business model through a strong and steady distribution policy maintained over time.

#### KEY INDICATORS

- Total Shareholder Return (TSR) <sup>(a)</sup>.
- Percentage of shareholders with shares held in registered form (total number of shareholders with registered shares/total number of shareholders).

#### OBJECTIVE

Continue over the long-term with a comprehensive shareholder remuneration policy to ensure regular growth of their investment, within a relationship based on performance and a local presence.

#### 2014 PERFORMANCE

At December 31, 2014, the Total Shareholder Return (TSR) was 11.9% per year over 20 years for a registered shareholder, compared to 10.8% in 2013.

At December 31, 2014, the percentage of shareholders with shares held in registered form was 55% compared to 51% in 2013.

### 3.2. Suppliers

Air Liquide's policy on **responsible procurement** is an integral part of the Group's approach to Corporate Social Responsibility and Sustainable Development. Air Liquide requires its suppliers' performance and behavior to be consistent with the Group's commitments, notably regarding social, environmental and ethics aspects.

#### KEY INDICATOR

Percentage of critical Air Liquide suppliers that have had a CSR <sup>(b)</sup> assessment by an independent consultant specializing in responsible procurement.

#### 2014 PERFORMANCE

The Group has identified those of its suppliers who may pose a social, environmental or ethical risk. **For the first time, a Key Responsibility Indicator has been set in the area of responsible procurement.** It calculates the percentage of critical Air Liquide suppliers who have been assessed on these issues.

At the end of 2014, 31% of suppliers had been assessed.

### 3.3. Public authorities

The Group's "Public Affairs" policy governs its interactions with public authorities throughout the world. It deals with reducing the risks related to regulatory changes, developing market opportunities and more generally bringing the Group into the public debate. In 2014, the Group's Public Affairs policy focused

on the following priorities: competitiveness at the European and worldwide levels, energy transition and the environment, innovation and intellectual property policy, as well as promotion of the Air Liquide shareholder model.

(a) TSR is an annualized return rate for a shareholder who buys shares at the beginning of a period and sells them at the end of the period. This calculation takes into account the change in the share price, dividends paid, including loyalty bonuses, considering that they are reinvested in shares, as well as free share attributions.

(b) Corporate Social Responsibility.

## ➤ ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) REPORT

### 1. Environment

The environmental elements most representative of the Group's activities and part of the Air Liquide Sustainable Development reporting are described below. They cover a total of **532** Air Liquide production units or sites and concern:

#### ■ Large air separation units

Worldwide, **321 large air separation units** are included in the Group's Sustainable Development reporting. These units produce oxygen, nitrogen and argon, with some sites producing rare gases such as krypton and xenon.

These **factories "without chimneys"** do not use any combustion processes. **Since they discharge almost no CO<sub>2</sub>, sulfur oxide (SOx) or nitrogen oxide (NOx)**, they are particularly environmentally friendly. They use almost exclusively electrical energy: worldwide they use about 3,000 MW at any given moment. The electricity consumed by the air separation units is the source of the Group's indirect CO<sub>2</sub> emissions. The cooling systems of these units require back-up water.

#### ■ Hydrogen and carbon monoxide units

Worldwide, **42 large hydrogen and carbon monoxide units** are included in the Group's Sustainable Development reporting. These units also produce steam for certain customers. They primarily use natural gas as a raw material and a certain amount of water required for the reaction that produces hydrogen. Carbon monoxide is an indispensable raw material in the chemical industry for producing plastics. The **desulfurization of hydrocarbons** to produce sulfur-free fuels is one of the main applications for hydrogen. These units emit CO<sub>2</sub> and nitrogen oxides (NOx) but produce practically no sulfur oxide (SOx). They also consume electricity and their cooling systems require back-up water.

In 2014, the Group decided to make **Corporate Social Responsibility criteria** – greenhouse gas emissions, water consumption, and relations with local communities – an **integral part of its decision-making process on major investments**, especially for large air separation units and hydrogen and carbon monoxide units.

#### ■ Cogeneration units

Worldwide, **17 cogeneration units** are included in the Group's Sustainable Development reporting. These units produce steam and electricity simultaneously. They consume natural gas and water, most of which is converted into steam for customers. The steam can be condensed by these customers and then reused in the cogeneration unit. In most cases,

the electricity produced is supplied to the local electricity distribution network. In some countries this can be used to power the Group's other units. Combustion of natural gas produces CO<sub>2</sub> and leads to low nitrogen oxide (NOx) emissions and practically no sulfur oxide (SOx) emissions.

#### ■ Acetylene units

Worldwide, **56 acetylene production units** are included in the Group's Sustainable Development reporting since acetylene is a gas used primarily in metal welding and cutting. In all, 54 of these units produce this gas through the decomposition of a solid (calcium carbide) using water. Two units fill cylinders with this gas, which is supplied by another industrial company. This process produces lime, at least 90% of which tends to be recycled in industrial and agricultural applications (see section on waste and by-products).

#### ■ Nitrous oxide units

Worldwide, **seven acetylene nitrous oxide production units** are included in the Group's Sustainable Development reporting. Nitrous oxide is used primarily as an anesthetic gas in the healthcare sector and as a sweetening agent in the food industry. It is produced from ammonium nitrate in solid form or as a water-based solution.

#### ■ Carbon dioxide liquifaction and purification units

Worldwide, **63 carbon dioxide liquifaction and purification units** are included in the Group's Sustainable Development reporting. Carbon dioxide has many industrial applications but is used mainly in the food industry to deep-freeze foods or to produce carbonated beverages.

Carbon dioxide is most often a by-product of chemical units operated by other manufacturers. In some cases, it is found naturally in underground deposits, while in others it comes from the Group's hydrogen and carbon monoxide units. It is purified and liquefied in Air Liquide units, which consume electricity and cooling water. In this way, carbon dioxide is reused for other industrial applications instead of being emitted into the atmosphere.

#### ■ Units for the Hygiene and Specialty Ingredients activity

**Production units for the Hygiene and Specialty Ingredients activity** are located at **five sites** in France, Germany and China, and belong to the subsidiaries Schülke (Hygiene activity) and Seppic (Specialty Ingredients activity). Air Liquide experts work

## Environmental, Social and Governance (ESG) Report

closely with hospitals to help them reduce the risk of nosocomial infection and contamination through the products the Group has developed. These units consume natural gas, electricity and water. Combustion of natural gas produces small amounts of CO<sub>2</sub>.

#### ■ Engineering & Construction units

**Units for the Engineering & Construction activity** taken into account in this reporting are located at **four sites** in France, China and Japan. They are mainly units for the construction of air separation columns and cryogenic tanks. Lurgi, a Group subsidiary, has enabled the Group to have a portfolio of engineering technologies, in particular in production processes for hydrogen and syngas, biofuels (bioethanol, biodiesel) and

methanol. In addition, Lurgi is one of the world leaders in sulfur recovery processes.

#### ■ Welding production units

**Units for the Welding activity** are mainly located at **11 sites** around the world. They are welding equipment assembly units (electric welding units, torches, regulators) or welding consumables (electrodes, solid and flux-cored welding wire) production units.

#### ■ Main Research & Development sites and Technical Centers

The **main Research & Development sites and Technical Centers** are located at **six <sup>(a)</sup> sites** in France, Germany, the United States, and Japan.

## 1.1. Energy consumption and efficiency in our production activities

### Energy and efficiency indicators for the Group as a whole

	2010	2011	2012	2013	2014
Annual electricity consumption (in GWh)	24,924	26,661	27,578	28,305	30,341*
Annual thermal energy consumption (in LHV terajoules) <sup>(a)</sup>	204,434	213,198	229,177	232,270	226,036* <sup>(b)</sup>
Evolution of energy consumption per m <sup>3</sup> of air gas produced <sup>(c) (d)</sup>	99.0	99.0	98.8	99.0	99.3*
Evolution of energy consumption per m <sup>3</sup> of hydrogen produced <sup>(c) (e)</sup>	98.3	98.5	98.4	97.9	97.5*

(a) LHV: Lower Heat Value, which includes the fact that energy from water vaporizing in fuel is not recovered.

(b) Approximately 62,800 GWh LHV.

(c) Calculated from base of 100 in 2007.

(d) Gases produced (oxygen, nitrogen, argon) calculated in m<sup>3</sup> of equivalent gaseous oxygen.

(e) Hydrogen and carbon monoxide.

\* Indicator verified by the independent verifier.

Created from an invention that considerably reduced the energy used to separate air gases, Air Liquide has always been concerned with minimizing its energy consumption and environmental footprint. **The Group has initiated an approach to continually minimize the environmental footprint of its activities and help improve that of its partners and customers.**

The objective of improving the energy efficiency of its air separation units and hydrogen units, and the efficiency of liquefied gas deliveries by at least 2% between 2011 and 2015 **corresponds to over 350,000 tons a year of direct and indirect CO<sub>2</sub> emissions avoided <sup>(b)</sup>.**

Through its Engineering & Construction activity, the Group designs its own production units. For example, it can adapt the design of these units to the customers' needs, technological developments and energy costs, thereby quickly and directly taking advantage of the improvement in these units' energy efficiency. Air Liquide has been operating air separation units and hydrogen units for many years. It benefits from a virtuous circle of steady improvement through **its control over the design and its operating experience of these units**. Whenever circumstances permit, old units are replaced by new ones that are more energy efficient.

(a) Excluding the Research Centers of the Hygiene and Specialty Ingredients lines.

(b) Estimate based on 2014 CO<sub>2</sub> emissions.

In addition, the Group builds **increasingly large units** that generally have **a better energy efficiency** through scale effects.

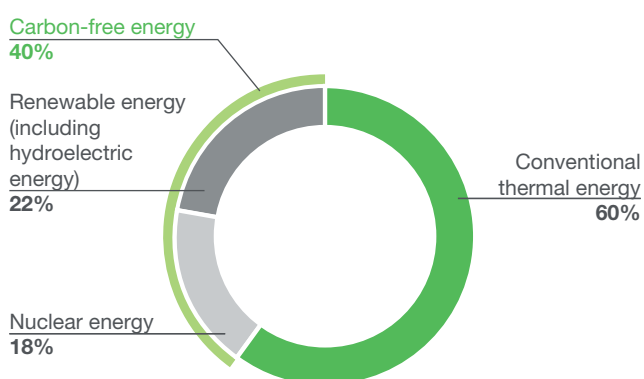
Air Liquide has also set up a program to **improve the reliability** of its units' operation. In addition to providing better service to customers, this has direct consequences for **energy efficiency**. Every shutdown and startup of these units creates an energy consumption sequence. Increasing reliability, i.e., reducing the number of excessive shutdowns, results in **more energy-efficient production units**.

Large units are often interconnected through a **pipeline network** supplying a customer industrial basin. This group of interlinked units creates operational synergy for both production and energy consumption. The steady development of the Group's oxygen, nitrogen and hydrogen pipeline networks clearly helps improve its energy efficiency. Lastly, **ever more efficient smart technologies** are being rolled out to centrally monitor and run the Group's large units so that **production can be adjusted to customer needs**. This initiative also contributes to improving energy efficiency.

## ORIGIN OF ELECTRICITY USED

Taking into account the different natures of primary energy used to produce electricity in the countries where Air Liquide is present, it is possible to present a global breakdown of the origin of the electricity used by the Group worldwide.

Origin of electricity used in 2014 <sup>(a)</sup>



## TRANSPORTATION: INDUSTRIAL MERCHANT BUSINESS LINE

	2010	2011	2012	2013	2014
Kilometers traveled by all vehicles delivering gas in liquid or cylinder form (in millions of km)	361	428	428	420	428*
Estimate of CO <sub>2</sub> emissions generated by these vehicles in the Industrial Merchant activity (in thousands of tons)	396	471	471	462	471*
<b>Evolution of the distance traveled per ton of industrial gas delivered (oxygen, nitrogen, argon, carbon dioxide) <sup>(a)</sup> <sup>(b)</sup> (truck delivery)</b>	<b>96.3</b>	<b>97.1</b>	<b>97.8</b>	<b>95.3</b>	<b>94.8*</b>
Estimate of truck transport kilometers avoided through on-site customer units (in millions of km)	-61	-70	-68	-72	-72
Estimate of CO <sub>2</sub> emissions avoided by these on-site units (in thousands of tons)	-66	-70	-68	-72	-72
Percentage of deliveries of air gases and hydrogen via pipeline or on-site	86%	86%	86%	86%	86%

(a) In kilometers per ton delivered for the Industrial Merchant activity.

(b) Calculated using a base of 100 in 2007.

\* Indicator verified by the independent verifier.

(a) Calculation takes into account the primary energy source that each country uses to produce electricity (source: International Energy Agency).



In 2014, trucks delivering Air Liquide liquid gases or gas cylinders in the Industrial Merchant activity traveled **428 million kilometers** worldwide and emitted about **471,000 tons of CO<sub>2</sub>**. In addition, the Industrial Merchant activity has developed **software that optimizes truck deliveries** to reduce the number of kilometers

traveled per ton of gas delivered. In particular, the levels of the customers' stock delivered in liquid form are automatically measured and transmitted to Air Liquide's logistics teams. This data allows the optimal delivery frequencies and routes for resupplying these customers to be determined.

## TRANSPORTATION: HEALTHCARE BUSINESS LINE

	2012	2013	2014
<b>Transportation: Home Healthcare activity</b>			
Kilometers traveled (in millions of km)	141	161	149
Associated CO <sub>2</sub> emissions (in thousands of tons)	35	38	35
<b>Transportation: Medical Gases activity</b>			
Kilometers traveled (in millions of km)	20	26	26
Associated CO <sub>2</sub> emissions (in thousands of tons)	17	23	23
<b>TOTAL KILOMETERS TRAVELED: HEALTHCARE ACTIVITY</b> (in millions of km)	<b>161</b>	<b>187</b>	<b>175</b>
<b>TOTAL ASSOCIATED CO<sub>2</sub> EMISSIONS</b> (in thousands of tons)	<b>52</b>	<b>61</b>	<b>58</b>

In 2014, the total number of kilometers traveled for deliveries of gas cylinders for the Home Healthcare activity was **149 million**. The quantity of CO<sub>2</sub> emitted during these deliveries was **35,000 tons**<sup>(a)</sup>. The number of kilometers traveled for the delivery of medical gases to hospitals<sup>(a)</sup> amounted to **26 million**, which represented **23,000 tons of CO<sub>2</sub>** in 2014.

To reduce their environmental footprint, some subsidiaries in the Home Healthcare activity have introduced **training courses in energy-efficient driving**. These courses are aimed at technicians, nurses, and nutritionists at these subsidiaries to raise awareness of the objectives of environmentally friendly driving. They bring together **issues of mobility, safety, ecology and savings**.

## 1.2. Group greenhouse gas emissions and emissions avoided by the Group

### GROUP DIRECT AND INDIRECT GREENHOUSE GAS EMISSIONS

A company's greenhouse gas emissions are usually broken down into three "Scopes", depending on their origin:

■ **Scope 1** corresponds to **direct emissions** generated by all possible emission sources owned or controlled by Air Liquide. This scope covers the Group's production units as well as the transportation of products and equipment to customers and patients. More than 94% of direct emissions are related to the nature of the thermal energy used as a raw material by the Group's large hydrogen and carbon monoxide production units, and cogeneration units (for steam and electricity production). The vast majority of these units use natural gas<sup>(b)</sup>;

■ **Scope 2** corresponds to all **indirect emissions** related to the production of electricity or steam purchased outside the Group in the various countries where it operates. These emissions therefore have a close link with the nature of the electricity in the countries where Air Liquide is present;

■ **Scope 3** corresponds to **other indirect emissions** generated, for example, by Group employees traveling on business or home-office commuting.

Direct and indirect **Scope 1 and 2 emissions accounted for 99% of the Group's total emissions** in 2014.

(a) Extrapolated from the main countries of the Healthcare activity.

(b) Some hydrogen and carbon monoxide production units also use other raw materials such as naphtha (a liquid similar to gasoline that comes from the distillation of oil) and various gases produced by refineries.



## Indicators concerning the emissions of the Group as a whole

	2010	2011	2012	2013	2014
Scope 1: Total direct greenhouse gas emissions (GHG) (in thousands of tons of CO <sub>2</sub> eq.) <sup>(a)</sup>	10,181	10,549	11,272	11,846	11,569*
Scope 2: Total indirect GHG emissions (in thousands of tons of CO <sub>2</sub> eq.) <sup>(b)</sup>	8,006	9,085	9,546	9,915	11,405*
<b>TOTAL DIRECT AND INDIRECT GHG EMISSIONS (in thousands of tons of CO<sub>2</sub> eq.)</b>	<b>18,187</b>	<b>19,634</b>	<b>20,818</b>	<b>21,761</b>	<b>22,974*</b>

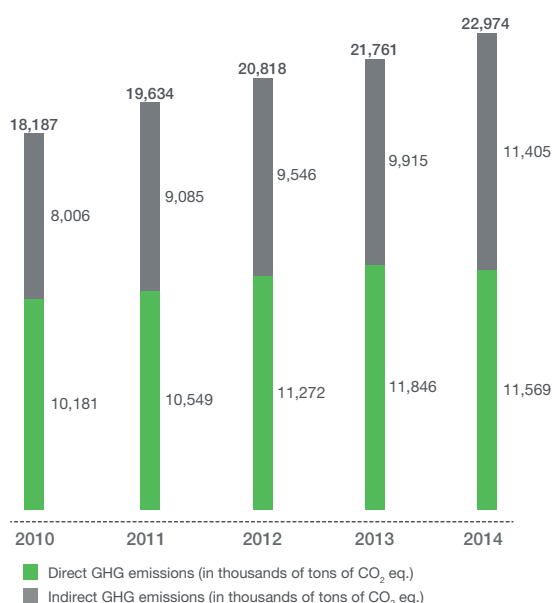
(a) Includes CO<sub>2</sub> emissions and nitrous oxide emissions.

(b) Total of indirect GHG emissions generated by the production of electricity purchased outside the Group. The indirect emissions only concern CO<sub>2</sub> emissions. Calculation takes into account the primary energy source that each country uses to produce electricity (source: International Energy Agency). In addition, in 2013 the Group redefined the calculation method for indirect emissions to take account of all the electricity produced by its cogeneration units.

\* Indicator verified by the independent verifier.

## Direct "Scope 1" emissions and indirect "Scope 2" greenhouse gas emissions

(in thousands of tons of CO<sub>2</sub> eq.)

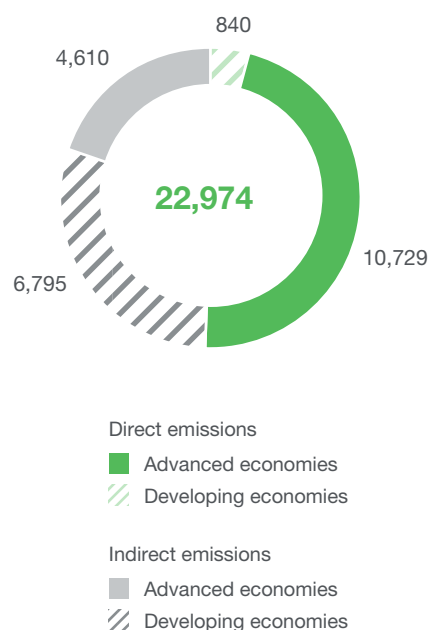


The Group's direct emissions fell from 11.8 million tons of CO<sub>2</sub> equivalent in 2013 to 11.6 million tons in 2014, i.e. a decrease of 2.4%. This resulted from a decrease in cogeneration emissions after the Group sold some of the units, compensated for by an increase in emissions from the hydrogen units related to the development of sales of this molecule.

The Group's indirect emissions were up 15% from 9.9 million tons of CO<sub>2</sub> equivalent in 2013 to 11.4 million tons in 2014. This was primarily due to the commissioning of large air separation production units in China which use higher carbon content energy sources, namely electricity or steam, than many other countries.

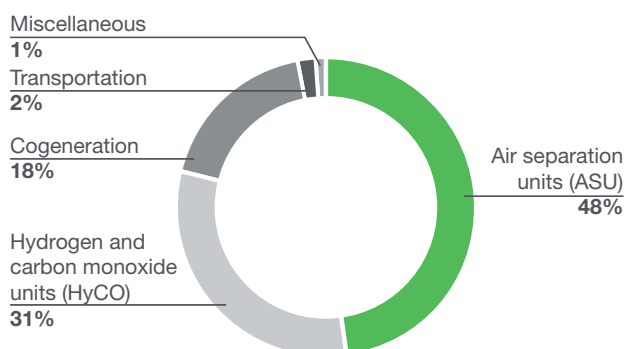
The Group's total emissions were up 5.6% from 21.8 million tons of CO<sub>2</sub> equivalent in 2013 to 23 million tons in 2014 as a result of the above-mentioned changes in direct and indirect emissions.

## Breakdown of greenhouse gas emissions between advanced and developing economies



In order to distinguish between the differentiated growth dynamics of advanced economies and developing economies, Air Liquide has segmented its direct and indirect CO<sub>2</sub> emissions between these economies since 2010.

### Breakdown of direct and indirect greenhouse gas emissions



In this report, the advanced economies are defined in accordance with the financial reporting: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Great Britain, Greece, Italy, Japan, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United States. The developing economies refer to the other countries in which Air Liquide operates.

### Scope 3 emissions related to business travel

Business travel by plane, car or train is one of the main sources of Scope 3 CO<sub>2</sub> emissions. These were estimated at **82,000 tons of CO<sub>2</sub> in 2014 for all subsidiaries, which largely represents less than 1% of the Group's total emissions**. This estimate was done based on the European subsidiaries' emissions, representing 52% of the Group's employees. The total of Scope 3 emissions was then extrapolated by hypothesizing that emissions are the same in all countries where the Group operates.

Air Liquide endeavors each year to reduce the greenhouse gas emissions generated by its subsidiaries' activities, particularly those caused by business travel. In France, Air Liquide's goal is to decrease the CO<sub>2</sub> emissions generated by the fleet of cars leased for personnel. To reduce these emissions, the French subsidiaries decrease the CO<sub>2</sub> emission per kilometer level every year when selecting vehicles for lease. This level was 147 grams per kilometer in 2006 and was 109 grams in 2014, close to the target set by the Group of 105 grams of CO<sub>2</sub> per kilometer. With a fleet of over 4,200 vehicles each traveling an average of 40,000 kilometers per year, this policy made it possible to avoid the emission of nearly 25,000 tons of CO<sub>2</sub> between 2006 and 2014.

Furthermore, since 2012, a total of 28 teleconferencing or high-quality video rooms have been used in many regions where the Group operates. These teleconferencing rooms enable remote meetings by proposing each participant a presence similar to a physical meeting. They can also be used for meetings with customers, partners and investors. This technology therefore reduces the CO<sub>2</sub> emissions generated by employees' air

travel from around 1.5 ton of CO<sub>2</sub> per person present at the teleconferences.

### GHG EMISSIONS AVOIDED BY THE GROUP

#### Emissions avoided in our production operations

Energy efficiency has always been a key focus of the Group's World Business Lines and activities. Air Liquide constantly strives to **minimize the energy footprint, and therefore the carbon footprint of its products and services** through the combined effects of its technological solutions, the size of its production units, its co-production synergies, its experience of production-unit operation, and the development of its pipeline networks.

For example, the products and services that Air Liquide supplies to its customers consume less energy and **avoid more CO<sub>2</sub> emissions** than units that might be owned and operated directly by these customers, known as an "alternative reference system". The Group assesses the CO<sub>2</sub> emissions avoided using increasingly accurate methodologies that compare the efficiency of Air Liquide's production systems to the estimated efficiency of the alternative reference system. In total, Air Liquide estimates that compared to the alternative reference system, which is less optimized and less efficient, the efficiency of its own energy consumption across its entire Sustainable Development reporting scope avoids the emission of around **3 million tons of CO<sub>2</sub> per year**.

For example:

- **Large air gas separation units** produce oxygen, nitrogen and argon, and consume almost exclusively electrical energy or, in the case of some sites, steam. Because of their size and energy performance, together with co-production of these various products and Air Liquide's ability to supply several customers from such sites using pipeline networks, these units are around **15% more efficient on average than would be the case with separate production units** operated by customers. This represents more than **1.6 million tons in indirect CO<sub>2</sub> emissions avoided every year**.
- **Large hydrogen and carbon monoxide units** use mainly natural gas as a raw material. Because of their size, energy performance, joint production of carbon monoxide, a product used in the chemical industry, and hydrogen in the case of some units, as well as Air Liquide's ability to supply several customers from such sites using pipeline networks, these units are around **5% more efficient on average than would be the case with separate production units** operated by customers. This represents more than **0.3 million tons in direct CO<sub>2</sub> emissions avoided every year**.

■ **Cogeneration units** produce steam and electricity from natural gas simultaneously. Cogeneration is a **more energy efficient technology** when it comes to CO<sub>2</sub> emissions than technologies that produce electricity and steam separately. These units therefore help reduce CO<sub>2</sub> emissions in the industrial basins they supply. In 2014, **the Group's cogeneration units avoided the direct emission of 792,000 tons of CO<sub>2</sub>** into the atmosphere, making them around **16% more efficient** than separate electricity and steam production units.

■ Small nitrogen, oxygen and hydrogen units installed at customer facilities, known as **"on-site units"**, reduce truck deliveries, which are a source of CO<sub>2</sub> emissions. In 2014 these on-site units saved 72 million kilometers in truck deliveries, thus **avoiding 72,000 tons of CO<sub>2</sub> emissions**.

**Total CO<sub>2</sub> emissions avoided by using large air gas separation units, hydrogen units, cogeneration, and on-site units is around 3 million tons of CO<sub>2</sub> per year.**

### Emissions avoided at our customers' facilities through the supply of our products

In addition to these CO<sub>2</sub> emissions, avoided as a result of the energy performance of Air Liquide's production units, **many products and services supplied by the Group to its customers** allow them to **reduce their own CO<sub>2</sub> emissions and improve their own environmental footprint**.

For example, significant volumes of oxygen supplied by Air Liquide to the steel industry are used in two applications for which the use of oxygen significantly reduces CO<sub>2</sub> emissions:

- **oxygen injection in blast furnaces** reduces the consumption of coke, the production and use of which are very high in CO<sub>2</sub> emissions and pollutants, by partially replacing it with pulverized coal or natural gas;
- **the use of oxygen in electric furnace** burners can significantly reduce their electricity consumption.

Air Liquide estimates that **the use of oxygen for these two applications allows its customers to avoid around 10 million tons of CO<sub>2</sub> emissions per year**.

### GROUP GHG EMISSIONS THAT HELP PRODUCE MOLECULES TO PROTECT OUR PATIENTS' LIVES AND THE ENVIRONMENT AT OUR CUSTOMERS' SITES

It is also useful to analyze the Group's total CO<sub>2</sub> emissions by looking at them in relation to the end use of the products and services supplied by Air Liquide.

In particular:

- 5 million tons of CO<sub>2</sub> are emitted by the Group per year to produce hydrogen, which is needed to **desulfurize hydrocarbons for sulfur-free fuels**. In 2014, the hydrogen supplied by Air Liquide to refineries throughout the world **resulted in the avoidance of some 935,000 tons of sulfur oxide emissions** being discharged into the atmosphere, which is nearly four times as much as the total sulfur oxide emissions of a country like France.
- 4.1 million tons of CO<sub>2</sub> per year are emitted by the Group to produce electricity and steam production under cogeneration. **Cogeneration is a more energy-efficient technology with regard to CO<sub>2</sub> emissions than technologies that produce electricity and steam separately**. As noted above, in 2014, the Group's cogeneration units prevented 0.8 million tons of CO<sub>2</sub> emissions from being discharged into the atmosphere, which is roughly 16% more efficient than producing electricity and steam separately.
- 0.9 million tons of CO<sub>2</sub> indirect emissions per year are linked to production of oxygen for blast furnaces and electric furnaces, **significantly reducing the energy consumption of customer processes**. As noted above, we estimate that the use of oxygen in these applications avoided the emission of more than 10 million tons of CO<sub>2</sub> in 2014.
- 2.2 million tons of CO<sub>2</sub> per year are emitted in the production of **molecules used in more than 40 other applications to protect patients' lives and the environment at customers' sites**.

In total, therefore, **more than 12 million tons of CO<sub>2</sub> are emitted per year, or more than half the Group's total CO<sub>2</sub> emissions, resulting from the production of molecules that help protect the lives of our patients and the environment at our customers' sites**.

### 1.3. Environmental management

#### WATER MANAGEMENT

	2010	2011	2012	2013	2014
Annual water consumption (estimation in millions of m <sup>3</sup> )	66	67	66	68	70* (a)
Evolution of energy consumption per m <sup>3</sup> of air gas produced (b)	102	97.2	96.8	95.5	94.8* (c)

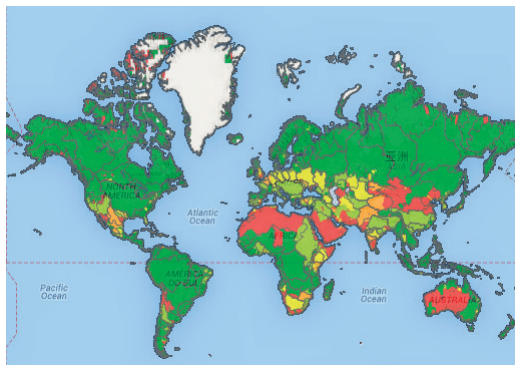
(a) Represents less than 0.5 one-thousandth of the industrial water consumption of the economies under review.

(b) Concerns the air gas separation units (ASUs), which account for approximately 60% of the water used by the Group.

(c) Calculated using a base of 100 in 2007.

\* Indicator verified by the independent verifier.

Fresh water that can be used for human activities represents less than 1% of the Earth's water. Its rational use is a subject of growing importance. According to the OECD, (a) the global demand for water is expected to increase by more than 50% by 2050. This increasing demand generates tensions both between countries for the control of supply sources and between activity sectors (agriculture, industry and domestic use). The water stress indicator, as defined by the World Business Council for Sustainable Development (WBCSD), locally measures the quantity of renewable water available in m<sup>3</sup> per person, per year. This data is used to identify areas at risk.



Of the 276 sites analyzed, 30 are located in water stressed areas (<500 m<sup>3</sup> per person, per year), **which represents about 5% of the annual water supply of Air Liquide's industrial sites.** More generally, about 100 of the 276 main industrial sites analyzed are located in a high or moderate water stress area (b) (c).

**In 2014, Air Liquide used 70 million m<sup>3</sup> of water**, broken down as follows:

- approximately 60% by air separation units for cooling air after compression. 70% of this water is evaporated and 30% is treated on-site or by treatment plants in neighboring municipalities;
- approximately 40% in other industrial processes such as hydrogen production units and cogeneration units. Approximately 80% of the water used by these units is supplied and then consumed in the form of steam by Air Liquide's customers.

With regard to air separation units, there are several types of cooling systems. More than 85% of these units have semi-open recirculating systems which require back-up water. More than 10% of these units have open systems. In such cases, water comes from natural resources or third-party industrial circuits. It is discharged back into the original source, without causing pollution or changing the water's physical-chemical characteristics. Lastly, some 5% of these units have closed systems that consume no water.

Air Liquide assumes its responsibility as an industrialist, **while working on reducing the volumes used.** For example, several notable **action plans** have been implemented worldwide in 2014 in the Group's different activities:

- in Qatar, major investment has led to the recycling of 94% of cooling water from air separation units;

(a) Organization for Economic Co-operation and Development.

(b) An area is considered to be in a moderate water stress situation when the volume of renewable water is between 1,000 and 1,700 m<sup>3</sup> per person, per year, and in a high water stress situation when this volume is below 1,000 m<sup>3</sup>.

(c) Study conducted using the Global Water Tool developed by the World Business Council for Sustainable Development (WBCSD).

- in China, work carried out on two air separation units improved the quality of the water discharged from the cooling towers and reduced the annual amount of water required by 27%;
- in South Africa, two projects have helped reduce water consumption: water mains have been replaced with new above-ground pipes so leaks are detected immediately, as

well as cooling water from acetylene units now being recycled and filtered.

These examples are publicized on the Air Liquide internal information networks to help all subsidiaries make progress in this area.

## DISCHARGES INTO AIR AND WATER

In addition to the main environmental indicators, there are other environmental indicators for the Group that are of lesser importance and relevance for Air Liquide's business. Out of concern for transparency and exhaustiveness in reporting, Air Liquide presents below a table summarizing the atmospheric discharge of nitrogen oxide (NOx), sulfur oxide (SOx), and Volatile Organic Compounds (VOC), along with the discharge into water of oxidizable matter and suspended solids.

### Discharges into air and water

	2010	2011	2012	2013	2014
Air discharge: NOx (nitrogen oxide) (in tons)	3,500	3,710	3,940	4,400	3,200
Air discharge: SOx (sulfur oxide) (in tons)	<300	<300	<300	<250	<250
Total volatile organic compounds (VOC) discharged into the atmosphere (estimate, in tons)	330	320	124	110	110
Total discharge into water: oxidizable matter (in tons)	<1,600	<1,700	<1,700	<1,000	<1,000
Total discharge into water: suspended solids (in tons)	<1,400	<1,500	<1,500	<1,500 <sup>(a)</sup>	<1,500

(a) The 2013 figure has been reviewed.

## WASTE AND BY-PRODUCTS

Although the amount of waste and by-products resulting from industrial and medical gas activities is low, Air Liquide nevertheless publishes estimated figures in this regard in the interests of exhaustive reporting. The main waste and by-products produced by the Group's production units are lime from the acetylene production units, metal waste, oils, paints and solvents. The average recycling ratio of waste <sup>(a)</sup> is over 90%.

### Waste and by-products

Waste and by-products	2010	2011	2012	2013	2014
<b>Non-hazardous waste and by-products</b>					
■ Annual quantity of lime produced (extracted dry equivalent) by the acetylene production units (in tons)	36,900	36,800	30,400	32,500	32,000
% recycled	>90%	>90%	>80%	>80%	>90%
■ Metal waste (in tons) <sup>(b)</sup>	9,200	8,200	9,300	9,800	9,000
% recycled	>99%	>99%	>99%	>99%	>99%
■ Oils (in tons)	750	750	825	800	600
% recycled	90%	84%	91%	88%	83% <sup>(c)</sup>
<b>TOTAL NON-HAZARDOUS WASTE AND BY-PRODUCTS</b> (estimate in tons)	<b>46,850</b>	<b>45,750</b>	<b>40,525</b>	<b>43,100</b>	<b>41,600</b>
<b>Hazardous waste</b>					
■ Paints and solvents (in tons)	200	150	101	150	100
% recycled	45%	54%	43%	63%	63% <sup>(d)</sup>
<b>TOTAL WASTE AND BY-PRODUCTS</b> (estimate in tons)	<b>47,050</b>	<b>45,900</b>	<b>40,626</b>	<b>43,250</b>	<b>41,700</b>

(a) Calculation is based on the weight of the waste.

(b) Non-hazardous metal waste.

(c) In addition, 15% is incinerated.

(d) In addition, 35% is incinerated.

## PRODUCT STEWARDSHIP AND REGULATIONS

Air Liquide has set up procedures to control its products' impact on the environment, health and safety, in particular for products like oxygen, hydrogen and the gases used in the Electronics activity. In practical terms, product stewardship is carried out by:

- identifying physical and chemical, toxicological or ecological dangers related to certain products;
- evaluating risks during different phases of production, transportation and storage from raw materials to finished products;
- implementing systems that guarantee customers' and patients' safety while handling products and incorporating them into the customers' industrial processes.

### European REACH regulation

REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) is a European Union regulation (therefore directly applicable in the Union's Member States) that governs the registration, evaluation and authorization of chemical products produced in or imported into the European Union. Any chemical substance imported or manufactured in Europe of over one ton a year must be registered with the European chemicals agency ECHA. Each manufacturer or importer must have its own registration. The rule is part of the product stewardship approach developed by the chemicals industry.

The European REACH regulation went into effect on June 1, 2007, and registration and authorization procedures were spread over about 12 years for products already on the market.



Air Liquide's main products such as oxygen, nitrogen, hydrogen, CO<sub>2</sub>, helium and rare gases are excluded from the scope of REACH. Until now, four products (carbon monoxide, acetylene, methanol <sup>(a)</sup> and lime <sup>(b)</sup>) have been registered in compliance with the schedule established by this regulation. Nitrous oxide and a few specialty gases in the Electronics Business line, such as nitrogen trifluoride, were registered on June 1, 2013 for annual quantities of between 100 and 999 tons.

In addition, certain products in the Healthcare Specialty Ingredients activity fall under the REACH regulation, including many Seppic products stemming from plant-based raw materials. Depending on the annual tonnage manufactured, Seppic has already registered its main products and will register all products concerned by May 31, 2018 at the latest, in compliance with the REACH regulation.

Air Liquide must also make sure that the raw materials it uses are in compliance with the REACH regulation.

**In 2014, Group sales covered by REACH represented less than 3% of the Group's revenue.**

### Principal European directives and regulations applicable to Air Liquide in the environmental field

#### Seveso 2 Directive

This European directive focuses on preventing major industrial risks. It applies to any facility where hazardous substances exceed certain quantities. These facilities are divided into two categories according to the quantity of such substances: Seveso 2 "high threshold" and "low threshold". In Europe, 89 "low threshold" and 25 "high threshold" Air Liquide sites are covered, mainly because of their stocks of oxygen.

Seveso regulations apply only in Europe but if the Seveso "high threshold" criteria were to be applied worldwide, 27 other Group sites would be covered.

#### CO<sub>2</sub> emission quotas

Air Liquide is present in a number of regions that have implemented, or are in the process of implementing, a quota system for greenhouse gas emissions. Corporate teams and dedicated teams based in these regions monitor and assist with regulatory developments to ensure their operations are fully compliant with the objectives and obligations related to these

quota systems. Because of the energy efficiency of its production systems, Air Liquide naturally minimizes the energy footprint, and therefore the carbon footprint of its products and services.

In the **European Union**, the European directive ETS (Emission Trading Scheme) established a quota system for greenhouse gas emissions in 2005, in compliance with the Kyoto Protocol and EU targets on climate change. Following an initial phase from 2005 to 2007, and a second phase from 2008 to 2012, a third phase, covering the period from 2013 to 2020, has expanded the scope of industrial installations subject to the ETS. For Air Liquide, six cogeneration sites in Germany, France and the Netherlands, and all of the Group's large hydrogen product sites in Europe were affected by this directive in 2014. With regard to hydrogen production units, CO<sub>2</sub> emission quotas are mostly allocated for free, according to a benchmark set for the top performing European facilities. Air Liquide obtains CO<sub>2</sub> quotas from the market or its customers for emissions from hydrogen production sites not covered by the free allocations and for all emissions from the cogeneration sites.

In **California**, the AB32 (Assembly Bill 32) directive has established since January 2013 a CO<sub>2</sub> quota system for manufacturers, with the obligation to comply with a cap-and-trade program, and sets targets to reduce quotas gradually by 2020. This new regulation affects two of Air Liquide's hydrogen production sites in California.

A similar system is being implemented in **South Korea** effective January 2015, which will affect all of Air Liquide's air gas production and hydrogen and carbon monoxide units in Korea, with an allocation of free emission quotas based on historical emissions that will then be gradually reduced.

**China** has announced ambitious targets for reducing the carbon intensity of its economy by 2030. The Chinese government has launched in 2013 and 2014 pilot "ETS" programs in seven regions (the provinces of Guangdong and Hubei, and the cities of Beijing, Tianjin, Shanghai, Chongqing and Shenzhen). Air Liquide production sites in those regions (air gas and hydrogen units) are actively participating in the pilot programs. The Chinese government is expected to establish a national emissions trading scheme as of 2016, the terms of which have yet to be defined.

(a) Methanol is the raw material used to produce hydrogen at one of the Group's units.

(b) Lime is a by-product of the Acetylene business.



### A SPECIFIC EXAMPLE OF RESPONSIBLE PRODUCT MANAGEMENT: THE SPECIALTY INGREDIENTS ACTIVITY

A subsidiary of the Air Liquide Group, within the Healthcare Business Line, Seppic develops and markets a wide range of healthcare specialty ingredients – excipients and active ingredients – intended for the personal care, pharmaceutical and vaccine markets. These ingredients are increasingly being manufactured directly from plant-based raw materials. Seppic's strategy is based on the constant concern for minimizing its businesses' environmental impact.

- The principles of green chemistry are now an integral part of all new processes at Seppic that offer new ways of exploring the synthesis and extraction of plant-based raw materials. Seppic evaluates its products using a grid of environmental criteria based on “green chemistry” principles like the use of plant-based raw materials, solvent-free processes and the reduction of energy consumption. **“Green chemistry” is part of Seppic's Corporate Social Responsibility and Sustainable Development approach, driving innovation and growth.**
- **Seppic implements innovative tools such as eco-design, the Carbon Assessment and product life-cycle analysis (LCA).** Eco-design is an analytical method for creating new products with a low impact on the environment during their entire life cycle, but also for improving the manufacturing of existing products. In 2012, Seppic carried out, for the first time, a life-cycle analysis of an entirely bio-sourced emulsifier <sup>(a)</sup> used in cosmetics and pharmaceuticals. Since then, the comparative LCAs are also underway in order to assess the influence of the source of raw materials (petrochemical or bio-source surfactants), as well as the impact of the choice of various agricultural sectors (palm, canola, castor oil). The LCA consists of a detailed analysis of a product's environmental impacts from raw material extraction to its end use by the consumer.
- **Seppic was selected to experiment the Greenhouse Gas Management System (GHG-MS)** launched by the Association Bilan Carbone <sup>(b)</sup>. The GHG-MS is a solution that integrates management of greenhouse gas emissions into the company's global strategy and that drives low-carbon usage actions.
- **Seppic is committed to sustainable palm oil:** Seppic has been a member of the RSPO (Roundtable on Sustainable Palm Oil) since 2010 and favors the production of sustainable palm oil for its cosmetic active ingredient ranges through the GreenPalm program <sup>(c)</sup>.
- Produced in Castres in the south west of France, Montanov – a natural emulsifier used in the cosmetics market – generates sludge during production. The Seppic experts are studying the **recovery of this sludge by anaerobic digestion**, thus allowing production of biomethane that can be used in industry and saving sludge treatment costs.

In addition, quality, safety and the environment are a constant focus of the management of Seppic's industrial sites, which are fully certified by ISO 9001, ISO 14001 and OHSAS 18001 <sup>(d)</sup> international standards.

(a) Molecule that stabilizes an emulsion between an aqueous phase and a phase composed of lipids.

(b) The Association Bilan Carbone (ABC) has functioned as the supporting structure of the Bilan Carbone® since October 2011, and brings together stakeholders in the public and private sector in France and internationally. The ABC and its partners work to develop and promote operational and methodological solutions that provide for a reduction of greenhouse gas emissions to support the transition toward a low carbon society.

(c) GreenPalm is a certificate trading programme designed to support and promote production methods approved by the RSPO.

(d) International standards regarding the management of quality (ISO9001), the environment (ISO14001) and safety (OHSAS18001).

### ENVIRONMENTAL INCIDENTS AND CONSIDERATION OF RISKS RELATED TO CLIMATE CHANGE

An Air Liquide procedure, available to all Group employees, is an integral part of Air Liquide's Industrial Management System (IMS), defines environmental incidents based on three levels of severity. All incidents reported at Group level are subject to a systematic, in-depth analysis, depending on the nature of the incident, so that prevention measures can be stepped up. Environmental risks related to industrial processes and risks related to climate change are presented in the Risk factors section of the Reference document.

Most of the time, **environmental incidents** in the industrial and medical gases activities have a very low impact on the environment compared to the traditional chemicals industry. For example, in air gas production, any possible leak of these gases presents absolutely no danger for the atmosphere. Likewise, the water used in Air Liquide's processes is primarily used in cooling and steam production. The risk of possible pollution of the water used is therefore very low. In 2014, there were a total of 16 environmental incidents in the Group, mainly involving air gas and oil leaks.

**Climatic risks** are reviewed at both Group and site level. Weather-related and climatic disasters, water stress areas and the increased frequency of cyclones constitute a risk that could disrupt the smooth running of operations. Preventive measures



targeting extreme weather-related phenomena exist at the main sites located in high-risk areas.

The amount of financial provision and guarantees earmarked for environmental risks is 13 million euros.

## BIODIVERSITY

**The impact of Air Liquide's activities on biodiversity is limited** because the Group's production units are generally located on small sites in industrial zones.

**However, Air Liquide supports biodiversity preservation** via its Foundation, which funds scientific research projects around the world in the field of environmental protection, focusing on projects contributing to preserve the planet atmosphere, and therefore biodiversity.

In recent years, the Foundation has sponsored the following:

- Under The Pole II expedition to Greenland. The Air Liquide Foundation is sponsoring an environmental research program in this polar environment aimed at evaluating the amount of CO<sub>2</sub> trapped deep in the ocean. True to its undertaking to safeguard the atmosphere, the Foundation is playing its part in protecting biodiversity in the Arctic world;
- the project led by the Center for Ecological Research and Forestry Applications, a Spanish public research institute, focusing notably on forest ecology. The Air Liquide Foundation is the Center's study on changes in emissions of biogenic volatile organic compounds <sup>(a)</sup> generated by climate change and their influence on ecosystems and biodiversity;
- the project led by the French Institute of Research for Development (IRD), which studies the ability of mangroves to capture CO<sub>2</sub> emissions. For the third consecutive year in New-Caledonia and in Vietnam, the Air Liquide Foundation is helping to protect mangroves, which are a very rich sanctuary for biodiversity.

## 2. Social and societal

### 2.1. Safety: the number one priority

#### Safety indicators for the Group as a whole

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Number of Group employee lost-time accidents of at least one day <sup>(a)</sup>	131	153	147	137	131	153	144	149	151	144
Accident frequency of Group employees <sup>(b)</sup>	2.1	2.3	2.1	1.8	1.7	1.9	1.7	1.7	1.6	1.56*
Accident severity rate <sup>(c)</sup>							<0.1	<0.1	<0.1	<0.1
Number of accidents of subcontractors and temporary workers <sup>(d) (e)</sup>				154	148	155	118	142	110	92
Frequency of accidents of subcontractors and temporary workers <sup>(d)</sup>									2.2	2.3

(a) Fatal work accidents since 2010: none in 2014, three in 2013, one in 2012, one in 2011, one in 2010. Of these, one was a traffic accident in 2013.

(b) Number of accidents involving lost time of at least one day, per million hours worked by Group employees. Accidents defined following the recommendation of the International Labor Office.

(c) Average number of days of lost time per thousand hours worked. Accidents defined following the recommendation of the International Labor Office.

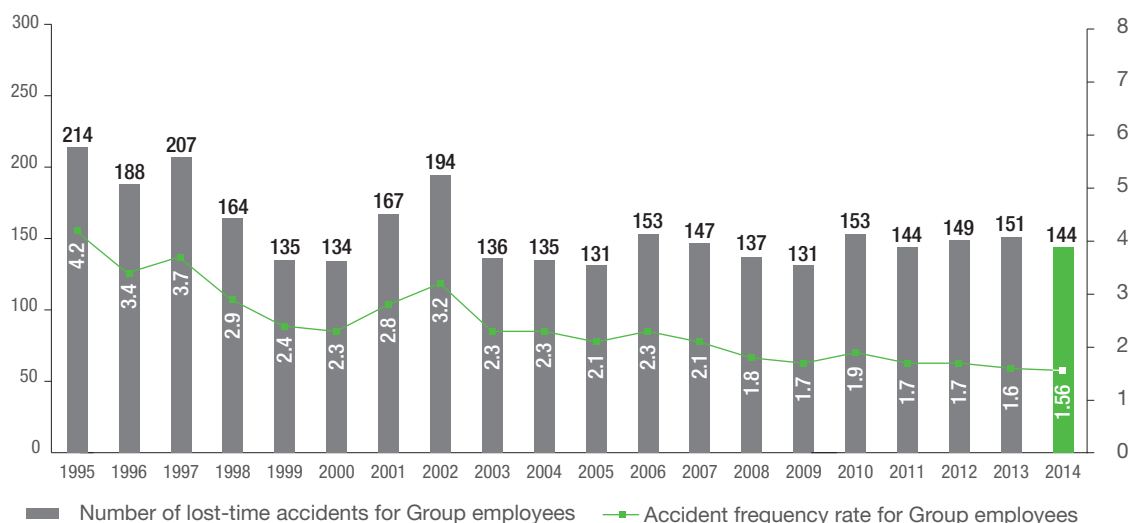
(d) Personnel working under an Air Liquide contract at a Group site, or at a customer site, or as a delivery vehicle driver.

(e) Fatal work accidents since 2010: one road accident in 2014, one road accident in 2013, three fatal work accidents in 2012 including a road accident, four fatal work accidents including three road accident in 2011, no fatal work accident in 2010.

\* Indicator verified by the independent verifier.

(a) Gas emitted by vegetation such as certain hydrocarbons.

## Number and frequency of lost-time accidents of Group employees since 1995



Safety remains a top priority for the Group's management and employees. Continuously and durably improving the health and safety in the workplace of its employees and subcontractors is one of Air Liquide's major challenges, which is expressed by the keyword "zero accident" on each site, in each region, in each entity. Employees are mobilized through active communication on this objective. In addition, safety objectives – like the other responsibility objectives – are part of the variable remuneration of the Group's Senior Managers. In particular, the variable share of the remuneration of the Executive Officers is linked to safety objectives.

Prevention, protection, early detection and rapid reaction are at the heart of the Group's concerns. Air Liquide rolled out its Industrial Management System (IMS)<sup>(a)</sup> in 2005, which has changed work methods significantly and improved processes involving safety management, reliability, environmental protection, and industrial risk management.

The Group has set up procedures, training sessions and an appropriate follow-up to encourage each employee to work responsibly and in total safety, respecting the laws and regulations in force. A central team of experts leads networks of specialists in the field to see to the proper implementation of the IMS. Together, they provide local managers in the Group's different entities with technical and methodological support and participate in managing industrial risks.

In 2014, the number of lost-time accidents of Group employees was 144, compared with 151 in 2013. The employee lost-time accident frequency rate, i.e. the number of accidents with at least

one day of lost-time per million hours worked, was 1.56 compared with 1.62 in 2013, and continues to fall. This improvement is in line with the Group's goal to reduce the employee accident frequency rate every year. Furthermore, there were no fatal accidents involving Group employees in 2014. These results show the teams' strong willingness to get involved in safety.

In 2014, the number of lost-time accidents of subcontractors and temporary workers was 92, compared with 110 in 2013. The accident frequency rate for these workers was 2.3 in 2014, comparable to the 2013 rate of 2.2.

The Group's safety guidelines in 2014 focused on understanding and preventing major risks linked to its activities. For example, Air Liquide launched an awareness-raising program for all employees on technical risks that can have serious consequences. This program increases the importance of safety in everyone's daily life. Each field manager has discussions with his or her team and shares rules, best practices and daily experiences related to safety.

With the support of the Group's Safety and Industrial System Department, an initiative called "Life-Saving Rules" continues to be deployed throughout the Group. The aim is to increase awareness of safety rules pertaining to major risks at production sites, as they apply to the industrial situations characterizing the Group's core businesses. These rules apply to Air Liquide employees as well as to temporary workers and subcontractors.

(a) More information on the IMS is presented in the Industrial Management System section.

## 2.2. Develop our people

The Group has 50,300 employees in 80 countries who form multicultural teams with a host of skills. Air Liquide is involved in promoting diversity, facilitating and accelerating knowledge transfer, motivating and involving its employees, and encouraging social and human commitment.

### “OUR TALENTS” INDEX

Since 2012, Air Liquide has published an annual Key Indicator called “Our Talents”, reflecting the results of the Group’s efforts regarding the **development, diversity and commitment of its employees**. The objective is to encourage the organization to set up progress actions in these areas. It is calculated by integrating the indicators presented in this section, weighted as follows: one third for development, one third for diversity and one third for employee commitment.

Employee development	■ Percentage of employees who benefited from at least one training session during the year
	■ Percentage of employees who had an annual performance review meeting with their immediate supervisor during the year
Employee diversity	■ Percentage of women among Managers and Professionals hired during the year
	■ Number of nationalities among senior managers/Number of countries where the Group is present
Employee commitment	■ Percentage of employees belonging to an entity where an internal satisfaction survey was conducted over the last three years
	■ Percentage of employees holding Air Liquide shares
	■ Loyalty rate of managers and professionals

The value of the “Our Talents” index in 2014 was 107. It is calculated using a baseline of 100 in 2010. Air Liquide’s objective is to reach 115 in 2015.

	2010	2011	2012	2013	2014	2015 objective
“Our Talents” Index	100	102	100	107	107	115

### DEVELOPMENT

#### MyTalent Online

As part of its Human Resources strategy, Air Liquide introduced the MyTalent Online program aimed at harmonizing HR processes within the Group, improving its ability to attract and manage talent, along with training opportunities.

MyTalent Online comprises the following three tools, which benefit Group employees and Human Resources in different ways:

- **Talent Acquisition System:** a single platform listing all of the Group’s internal mobility offerings. This platform is also used by HR departments around the world for external recruitment.
- **Talent Management System:** a space dedicated to Air Liquide employees, their managers and HR professionals for performance reviews and career management.

- **Learning Management System:** a platform dedicated to employee training and career development that provides a more comprehensive overview of all group training programs and makes it easier for employees to keep track of their training over the long term.

The MyTalent Online program was first introduced in 2014 and will continue to be rolled out in 2015.

#### Collaborative work platform

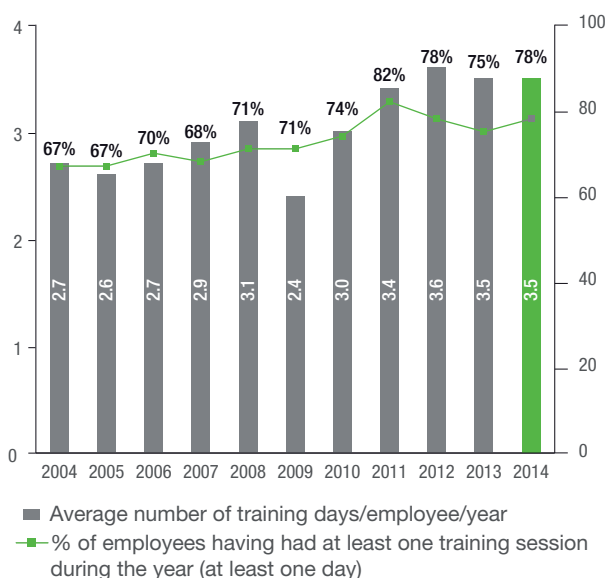
More than 19,000 Group employees have migrated to a **new collaborative work platform** called Kite, launched in May 2014. Technologically innovative, Kite is changing the work culture, **making it more collaborative and participatory**, and represents a **major digital evolution** for the Group, improving its agility and responsiveness, including with customers. Kite will continue to be rolled out in 2015.

To help with this roll-out, a number of Group employees in each entity have been appointed “Kite Champions”. They have been trained to spearhead the change in their entities and to train other members of staff in the new tools.

## TRAINING

Air Liquide takes particular care to **develop the competencies and expertise of its employees**. Training is an integral part of this development. It allows employees to **work safely and improve their performance, contribution and employability**. In 2014, 78% of the Group’s employees had attended at least one training session during the year. The average number of training days per employee, per year was 3.5 in 2014. This represents a total of nearly 1,300,000 training hours for 2014.

### Average number of training days per employee, per year and percentage of employees having attended at least one training session during the year



The Group has invested in better professional qualifications and training programs for young people to facilitate their integration into the business world. As a result, more than 580 young people have benefited from work-study contracts in France, combining theoretical learning in their university or school and a practical internship at Air Liquide.

Through its **Corporate University**, created in 2009, Air Liquide continues to develop training programs that meet the needs of its employees while incorporating the Group’s values. Based on a decentralized model that permits a very large number of employees to be trained with modern pedagogic techniques like e-learning, the University has a **dual objective**:

- formalizing and rolling out the training processes, as well as disseminating good practices that go hand-in-hand with the Group’s training dynamic;

- offer some 20 specific programs, ranging from new employee **orientations** to developing leadership abilities, plus **“professional” training** given by the different business lines. The Group’s values, principles of action and key challenges are systematically included in the various modules.

The e-learning platform provides employees with a support for their training. So far it has offered Group employees more than 1,000 interactive training modules produced by the Air Liquide University, Business Lines, regions and entities. The online training offer is upgraded every year and covers many topics such as safety, ethics, HR processes, digital technology and management. The “Discover” orientation module introduces new hires to the Group’s structure, the uses of Air Liquide gases, safety, the principles of action and the Group’s core businesses. It is available in eight languages. Over 8,000 people have been trained through this module since its launch in the different countries where Air Liquide operates. Air Liquide University upgrades its existing programs by mixing teaching methods. For example, it offers on-site training at seminars or remote training through e-learning. In total, the e-learning modules have already been used by more than 32,000 Group employees.

In 2014, more than 150,000 modules were completed by all employees.

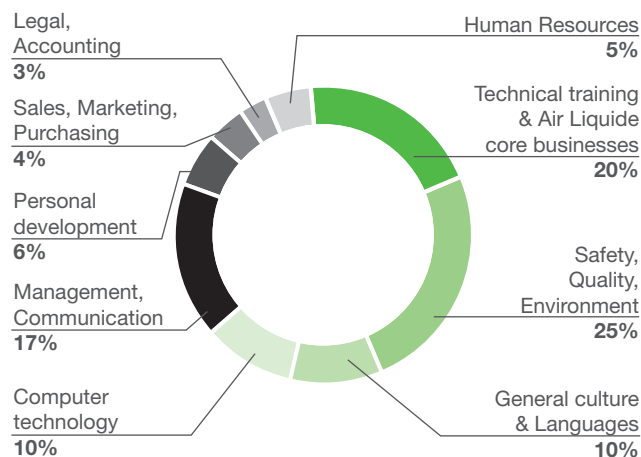
The roll-out of the ethics training programs continued in 2014 and covered the Group’s different geographic regions. These programs are designed primarily for sales, procurement and legal teams and the Executive Committees and senior managers in Group entities. They have also been boosted by new e-learning modules on employee Codes of Conduct and the Group’s Anti-corruption Code, as well as a module entitled “International practices and principles relating to competition”. These modules include an introduction video presented by each regional or entity Director, the interactive training program, and a conclusion video presented by the Group Ethics Representative. All Group employees are required to take the module on employee Codes of Conduct and attend a refresher session every year.

In 2014, Air Liquide University launched a new initiative within the framework of its training programs: professional co-development. This innovative method in collective intelligence allows Air Liquide employees to advance in their individual and collective practices by discussing situations they have encountered with their peers. Each co-development group constitutes a learning community that focuses on the sharing of experiences and is designed to broaden group members’ ability to take action in their respective area. The first co-development “pilot” program at Air Liquide brought together some 50 Group managers who focused on several management situations and issues relating to disability at work. Air Liquide University’s goal is to deploy this program in various Group entities and regions as well as at different levels of the organization.

In total the Air Liquide University has trained close to 18,000 employees since its creation in 2009.

## Training topics <sup>(a)</sup>

The nine training topics offered to employees are as follows:



## EMPLOYEE PERFORMANCE REVIEWS

It is thanks to the commitment and contribution of its employees that Air Liquide can give more value to its customers and shareholders. Employee performance is monitored and measured during interviews that each employee has every year with his or her immediate supervisor but also during career development interviews that permit each employee to talk about more long-term prospects with the local Human Resources Department. The Group's Human Resources Department particularly encourages these meetings as they are one of the cornerstones of the Company's Human Resources policy.

In 2014, 79% of employees had a performance review meeting with their immediate supervisor. In addition, 16% of employees had a career interview with their entity's Human Resources Department.

## EXPERTISE RECOGNITION

Air Liquide files almost 300 patents a year. Certain patented innovations significantly contribute to the Group's development. The Inventors Recognition Program rewards inventors who are responsible for successfully marketing patents. Recognizing technical expertise within the Group also involves the Technical Community Leaders (TCL) program, which, since its launch in 2003, has nominated more than 2,500 experts and plays a key role in sharing expertise, knowledge and technical excellence. In 2014, six International Fellows, 20 International Senior Experts and 85 International Experts from very diverse regions of the world (Europe, Asia-Pacific, North and South America) received

recognition. This community of the Group's technology experts contributes to the transfer of technical know-how, to the sharing of best practices, and to the long-term development of the skills that Air Liquide will need in the future.

## MOBILITY

Mobility corresponds to an employee's ability and commitment to change job or location, either within the same country or abroad, to meet the Company's needs and develop on a personal level.

The Group actively encourages geographical and professional mobility of its employees in all of its host countries. In fact, complete changes in job are encouraged by the Group's Human Resources Department.

## DIVERSITY

### Diversity/Equality

Air Liquide is strongly committed to **combating any form of discrimination**. Diversity is a priority of Air Liquide's Human Resources policy. The Group considers it to be a source of dynamism, creativity and performance and has always desired to broaden hiring and attract the best talent. The markets in which Air Liquide works are diverse and complex. Diversity among employees should therefore reflect the geographical diversity of its customers.

The Group's objectives are to continue to increase this diversity among its employees by seeking a better division of responsibilities between men and women while promoting the many cultures represented at Air Liquide.

The five poles of the Group's Human Resources policy concerning diversity are:

- nationality;
- gender;
- educational background;
- age;
- disability.

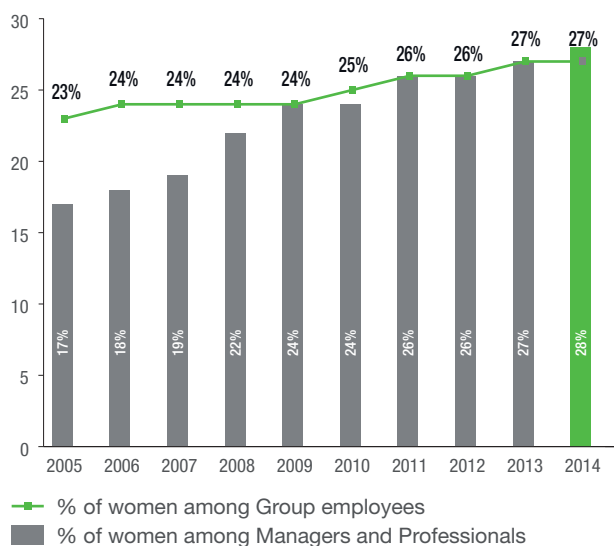
The international character of the Group's Senior Managers – 31 different nationalities represented in 2014 – is a considerable asset from this viewpoint and continues to be a strong area of development.

A team in the Corporate Human Resources Department is in charge of steering the diversity projects.

(a) Training breakdown for France, estimated in number of days.

Equality between men and women is an essential point in the expression of this diversity. For several years, Air Liquide has had a global action plan. For example, between 2003 and 2014, the percentage of women who were hired for manager and professional positions rose from 14% to 28%. For the first time, the percentage of women among Managers and Professionals is higher than the overall percentage of women in the Group (27%), which illustrates the good representation of women in Air Liquide's management. In addition, women now represent 41% of employees considered high potential. 13 Executive Management positions in the subsidiaries or management of a P&L are held by women. Moreover, four women are now members of the Group's Board of Directors.

### Percentage of women among Managers and Professionals



These results are the fruit of a concrete, global Human Resources strategy based on the following four priorities:

#### 1. Recruitment:

Strengthening the place of women in the Group, in particular through hiring Managers and Professionals.

#### 2. Developing careers and increasing responsibilities for women in the Company:

- for every management position that becomes available, Human Resources examines the application of at least one woman among the applicants;
- a meeting before and after maternity leave has been organized in a certain number of entities in France.

#### 3. Communicating with and involving all the managers:

In the framework of Air Liquide's policy on promoting equality, the hiring and career development of women and strengthening their place and responsibilities in the Company, a program on

awareness-raising and exchanges on the benefits that equality brings has been organized in the Group since 2007, aimed at managers. More than 700 managers in the Group have followed this program, in Europe and Asia. A communication support kit, containing a video message from the Group's Chairman and CEO, was deployed by the Human Resources teams for the different Air Liquide units to implement these actions locally with their teams.

In addition to these many local initiatives, each year Air Liquide joins forces with International Women's Day, celebrated on March 8. This is also when Air Liquide takes part in the annual InterElles seminar. Created in 2001, Cercle InterElles brings together the networks of 11 companies: Air Liquide, AREVA, Assystem, CEA, EDF, France Télécom-Orange, GE Healthcare, IBM France, Lenovo, Nexter and Schlumberger. These technology companies, which are focused on promoting gender equality and equal opportunities, have identified issues common to all of them. The Cercle InterElles network has stood out in recent years as a pioneer in the battle against stereotyping and as a supporter of gender equality in companies and of equal opportunities.

#### 4. Better balancing of professional and private life:

The **CESU** (Universal Service Employment Check), whose aim *inter alia* is to facilitate childcare in the home, has been implemented for certain entities in France since 2007 for men and women in the Group who have young children.

Other information on the actions Air Liquide has undertaken on balancing professional and private life can be consulted in the "Well-being" paragraph presented in this section.

The **Diversity Charter** that Air Liquide signed in France is available online and is an illustration of the Group's commitment to diversity. In addition, in 2013, Air Liquide co-organized a discussion and experience-sharing seminar on the subjects of equality and promoting diversity as a performance lever with the company Shell, a long-standing international customer.

### Disability

For Air Liquide, diversity and equal opportunity also mean **better integration of employees with disabilities into its teams, but also through subcontracting** to firms in the protected sector <sup>(a)</sup>, particularly in France.

In 2014, employees with disabilities represented 1.3% of the Group's employees worldwide.

In France, the general Human Resources policy on disability took concrete form through the **signing of a number of workplace agreements since 2007** with social partners, in addition to local hiring initiatives.

(a) Sector of the economic activity giving priority to employing disabled workers.



At the end of 2014, the percentage of disabled workers at French subsidiaries was 4.6%. Through these workplace agreements, Air Liquide is committed to promoting the employment, integration, training, and job security of persons with disabilities. To support this process, promotional campaigns are carried out among managers and employees, especially during the Disabled Workers Week. Air Liquide also outsources some printing, landscaping and cleaning services to the disabled workers sector.

To carry out these operations favoring people with disabilities in the field, Air Liquide's "Mission Handicap" calls on **employees who are "disability advisors"** divided among the main French subsidiaries. They are supported by **multidisciplinary working groups** that meet several times a year to work on different subjects connected to disabilities.

The initiatives implemented in 2014 strengthened the integration of people with disabilities under work-study programs through a special recruitment campaign using social media, and **reinforced job security for the hearing impaired** by making available a platform that enables them to communicate by telephone and take part in work meetings. A Mission Handicap intranet site has also been made available to all Air Liquide employees, showcasing the initiatives taken to help disabled workers.

## EMPLOYEE COMMITMENT AND ORGANIZATION OF LEGAL WORKING HOURS

### Participation of employees in the capital of Air Liquide S.A.

The Group wants to have its employees worldwide more broadly participate in the capital of Air Liquide S.A. So, since 1986, 12 capital increase operations have been especially reserved for the Group's employees so that they can take advantage of preferential conditions.

At the end of 2014, the share of capital held by the Group's current and former employees was estimated at 2.4%, of which 1.5% (within the meaning of Article L. 225-102 of the French Commercial Code) corresponds to shares subscribed by employees during employee reserved capital increase operations or held through mutual funds.

### Remuneration

Employee remuneration is based on local market conditions and their evolution, internal equity, and on employees' performance in respect of applicable legislation. It is generally made up of a basic salary plus additional remuneration elements.

The **variable portion** of remuneration is devised locally for certain categories of employees to reward performance. In general it depends on parameters such as **the Group's earnings, the entity's earnings and individual performance**, which is measured in quantitative and qualitative terms. By rewarding collective and individual performance, Air Liquide encourages everyone to collaborate and contribute to overall earnings. In 2014, 58% of employees received an individual variable portion as part of their remuneration. Most of the managers and professionals have **variable remuneration**, which includes sustainable development objectives. In particular, 15% of managers' variable remuneration is linked to sustainable development criteria, such as safety, customer satisfaction, energy efficiency and equality. Finally, the top 350 Group executives have 10% of their variable remuneration mandatorily linked to a Responsibility indicator, such as **safety, ethics, environmental footprint, responsible procurement** or the **human resources** indicators that are part of the "Our Talents" composite index that incorporates the Group objectives for **development, diversity and commitment of employees**.

In addition, remuneration can also include benefits such as disability-incapacity-death insurance and medical expenses. In 2014, 98% of employees benefited from some sort of social security coverage through the Group.

## HEALTH IN THE WORKPLACE

Air Liquide is particularly concerned with ensuring that its employees' working conditions do not present any health risks. This is partly demonstrated through **preventive actions on the ergonomics of workstations** and partly through the implementation of **specific safety rules** in the Group's Industrial Management System (IMS). For example, thanks to an initiative targeted at the handling and carrying of heavy loads instituted in France on a CO<sub>2</sub> filling site, the risk of musculoskeletal disorders (MSD) was reduced on the workstations concerned. Air Liquide regularly organizes **awareness-raising campaigns** on safety, health and risk management, especially in the workplace.

The Global Engineering & Construction (E&C) Solutions entity in Hangzhou, China, relocated to a new building in 2014. To protect the health of its employees in an environment of heavy air pollution, measurements were taken of indoor air quality. These led to the implementation of improvement actions, including as concerns over-ventilation. Regular inspections are planned to ensure that air quality is maintained in these buildings over the long term.

In Morocco, a campaign to prevent noise at three sites was launched in 2014. An independent laboratory mapped the noise from the various workshops in order to be able to take the measures required for hearing protection for employees.

## Environmental, Social and Governance (ESG) Report

In addition, a "health week" was organized in November 2014 at the Air Liquide site in Frankfurt, Germany. Some 200 employees attended a variety of workshops on offer: checking for heartbeat variability, preventative measures regarding workstation ergonomics, nutrition, and muscle relaxation.

In South Africa and Botswana, local subsidiaries are continuing their campaigns to raise awareness about AIDS prevention.

With regard to the Ebola epidemic, Air Liquide set up an internal monitoring unit and took preventive measures at its sites in West Africa, which is close to the center of the epidemic. Measures taken include travel restrictions, an information campaign, the distribution to employees and their families of hygiene and disinfection products provided by the Group's Schülke subsidiary, and the systematic disinfection of gas cylinders exiting hospitals.

As part of a campaign in France to **prevent psychosocial stress**, Air Liquide worked with the French Occupational Health Department to implement a **listening, support and counseling service** for anyone who needs it.

This initiative meets a number of objectives:

- it provides all employees with time to talk and listen, enabling everyone to speak freely with an independent consultant, if they so wish;
- it serves as a basis for manager/employee relationships;
- as necessary, it provides advice related to issues an employee may have regarding wellbeing in the workplace.

Meetings are held with a psychologist from a specialist outside firm. Air Liquide wants the system to offer employees time and space to talk about their issues in strict confidence and enable all those who so wish to maintain or regain their **wellbeing in the workplace**.

The initiative is just one of the tools used by Air Liquide's Human Resources Department to prevent occupational stress, tools that underscore its willingness to listen and take action in this regard.

Some rare cases of work-related illnesses linked to Air Liquide's activities are the subject of reports by the various Group subsidiaries worldwide.

## WELLBEING

In order to strengthen occupational well-being within Air Liquide, various initiatives were implemented in France to **promote the personal/professional life balance** of its employees, whatever their age or position. In addition, three agreements with human services providers were undertaken in 2014:

- **an e-portal allowing employees to access practical, administrative and legal information from home or the office** to facilitate daily life. It can be used by the employee and his or

her family via a personal access code. Over 70% of the Group's employees in France now have access to this portal;

- **a telephone service enables employees to call, from their office or home, specialists** (for example, doctors, legal specialists, social workers, guidance counselors, etc.) who answer their questions with complete confidentiality on areas as varied as the family, housing, well-being and healthcare, unforeseen events, budget management, taxation and retirement. Air Liquide is a forerunner in this area as the Group is currently one of the only ones in France to offer its employees such a large range of services;
- **childcare centers in inter-company crèches** were offered to employees of subsidiaries covered by this partnership. At the end of 2014, 44 places had already been financed by Air Liquide for its employees.

## ABSENTEEISM

After having reported on its employees' absence rate in France in 2012 and then in Europe in 2013, **the absence rate reported by Air Liquide in 2014 covers its entire global operations for the first time**. The Group's absence rate was established by counting the total number of days absent due to illness, commuting and work accidents, whatever their duration and cause, compared to the number of days worked per year <sup>(a)</sup>. In 2014, the absence rate of the Air Liquide Group worldwide was 2.4%.

## ORGANIZATION OF LEGAL WORKING HOURS

In France, the general framework of legal working hours has been defined by all of the agreements signed in 2000 and 2001 with the unions. Very few activities operate with shift work. These concern fewer than 10 plants in France, mainly in the Large Industries business line. On the other hand, most of the industrial activities, such as those in Healthcare, include on-call systems that are regularly discussed with the unions.

With regard to **telecommuting**, a **pilot program** launched in France in 2013 at ALFI (Air Liquide France Industrie) and ALSF (Air Liquide Santé France) under a one-year fixed term agreement with the unions, was continued. It meets the needs of employees as expressed during a prior survey on work-life balance. Following a **dialogue** phase with various stakeholders, more than **100 employees and managers** to date have chosen to work from home on the basis that it is a voluntary arrangement, involves trust and that employees retain the option to return to the workplace.

Under the supervision of the individual entities' Human Resources Departments, a **series of educational and training measures** were conducted among employees, managers and unions to support the shift to telecommuting. **Assistance was provided by a leading consulting firm that specializes in advice and training in this area**. This resulted in many additional ideas and demonstrated the benefits as well as the limitations

(a) 365 days minus weekends, public holidays and legal holidays.



of this method of working. Telecommuting is implemented as a tool to **improve performance and work-life balance, and provide organizational flexibility**. It is part of the development of new ways of working and managerial practices, and also helps reduce the Group's carbon footprint by cutting down on work-related travel.

## SOCIAL DIALOGUE

In accordance with its principles of action, Air Liquide is particularly attentive to respecting the highest standards in ethics and safety. The Group ensures that social dialogue is encouraged and in this context, 76% of Air Liquide's employees have access to a representation, dialogue or consultation structure.

The European Works Council has 28 employee representatives from 13 countries <sup>(a)</sup>. The composition of the Council evolves with the Group's acquisitions, the expansion of the European Union and according to the rules established by the Council's constitutional agreement. An agreement was signed in 2014 to strengthen the role and nature of exchanges within this body. It is required to meet at least twice per year under the chairmanship of a member of the Executive Committee, as was the case in 2014. The main themes dealt with during this discussion and consultation are safety, the news on the Group's activities, the annual financial statements, the Corporate Social Responsibility and Sustainable Development policy, strategy and its implementation in the different countries of Air Liquide's operations.

In 2014 in France, 110 agreements were signed in total with the unions in extremely varied areas, including profit sharing and incentives for employees in the company's performance, planned management of jobs and skills (GPEC), professional equality between men and women, disability, the youth-employment contract, as well as working time organization, particularly in the context of the two agreements relating to telecommuting.

Six collective agreements were also signed in a number of European countries. In Germany, local subsidiaries are members of the chemical sector employers association (BAVC) <sup>(b)</sup>. Negotiations are carried out directly between this association and the German unions. Several agreements were signed in 2014 in this country. They cover greater job flexibility and wider social coverage. In Austria, as in Germany, one of the agreements in 2014 concerned the variable portion of employee remuneration.

This set of collective agreements will gradually be extended to the entire Group.

In a context of a welding market that has been in a steep decline for years in Europe, and despite adjustment efforts and cost-saving measures in recent years, Air Liquide Welding France had to reorganize its activities and in particular, to close its Châlons-en-Champagne site in France to safeguard its competitiveness and guarantee its long-term future. An extensive consultation and negotiations with staff representatives led to an agreement with all of the unions in late 2014 on measures to help the planned reorganization.

## RAISING EMPLOYEE AWARENESS OF SUSTAINABLE DEVELOPMENT

Many initiatives are created at Air Liquide to raise employee awareness on sustainable development issues and encourage employees to promote them in their daily activities. The "Better and Cleaner" initiative, the "Car-free Day" and the "World Water Day" are a few examples.

The "Better and Cleaner" initiative, launched in France at the end of 2009 and expanded to all of the Group's R&D sites, continued in 2014. The program's goal is to educate Group employees about their environmental impact by making them focus on a common project aimed at reducing greenhouse gas emissions. These initiatives decrease the carbon footprint of each entity, while finding the best environmental practices developed by researchers worldwide. The best overall performances and local initiatives that are remarkable because of their contribution to a decrease in environmental impact, sustainable development or social benefits are rewarded. Sustainable mobility was the key focus in 2014 in an effort to promote methods of shared travel between companies and expand carpooling between persons in the same region. Presentations and tests of electric vehicles, including hydrogen-powered cars and electric bikes, were held at various sites, particularly in France.

In addition, each year, the Group rolls out, on "World Car-free Day" on September 22, an awareness campaign on the environmental impact of road transportation and highlights alternative means of transportation like carpooling. Many initiatives, in over 40 countries, attest to employees' increasing commitment to a more responsible approach in this area.

Each year on March 22, "World Water Day" is also an occasion to raise awareness among Air Liquide employees of careful and moderate use of this resource, through a communication campaign within the Group and many local initiatives.

(a) Austria, Belgium, Denmark, France, Germany, Great Britain, Italy, the Netherlands, Poland, Portugal, Romania, Spain and Sweden.

(b) Bundesarbeitgeberverband Chemie: Federal Association of Chemical Industry Employers.

## Human resources indicators concerning the Group as a whole

Employees <sup>(a)</sup>	2010	2011	2012	2013	2014
Group employees	43,600	46,200	49,500	50,250	50,300*
■ women	11,100	12,100	12,800	13,500	13,600
as a %	25%	26%	26%	27%	27%
■ men	32,500	34,100	36,700	36,750	36,700
as a %	75%	74%	74%	73%	73%
Joining the Group <sup>(b)</sup>	15.1%	20.4%	19.9%	14.9%	14.8%
Leaving the Group <sup>(c)</sup>	11.9%	14.3%	12.7%	13.1%	14.7%
% of employees having resigned during the year <sup>(d)</sup>	4.0%	5.3%	4.6%	4.9%	5.8%

(a) Employees under contract, excluding temporary employees.

(b) Hiring or integration due to acquisitions. The percentage is based on the number of employees as of December 31 of the preceding year.

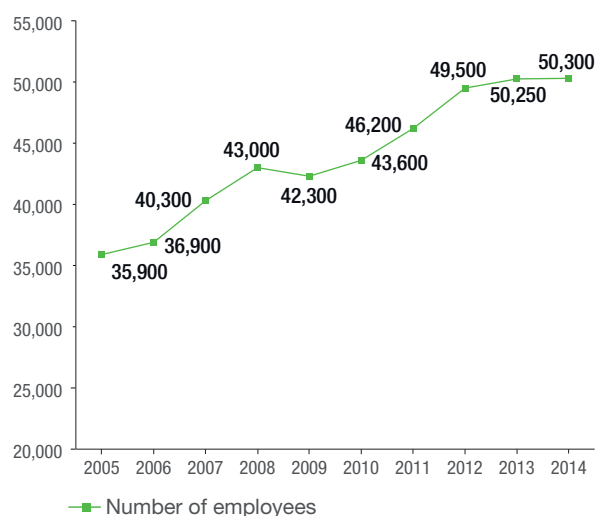
(c) Retirement, resignations, layoffs, departures due to disposals, etc. The percentage is calculated based on the number of employees as of December 31 of the preceding year.

(d) Calculated on the number of employees as of December 31 of the preceding year.

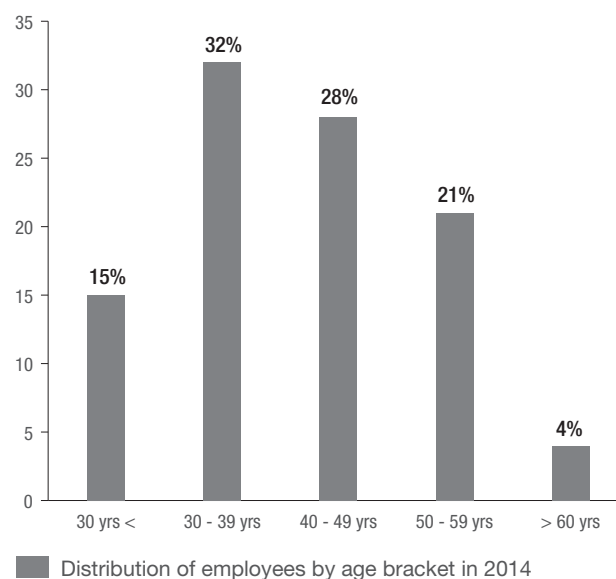
\* Indicator verified by the independent verifier.

The indicators presented above are calculated on a global scale. The percentages of those entering and leaving the Group include hires and layoffs.

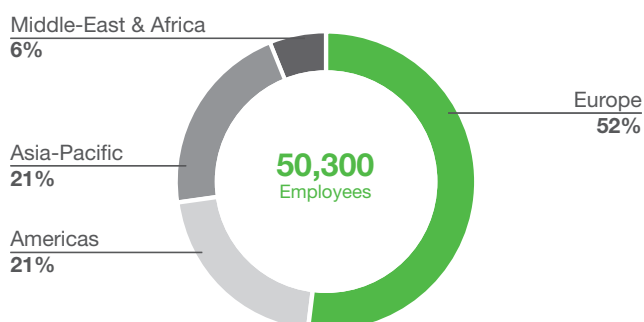
## Group employees



## Distribution of employees by age bracket in 2014



## 2014 employees by geographic region



	2010	2011	2012	2013	2014
<b>Parity and diversity</b>					
<b>Equality</b>					
% of women among managers and professionals	24%	26%	26%	27%	28%*
% of women among managers and professionals hired during the year	29%	29%	28%	36%	31%*
% of women among employees considered high potential	40%	39%	41%	40%	41%
<b>Number of nationalities</b>					
Among expatriates	53	48	44	45	44
Among senior managers	27	28	29	28	31
Among employees considered high potential	46	46	44	46	44
Number of nationalities among senior managers/Number of countries where the Group is present		35%	36%	35%	39%
<b>Training</b>					
% of total payroll allocated to training	About 2%	About 2%	About 2%	About 2%	About 2%
Average number of days of training per employee and per year	3.0 days	3.4 days	3.6 days	3.5 days	3.5 days* <sup>(a)</sup>
% of employees who attended a training program at least once during the year	74%	82%	78%	75%	78%*
<b>Performance review</b>					
% of employees who have had a performance review meeting with their direct supervisor during the year	76%	79%	79%	78%	79%*
% of employees who have had a career development meeting with the HR Department during the year	15%	18%	17%	14%	16%
<b>Remuneration</b>					
% of employees with an individual variable share as part of their remuneration	51%	53%	54%	56%	58%
<b>Absenteeism</b>					
Absence rate of Air Liquide employees			3.2% <sup>(b)</sup>	3.6% <sup>(c)</sup>	2.4% <sup>(d)</sup>
<b>Ethics</b>					
% of employees belonging to a unit with a local Code of Conduct	71%	90%	91%	94%	94%
<b>Employee loyalty</b>					
Average seniority in the Group	10 years	10 years	10 years	10 years	10 years
Retention rate of managers and professionals over a year		94.5%	95.4%	94.8%	93%
<b>Social performance</b>					
% of disabled employees <sup>(e)</sup>	1.2%	1.3%	1.3%	1.4%	1.3%
% of employees having access to a representation/dialogue/consultation structure	79%	77%	76%	76%	76%
% of employees belonging to a unit at which an internal satisfaction survey was conducted within the last three years <sup>(f)</sup>	43%	48%	55%	52%	> 55%
% of employees with benefits coverage through the Group <sup>(g)</sup>	98%	98%	98%	97%	98%
<b>Employee shareholders</b>					
% of capital held by Group employees <sup>(h)</sup>	1.6%	1.6%	1.5%	1.6%	1.5%
% of Group employees that are shareholders of L'Air Liquide S.A.	More than 60%	More than 50%	Almost 50%	More than 55%	More than 50%

(a) 26 hours a year according to counting in hours (base: 1 day = 7.5 hrs).

(b) Calculated for France.

(c) Calculated for Europe.

(d) Calculated Worldwide.

(e) For the countries where regulations allow this data to be made available.

(f) Indicator for entities of over 300 employees until 2011. All entities from 2012.

(g) Primarily retirement benefits.

(h) Within the meaning of Article L. 225-102 of the French Code of Commerce.

\* Indicator verified by the independent verifier.

## 2.3. Creating value for the regions in which the Group operates

Each Air Liquide entity is located in communities for which respect is at the heart of the concerns of the Group's employees. Every employee is aware that each decision, each action commits them vis-à-vis customers and partners but also vis-à-vis those individuals or firms that are affected by the Group's activities. The consideration of these communities' needs is necessary to guarantee the sustainability of the environment where the Group carries out its action.

### COMMUNITY RELATIONS

Air Liquide's teams are very committed to taking part in the local economic life near the Group's sites. This participation includes hiring employees in the area and developing close relations with training organizations and universities that can prepare people for the Group's core businesses.

In the industrial basins where over 1,000 of Air Liquide's sites are located, the Group also seeks to develop subcontracting and local procurement to make a contribution to local economic life.

For example, Air Liquide Morocco supports a welding school in Casablanca. Its aim is to train young adults from disadvantaged backgrounds in welding techniques. Since the school's creation, about 30 young people have received a qualification certificate enabling them to more easily find a job.

In addition, the Group's activities as well as the means implemented to prevent and manage industrial risks are regularly presented to the populations near Air Liquide's sites. In France, the industrial sites participate in CLICs and CLIEs, local committees that provide information and regulatory consultations at the communes' initiative, with the aim of providing transparent information on their activities to representatives of the local populations.

### CORPORATE PHILANTHROPY AND THE AIR LIQUIDE FOUNDATION

Social and human commitment is an ongoing concern for Air Liquide. Since its very beginning, the Group has carried out philanthropic actions, especially in the protection of life and the environment.

Whether they are directly carried out by the Group's subsidiaries or initiated by the Air Liquide Foundation, these corporate philanthropy actions represented nearly **2 million euros in 2014**.

### Subsidiaries committed to communities

Throughout the world, Air Liquide's subsidiaries interact with their direct environment, supporting local corporate philanthropy initiatives. As well as financial support, these actions were successfully conducted with the enthusiastic involvement of Group employees.

For example, in 2014, **Air Liquide Korea** launched the "Act for Clean and Safe Community" <sup>(a)</sup> campaign, under which the subsidiary supported a non-profit association <sup>(b)</sup> that helps underprivileged children. Children are hosted at after-school centers where they receive academic support and dinner. They can also take part in cultural activities. Air Liquide Korea helped renovate four centers located near the subsidiary's sites in Seoul, Cheonan and Yeosu. Some 60 of the subsidiary's employees volunteered to help with these renovations during four days of an action program dubbed "Safe Day". In all, more than 100 children are now enjoying the use of these renovated premises. Employee volunteers also participated in the "Clean Day" program, which involved cleaning natural environments near parks, rivers and mountains. In 2014, Air Liquide Korea allocated more than 35,000 euros to its various actions. Meanwhile, teams from a Group entity in **Germany**, Schülke, a European leader in infection-control and hygiene products, disinfectants and preservatives, also rallied to help local communities. Its teams organized donations of antiseptic solutions, hand-sanitizing gels and cleansing lotions produced by the subsidiary, for a total value of 50,000 euros. After major flooding in May 2014 in Southeast Europe, Schülke helped the Bosnian community by sending hygiene products and disinfectants to disaster victims. The company was also one of the first donors of hand-sanitizers to help combat the Ebola virus. Several pallets of products were donated to the World Health Organization to help prevent the spread of the infection in West Africa.

### Three missions for the Air Liquide Foundation

Created in 2008, the Air Liquide Foundation shows the Group's commitment to being a responsible enterprise. Its five-year mandate was renewed in 2013, enabling the Foundation to engage in long-term action, a reflection of the Group's approach in everything it undertakes.

It has a worldwide scope and supports projects in the 80 countries where the Group operates. With a budget of nearly three million euros over five years, the Foundation has three missions:

- **environment:** support for scientific research on the preservation of our planet's atmosphere;

(a) "Acting for better health and protection of communities".

(b) Korea Association of the Community Child Center (KACCC).

- **health:** support for scientific research contributing to improving the respiratory function and gas metabolism in the human body;
- **micro-initiatives on local development:** the Foundation supports local actions (education, access to treatment, energy and water, micro-entrepreneurship, disabilities, etc.) in the regions of the world where the Group is present.

Each micro-initiative is followed by an Air Liquide employee who is a volunteer. The Group's employees who wish to, can evaluate and follow a project and get personally involved in the field. Employees are also invited to recommend projects. To date, nearly 200 employees have been involved in the Foundation as project leaders or sponsors.

Headed by Benoît Potier, Chairman & CEO of the Air Liquide Group, and composed of Senior Managers of the Group, a personnel representative and outside experts, the Foundation's Board of Directors meets twice a year to determine corporate philanthropy focuses and to examine scientific research projects. It is assisted in its functions by a Project Selection Committee, which three times a year studies the projects submitted to it. This Committee is composed of seven Group employees and a representative of the Shareholders Communication Committee. The representation of shareholders in this way is a special feature of the Air Liquide Foundation.

Project applications can be submitted via the Foundation's website, in French or English. The website address is [www.fondationairliquide.com](http://www.fondationairliquide.com).

In 2014, the Air Liquide Foundation approved 27 new projects, one of which is a scientific environmental research project, three of which are scientific healthcare research projects, and 23 of which are micro-initiatives. These projects are located in 15 countries, including two new ones, Nigeria and Australia. Since its creation in 2008, the Foundation has supported 180 projects of which over 155 were micro-initiatives.

One of the **environmental research projects** is the Under The Pole II polar expedition, which the Foundation is supporting over two years. The purpose of the expedition is to study the Arctic ecosystem in Greenland throughout its annual cycle. The Foundation is sponsoring two of the expedition's 12 research programs:

- interactions between the ice pack, the atmosphere and the ocean: researchers quantify the amount of CO<sub>2</sub> produced by the melting ice pack and stored deep in the ocean. Other analyzes are also performed, such as the temperature of the ice pack and the thickness of snow and ice;
- human physiology during dives into very cold, deep water: a series of physiological measurements is taken on divers during 100-meter dives to gain more insight into the

body's tolerance to such extreme environments and issue recommendations to divers.

Funding from the Foundation has led to the purchase of equipment needed for the expedition. The Foundation has also provided diving gases and oxygen-therapy kits.

The Foundation's Board of Directors approved support for three **healthcare research projects**, including one on a rare genetic disease, Ondine's Curse. This syndrome is characterized by a major reduction or even total failure of breathing during sleep. The aim of the research is to develop a pharmacological treatment to replace mechanical ventilation and thereby improve the patient's quality of life.

In the framework of its **micro-initiatives support program**, the Foundation favors actions whose goal is the development of local communities over the long term.

In **education and training**, the Foundation supports the fight against illiteracy and school dropouts and works to promote literacy training and socio-professional reintegration for adults. In 2014, the Foundation supported seven initiatives in this field for an amount of 58,000 euros. These funds led to:

- the construction, renovation and development of an educational institution, a vocational school and two training centers in **Nigeria, Senegal and Cameroon**;
- the development of educational and socio-professional integration programs in **Australia and France**;
- the opening of an illiteracy diagnostic center in **France**.

To complement the action of "Mission Handicap" conducted in France, the Foundation accompanies projects that contribute to the coverage and social autonomy of people with a disability. In 2014, the Air Liquide Foundation provided four organizations in France with grants totaling over 30,000 euros. The Foundation's support led to:

- the development of activities such as hippotherapy <sup>(a)</sup>, wheelchair basketball for teenagers, and outdoor recreation using specially adapted electric vehicles;
- the development of initiatives of an association that helps people with disabilities enter the workforce.

In **micro-entrepreneurship**, the Foundation assists micro-initiatives that contribute to the development of Air Liquide's local environment. In 2014, a total of 34,000 euros were allocated to:

- a research program on a traditional building technique in **Mali** using earth;
- two urban agriculture projects in **Colombia and Brazil**;
- a fruit-production development program for farming families in **Brazil**.

(a) Therapy using horses (or donkeys) as a therapy partner.

In the social sphere, the Foundation helps people to be reintegrated socially and professionally. For example, in 2014 it provided 42,000 euros of support to five organizations to:

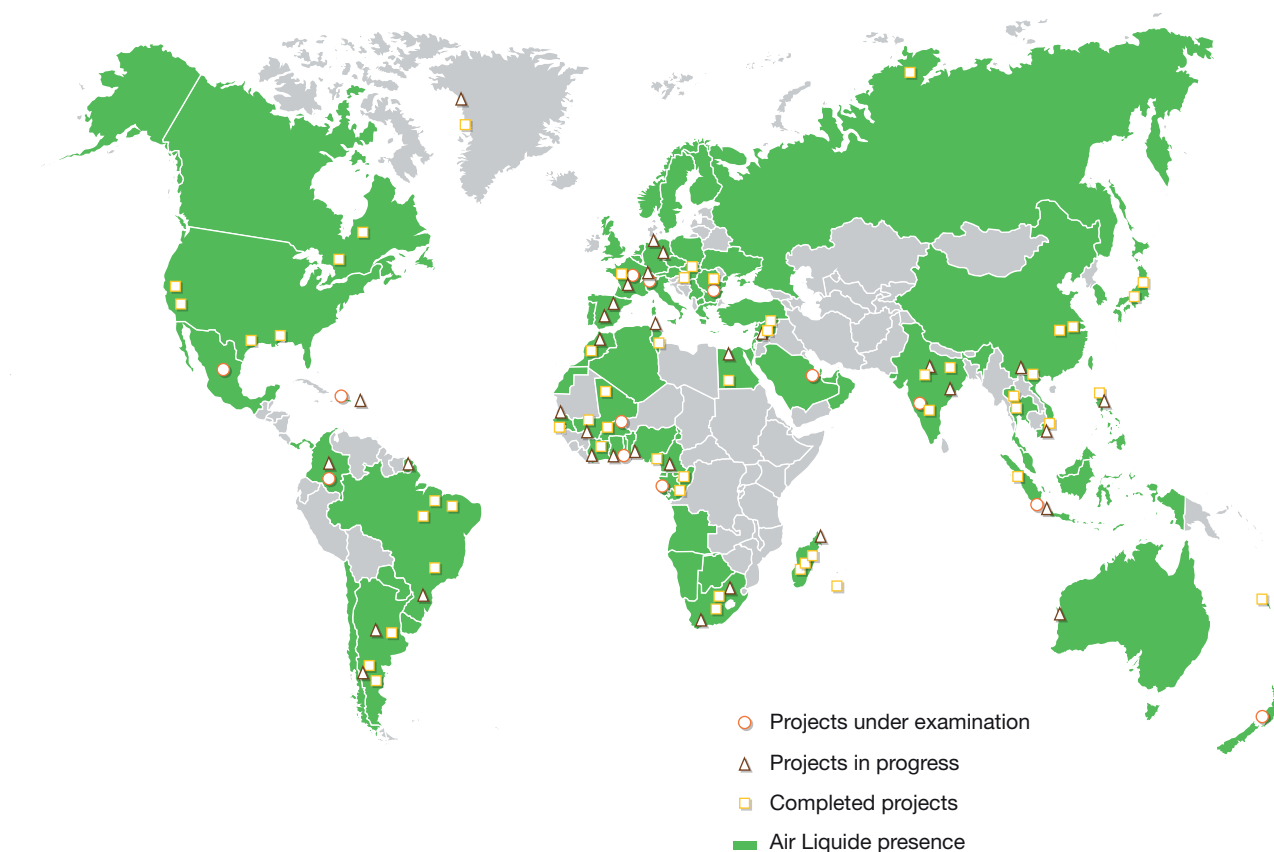
- support a street-child protection center in **Egypt**;
- build a rural community center in **Morocco**;
- develop a space dedicated to community outreach initiatives in **France**;
- develop the activities of an organic community outreach garden in **France**;

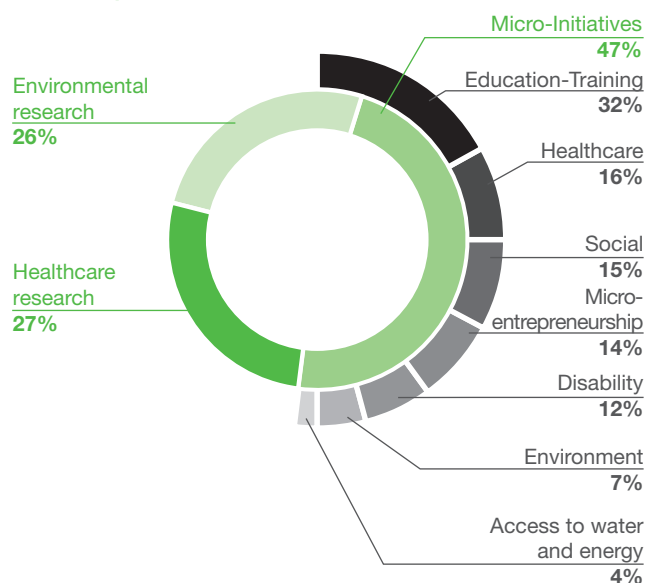
- support the initiatives of an association that helps German children and adolescents in severe difficulties.

In the field of **healthcare**, the Foundation supports initiatives that provide access to care. With a total budget of 26,000 euros, the Foundation supported three projects in 2014:

- the construction of a post-operative recovery room at a clinic in **South Africa**;
- better quality mother-child care in **Madagascar** and **Togo**.

### Locations of the Air Liquide Foundation's projects since its creation in 2008



The Air Liquide Foundation's actions per mission since its creation in 2008 <sup>(a)</sup>

(a) By amount contributed to the projects supported.

### 3. Governance and customers

#### 3.1. Establishing a relationship of trust with all of our shareholders

##### PERFORMANCE AND A LOCAL PRESENCE - THE BASIS FOR OUR SHAREHOLDER RELATIONSHIP

Air Liquide's responsibility commitment is expressed in the way the Group maintains a relationship of trust with its shareholders.

Air Liquide's approach to Responsibility and Sustainable Development vis-à-vis its shareholders is based on a commitment to the following four principles:

- importance of all shareholders;
- shareholder remuneration and investment growth over the long term;
- listening to and informing shareholders;
- specific services for registered shareholders.

##### REGISTERED SHAREHOLDING

###### DIRECT REGISTERED SHARES

Direct registered shares are managed by Air Liquide and registered in its accounts. They are held in a securities account opened at Air Liquide.

###### INDIRECTLY/INTERMEDIARY REGISTERED SHARES

Indirectly/intermediary registered shares are registered in the Air Liquide accounts and held in a securities account at the shareholder's financial institution.

##### IMPORTANCE OF ALL SHAREHOLDERS

Financial performance is not enough to define the relationship between Air Liquide and its shareholders. Air Liquide communicates regularly with its shareholders: the intention is

to respond to their requirements as effectively as possible since they are seen as genuine long-term partners. Indeed, they have been contributing to and supporting the Group's growth since its founding and IPO in 1913.



## Environmental, Social and Governance (ESG) Report

To make sure that these expectations and their evolution are identified and understood, Air Liquide endeavors to get to know its shareholders in their diversity. To this end, it proposes in particular that they place their shares in registered form.

### Stable and balanced share ownership

It is important for Air Liquide to preserve the balance between individual shareholders and institutional investors. The Group's

strategy, focused on the long term, and the soundness of its business model offer shareholders a sustainable and regular return on their investment.

The 390,000 individual shareholders hold 37% of the capital. French and non-French institutional investors represent 17% and 46% of the capital respectively.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Individual shareholders	38%	38%	37%	38%	38%	36%	37%	37%	36%	37%
French institutional investors	25%	24%	30%	26%	26%	23%	21%	19%	19%	17%
Non-French institutional investors	36%	37%	32%	35%	36%	40%	42%	44%	45%	46%
Treasury shares	1%	1%	1%	1%	>0%	<1%	>0%	>0%	>0%	>0%
Registered capital	31%	32%	37% <sup>(a)</sup>	33%	32%	34%	35%	36%	35%	36%
Capital eligible for the loyalty bonus	25%	26%	26%	26%	25%	25%	28%	29%	30%	30%

(a) In 2007, the share of registered capital increased in particular following the entry of a large institutional investor who sold its shares in 2008.

### The Shareholders' Meeting, a privileged moment of exchange

Each year, all the Air Liquide shareholders who **hold at least one share** are invited to the Shareholders' Meeting. They are helped in their voting by all the relevant documents over a month before the Meeting, sent by mail and available on the Company's website: practical information on the voting procedure and clear explanations of the resolutions and their objectives.

In accordance with the principle of shareholder equality to which Air Liquide is very committed, **each share entitles its owner to one vote**.

Since 2014, Air Liquide has offered registered shareholders the option of receiving the notice of Shareholders' Meeting electronically. Through their personal space on the website, they can apply to have all the background documentation relating to their vote sent in digital format to their email address.

Presentations detailing the voting procedure are also available online. Air Liquide endeavors to make all this material available in English to its non-French shareholders in similar time frames. In certain countries, systems have been set up with intermediary banks to facilitate and ensure a fluid transmission of the votes of the shareholders concerned.

Air Liquide centralizes its Shareholders' Meeting by collecting the votes of its shareholders directly. Since 2013, the Company has offered **voting by Internet** (through the Votaccess platform). By connecting to their personal space on the website, shareholders can consult all the background documentation relating to their vote, vote or request an admission card to the Shareholders' Meeting.

On the day of the Meeting, the bureau, composed of the Chairman of the Board of Directors, two polling officials and a secretary, ensure that the Meeting is held in compliance with the

law. The polling officials are representatives of the two investors that hold the largest number of shares who have agreed to fulfill this function. They are asked about a month before the event and a vade mecum is given to them two weeks before the Meeting. This document describes their tasks as well as the welcome and voting procedures set up by the Company.

The Shareholder Services advisors and the Investor Relations team are also available to answer individual and institutional shareholders' questions on voting and participation in the Shareholders' Meeting, by telephone and at the Shareholders Lounge at corporate headquarters in Paris.

In 2014, some 4,000 people were welcomed at this Shareholders' Meeting.

The dates for the next Air Liquide Combined Shareholders' Meeting are:

- Wednesday May 6, 2015;
- Thursday May 12, 2016;
- Wednesday May 3, 2017.

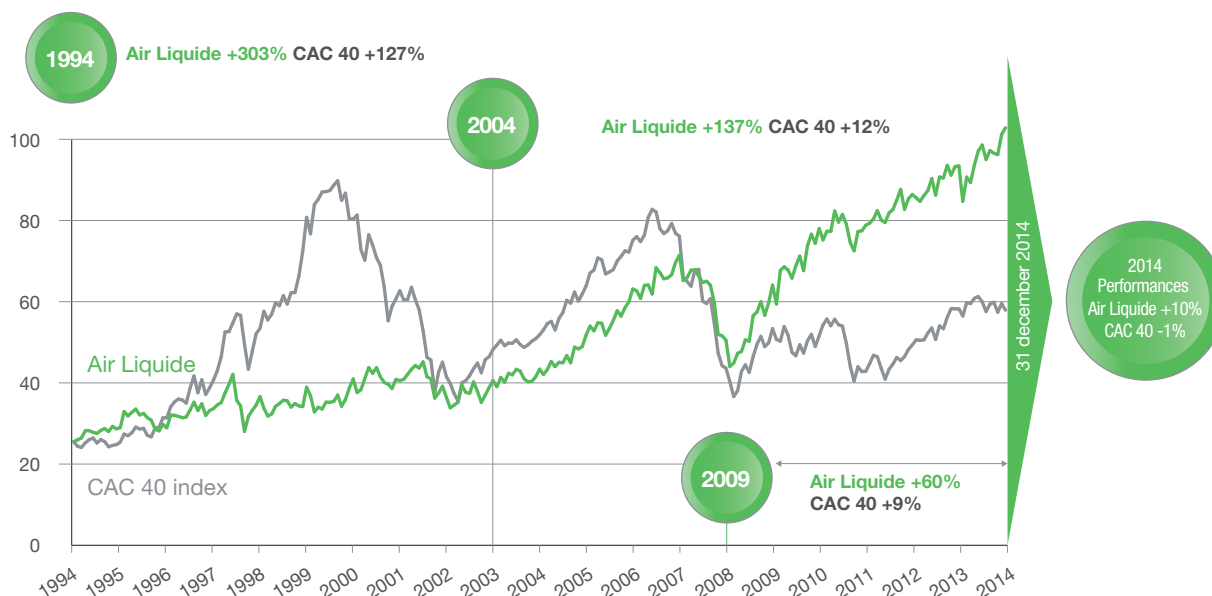
### SHAREHOLDER REMUNERATION AND INVESTMENT GROWTH OVER THE LONG TERM

#### Air Liquide, continuous growth

The share's value is based on the rise in its stock market price over the long term and the distribution of dividends. Since its creation in 1902, Air Liquide has always shared the fruits of its growth and rewards its shareholders' confidence through a remuneration and loyalty policy that is based on regular dividend distribution, free share attribution and a loyalty bonus.



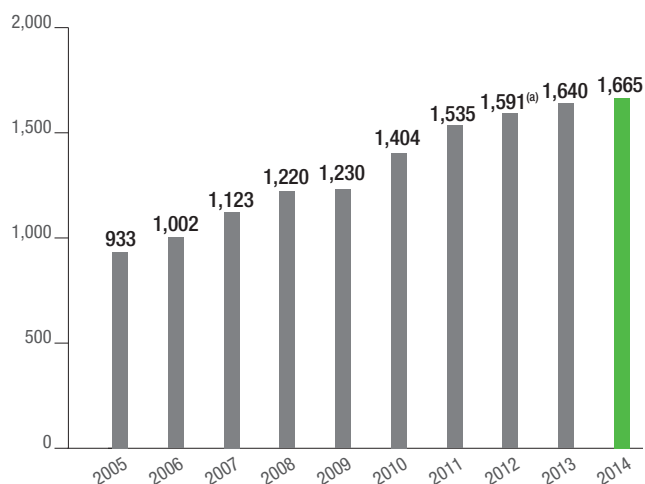
## Stock market price over the last 20 years (in euros)



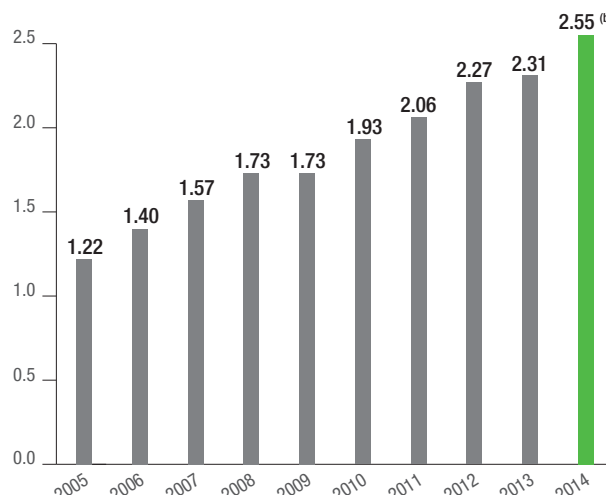
Since it was first listed on the French Stock Market in 1913, the Company has always shown a profit. The Group creates value by developing its activities and optimizing its performances over the long run. Over the last 20 years, Air Liquide's revenue has shown average annual growth of +5.9%. This growth has been profitable: the Group's net adjusted earnings per share have followed a similar trend with average annual growth of +7.8%. Over the same period, the dividend has seen average annual growth of +9.8%.

During the last 10 years, nearly 50% of earnings have been distributed to shareholders.

## Net profit – Group share (in millions of euros)



(a) Corresponds to the amounts as of December 31, 2012 restated for the impacts of IAS19 revised "Employee Benefits".

Adjusted dividend per share (in euros/share) <sup>(a)</sup>

(a) Adjusted for previous two-for-one share splits and free share attributions.  
(b) Subject to approval of the Combined Shareholder's Meeting of May 6, 2015.

## Return on an investment in Air Liquide shares for the shareholder

To further increase the investment value of Air Liquide shares, subscribing to registered shares permits shareholders who choose this option to benefit from a loyalty bonus: +10% on the amount

of the dividends received and +10% on the number of free shares granted. This loyalty bonus is granted to shareholders whose shares are held in direct registered or intermediary registered form and who have kept them for more than two calendar years. To benefit from the loyalty bonus, shareholders must continue to

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hold their shares in registered form on the day of the dividend payment and of the free share attribution.

Total Shareholder Return (TSR) is an annualized rate of return for a shareholder who buys their shares at the beginning of a period

and sells them at the end of the period. This calculation takes into account the movement of the share price, dividends paid, including loyalty bonuses on the basis that they are immediately reinvested in shares, and bonus share awards.

## Average annual growth of the portfolio as of December 31, 2014

For capital invested	Air Liquide – Registered shares <sup>(a)</sup>	Air Liquide – Bearer shares <sup>(a)</sup>	CAC 40 index – reinvested <sup>(b)</sup>
■ over 5 years (December 31, 2009)	+13.2%	+12.7%	+5.6%
■ over 10 years (December 31, 2004)	+12.4%	+11.8%	+4.8%
■ over 20 years (December 31, 1994)	+11.9%	+11.2%	+7.3%

(a) The TSR on registered shares is higher than the TSR on bearer shares because the registered shareholder benefits from loyalty bonuses.

(b) CAC 40 index with gross dividends reinvested.

During the last 10 years, the return rate for an Air Liquide shareholder has been on average 12.4% per year, with gross dividends reinvested in shares, free share attributions and loyalty bonuses to registered shareholders.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Earnings per share (in euros) <sup>(a)</sup>	2.74	2.92	3.28	3.62	3.62	4.10	4.47	4.63 <sup>(c)</sup>	4.79	4.85
Dividend per share (in euros) <sup>(a)</sup>	1.22	1.40	1.57	1.73	1.73	1.93	2.06	2.27	2.31	2.55 <sup>(b)</sup>

(a) Based on the average annual number of shares (excluding treasury shares) and adjusted to account for increases in capital via capitalization of reserves or additional paid-in capital, cash subscription and the two-for-one share split on June 13, 2007.

(b) Subject to the approval of the Combined Shareholders' Meeting of May 6, 2015.

(c) Corresponds to the amounts as of December 31, 2012 restated for the impacts of IAS19 revised "Employee Benefits".

## THE AIR LIQUIDE VALUE CODES

Air Liquide shares are divided into four categories, called "value codes" (or ISIN codes), according to when they were recorded as registered shares. There are two permanent value codes (FR0000120073, which is also Air Liquide's stock market ISIN code, and FR0000053951, which corresponds to shares already benefiting from the loyalty bonus) and two intermediate value codes (FR0011336254 and FR0011597350, which identify the shares that will benefit from the loyalty bonus in 2016 and 2017 respectively).

## LISTENING TO AND INFORMING SHAREHOLDERS

## Expertise and proximity

**Shareholder Services** is specific to Air Liquide. Reporting directly to the Chairman and Chief Executive Officer, this team manages the accounts of some 86,000 shareholders who hold direct registered shares and supports them by offering a broad range of personalized services, without intermediaries. It is also dedicated to listening to and informing all the 390,000 individual shareholders and they are sent information all year long through different means of communication. In addition, many events and meetings that are highlights between Air Liquide and its shareholders are organized, for example the Shareholders' Meeting, regional meetings and fairs dedicated to share ownership in France and Europe.

The **Shareholders' Communication Committee**, composed of 12 Air Liquide shareholders, is regularly consulted on the programs developed for shareholders. Apart from plenary meetings with the Chairman and CEO, the Committee is involved through the year in working groups on subjects that are essential to the shareholders' concerns. A Committee member is part of the Air Liquide Foundation's Project Selection Committee.

The Chairman and CEO, after the Shareholders' Meeting, continues his exchanges with **shareholders in the regions** by traveling to several cities in France to present the results, the Group's prospects and to answer their questions. Finally, to strengthen this dialogue, the Director of Shareholder Services regularly meets shareholders at meetings and fairs (about 10 events a year) held in France and in Europe. He also hosts about 10 talks given annually at the French business schools

and universities. Educating students is an essential approach as tomorrow's economic players and decision-makers have an early awareness of the culture of the stock market.

In 2014, more than 8,000 shareholders attended these meetings.

The **Investor Relations Department**, attached to the Finance and Operations Control Department, responds to specific questions from institutional investors and financial analysts of brokerage companies. The four annual announcements of revenue or results are of course privileged moments of exchange but throughout the year this dedicated team meets investors, either at its offices at corporate headquarters in Paris or during travel to the world's major financial centers. Air Liquide organizes roadshows or takes part in conferences to go before international investors and present them with the solidity of its business model, the dynamism of its growth levers and the soundness of its strategy. On average, the Investor Relations Department meets over 300 institutions each year. It also regularly organizes Investor Days, bringing together the international financial community and Air Liquide's management for targeted strategic discussions with a theme that varies according to economic issues and current events.

### Innovation and informational education

Air Liquide provides for its individual and institutional shareholders through various communication means, transparent information on the Group's activities, strategy, performances and prospects.

**Pedagogy** is one of the major concerns that takes priority in the design of information documents and media like the Annual Report, the Shareholder's Guide and the Invitation to the Shareholders' Meeting. The latter document presents the resolutions submitted to the shareholders' vote in an informative way and is sent to all the shareholders who hold at least one share. Air Liquide also publishes, in the month after the event, a report of its Shareholders' Meeting, presenting in a detailed manner all the participations and discussions. These publications are available in French and English. The minutes of the Shareholders' Meeting are established during the month following the Meeting.

Moreover, Shareholder Services has designed a fun, educational **learning module** to better understand the stock market. The first module, "The stock market today", available on the Company's website in the Shareholders section, sheds light on the role and history of the stock market, its different players and Air Liquide's history in the Paris Stock Market. Shareholder Services also offers a free **Air Liquide shareholder app** for iPhone and Android smartphones to follow stock market prices, use simulators and keep up to date with Group news whenever they wish. The shareholder app for iPad is available free from the App Store and enables shareholders of registered shares to log in directly

to their trading account. Their personal data can be relayed into fiscal simulators so they can make relevant calculations. It enables everyone to find out information about the Group easily, and link them to Shareholder Services.

In addition, Air Liquide welcomes its shareholders in a dedicated venue, the **Shareholders Lounge**, at the Group's head office in Paris, so that they can obtain complete information on the Company's activities, the life of the share, and for those who hold direct registered shares, how to carry out operations on their accounts.

The Shareholders' Lounge also features simple, educational, interactive exhibitions, giving shareholders a further opportunity to learn more about the Group's activities and initiatives, and strengthen their links to the Group. Finally, the Shareholders' Service organizes online presentations, broadcast live from the Shareholders' Lounge, on topics related to shareholding such as "Mechanisms for granting bonus shares", "The Basics of Registered Shares", "Asset transfer" and "Taxation".

### MORE INFORMATION

More information on Air Liquide and its share ownership is available in the **Shareholder's Guide**, available online on the website, [www.airliquide.com](http://www.airliquide.com), under "Shareholders."

### SPECIFIC SERVICES FOR REGISTERED SHAREHOLDERS

Specifically organized to respond to shareholder needs, Shareholder Services has 28 employees and provides expertise in all aspects of account management: opening a trading account, share trading orders, taxation on securities, and share transfers. Throughout the year, Air Liquide advisors answer shareholders' questions via the toll-free number mentioned hereafter (also accessible from outside France) or directly at the Shareholders Lounge.

Air Liquide directly manages the accounts of its shareholders with direct registered shares. They pay no handling fees, and broker fees are reduced to 0.18% excluding tax of the gross amount of the transaction. Air Liquide endeavors to regularly communicate to its shareholders on the benefits of holding registered shares (privileged relationships with Air Liquide, loyalty bonus, etc.). Every year, an information campaign is organized for shareholders who have bearer shares: presentation of registered shareholding on all the communication documents and media for shareholders and a booth dedicated to registered shareholding during the Actionaria fair held every November in Paris.

Direct registered shareholders have access to a **personal secure space on the Internet** so that they can consult their share portfolio, modify their personal information or consult documents useful for managing their account. They can also place buy and sell orders on the stock market online and view, in real time, the operations conducted on their account and the amounts received (payment of the dividend, sale of shares, etc.). Since 2014 the Air Liquide website has also featured a customizable shareholder's section.

## CONTACTS

### Shareholder Services:

Air Liquide – 75, quai d'Orsay 75007 Paris, France

**N°Vert 0 800 166 179** or +33 (0)1 57 05 02 26 from outside France  
APPEL GRATUIT DEPUIS UN POSTE FIXE

<http://contact.actionnaires.airliquide.com>

### Investor Relations:

Air Liquide – 75, quai d'Orsay 75007 Paris, France

+33 (0)1 40 62 51 50

[IRteam@airliquide.com](mailto:IRteam@airliquide.com)

## 3.2. Customers and patients

### 3.2.1. SATISFYING OUR CUSTOMERS AND PATIENTS

Air Liquide contributes to the performance of its customers and to its patients' quality of life. The Group is attentive to the satisfaction of its customers and patients and puts action plans in place to continually improve on this satisfaction.

- Air Liquide allows its industrial customers to carry out their production in a safer, cleaner and more economical manner. The Group supports its customers in their national and international development.
- In hospitals, Air Liquide provides patients with medical gases and helps fight nosocomial infections with its disinfection products, among others. The Group also allows patients suffering from chronic illnesses to live better at home, by facilitating their medical monitoring outside the hospital environment.

### AIR LIQUIDE AND ITS CUSTOMERS: PROXIMITY AND EXPERTISE

#### An organization that serves a wide range of customers

Air Liquide serves a **wide variety of industrial customers, estimated at more than a million** who come from sectors ranging from steel to the food industry as well as electronics, pharmaceuticals and craftsmen. Their expectations are extremely varied and change constantly, with ever greater requirements. In each **market sector**, Air Liquide aims to help its customers by acquiring a deep understanding of their business. This allows the Group to **offer its customers innovative services and solutions**. The long-term relationship between Air Liquide and its customers is based on proximity, expertise, trust and performance.

The Group's organization enables each entity, in each geographic region, to meet the specific expectations of local customers, thus building a **close and trusting relationship** with individual customers. More than just a product, customers demand **flexibility, responsiveness, service, availability and a real partnership over the long term**. Furthermore, the Group's three Hubs in Frankfurt, Houston and Shanghai, formed in 2013, have forged closer links with customers and markets and accelerated decision-making thanks to less centralized management. For example, the Hub based in Frankfurt, Germany, not only brings the Group closer to the growth markets of Eastern Europe, but also spearheads major global projects.

In addition, some international customers require fully coordinated global management services. A Key Strategic Accounts program helps support these customers and meet their specific needs. The program relies on a **dedicated team of Key Account Managers**, whose task is to develop, with the help of the relevant subsidiaries around the world, a thorough knowledge of these customers as part of a lasting relationship.

#### The customer as the focus of Air Liquide's attention and action

Customer satisfaction must be present into every aspect of the Group's organization and every decision-making process. In an ever more dynamic and competitive environment, Air Liquide focuses its attention on its customers and their satisfaction in order to bring them growth over the long term. To strengthen this priority and continue to make progress in this area, a **"Customer Development Group"** was formed in January 2014 under the supervision of a member of the Executive Committee. The goal of this **special-purpose team**, which is organized in such a way as to **cross** all world Business Lines, is to ensure that **customers are the key focus of the Group's thinking and actions**. The "Customer Development Group" is the control center for customer loyalty programs, for managing the Group's strategic customers,

and for sharing best practices across regions and the various world Business Lines of the Group.

### Customer safety in product use

Air Liquide makes sure that its customers and subcontractors know how to use its products and equipment safely and are aware of the related risks, especially through specific **training programs**.

In addition, the Group constantly updates safety information on its products through **product safety data sheets** and also responds to requirements of national and international directives (REACH – Registration, Evaluation, Authorization and Restriction of Chemical Substances; GHS – Globally Harmonized System of Classification and Labeling of Chemicals). This information is available in the Air Liquide Gases Encyclopedia, accessible on the Group's Internet site at the following address: <http://www.airliquide.com/our-offer.html>, or using a freely available app.

### Dialogue with customers on sustainable development

Air Liquide also responds to its customers' growing requirements regarding its Sustainable Development approach. This allows the Group to contribute to its customers' own sustainable development approach. Over the last four years, in addition to many questions asked at a local level, around a hundred customers have questioned the Group on this subject, including through detailed questionnaires. The Group's Sustainable Development Department therefore provides support to local entities so that they can respond to this type of customer request.

### AIR LIQUIDE AND ITS PATIENTS: PROTECTING VULNERABLE LIVES

Our society is faced with many healthcare challenges: an aging population, an increase in chronic illnesses, pandemics and nosocomial infections. Air Liquide responds to the requirements of patients and healthcare professionals worldwide, making every effort to anticipate their needs. Throughout the world, Air Liquide aims to protect vulnerable lives by offering effective products and services and providing considerate support for patients.

### Looking after the patient throughout the care process

#### Providing patients in hospital and at home with medical products and services that contribute to protecting vulnerable lives

Vulnerability may be a consequence of age, illness or loss of independence. In the course of its activities, Air Liquide is constantly faced with vulnerability: patients undergoing medical

procedures in emergency units or operating theaters, patients exposed to the risk of nosocomial infections, patients with chronic illnesses and multiple pathologies, and elderly people.

Air Liquide aims to protect lives by developing products, services and patient support programs.

#### Protecting patients and supporting healthcare professionals: Air Liquide, a major player in medical gases for hospitals

Air Liquide is one of the world leaders in **medical gas production and distribution and related services for hospitals**. The Group supplies oxygen for operating theaters, intensive care units and patient rooms, as well as therapeutic gases for anesthesia and pulmonary arterial hypertension. Air Liquide also provides therapeutic gas for pain relief, used in some countries during childbirth (Portugal and Great Britain for example) and for procedures carried out at dental surgeries.

Air Liquide furthermore offers a range of **hygiene products used for disinfection and the fight against nosocomial infections**. The Group supplies disinfectants for hospitals, medical instruments and hand-cleansing for medical staff. It also supplies skin cleansers for pre-operative preparation for patients and antiseptics for wound-healing.

Air Liquide currently supplies 7,500 hospitals and clinics worldwide.



#### Nosocomial infections worldwide

**According to the World Health Organization, 5 to 10% of people hospitalized in advanced economies contract a nosocomial infection, and this proportion can exceed 25% in some developing economies.**

#### Protecting patient autonomy: the human and social dimension of Air Liquide's Home Healthcare activity

Air Liquide's Home Healthcare activity cares for over 1 million patients around the world who have chronic illnesses which require medical respiratory equipment, perfusion or nutritional assistance for their treatment at home. It has a very strong human dimension because it focuses on having patients and their families accept a treatment that is sometimes long term and accompanied by constraints. Air Liquide's employees provide home support to patients suffering from chronic pathologies such as respiratory insufficiency, sleep apnea, diabetes or Parkinson's disease. Air Liquide's multidisciplinary teams of pharmacists, nurses, nutritionists and technicians are dedicated to providing these services as cost-effectively as possible. Innovative education and



support programs aim at **improving the patients' quality of life** by helping to **reinforce treatment follow-up** and by **increasing their independence**.

The Home Healthcare activity sits at the heart of the healthcare system between the patient, hospital, doctors, nurses, health insurance organizations and pharmacists. The Group supplies products and medical equipment necessary to start treatment at the patient's home following the medical prescription, and trains the patients and their families in the proper use of devices (oxygen therapy, ventilator, insulin pump, etc.). Air Liquide therefore makes a **major contribution to the care chain by ensuring the patients' follow-up at home over the long run**. It is an activity that demands high quality service on a daily basis and is focused on the long term, with all the caregivers dedicated to improving the patient's quality of life at home.

In 2014, Air Liquide continued to expand its Home Healthcare activities with acquisitions in France of SEPRODOR in July 2014 and of ARAIR Assistance in December 2014.

## Partnerships in Healthcare

### Partnership with patient associations

The European leader in Home Healthcare, Air Liquide cares for some 800,000 patients in Europe suffering from sleep apnea or shortness of breath, notably those with severe chronic obstructive pulmonary disease (COPD), under long-term oxygen therapy.



**COPD, one of the principal causes of death and disability worldwide**

**COPD is a lung infection characterized by a permanent bronchial obstruction which causes respiratory difficulties.**

- **Over 200 million people around the world suffer from COPD. It is currently the fourth-highest cause of death worldwide and could become the third-highest by 2030.**
- **Over a million patients suffering from severe COPD are treated by long-term oxygen therapy. It has been shown that the long-term administration of oxygen, which means more than 15 hours a day, significantly improves these patients' life expectancy.**

Since 2011, the Group's Healthcare activity has worked in partnership with the European Federation of Allergy and Airways Diseases Patients Associations (EFA). This Brussels-based European organization brings together the national associations of

patients with respiratory ailments, with 22 countries represented. In the framework of this partnership, Air Liquide supports the actions on information and raising awareness initiated by the EFA in public opinion and the European authorities.

Air Liquide also contributed to a publication establishing care standards for patients with COPD, incorporating the patients' viewpoint and distributing the publication to the European Commission and healthcare professionals. Air Liquide has also supported a study on patients with portable oxygen concentrators wishing to travel by air in Europe.

### A commitment to patient safety during anesthesia

Air Liquide is a signatory to the Helsinki Declaration, initiated by the EBA (European Board of Anesthesiology) and the ESA (European Society of Anesthesiology). The Helsinki Declaration plans to reduce complications following anesthesia during major surgery by reiterating good clinical practices, the anesthesiologist's key role in patient safety and the importance of cooperation between healthcare manufacturers and the medical community. The Declaration underlines the major role that industry plays in the development, manufacture and supply of drugs and equipment for patient care.

## Specific indicators for the Home Healthcare activity linked to the issue of socially responsible bonds

In 2012, Air Liquide issued its first SRI-labeled bonds <sup>(a)</sup> under its Euro Medium Term Notes (EMTN) program, for a total amount of 500 million euros. This bond was mostly placed with investors having SRI management mandates and permitted the Group to diversify its financing sources. After numerous public authorities and supranational issuers, **Air Liquide became the first company to issue bonds meeting the criteria of SRI investors worldwide.**

Obtaining a rating from the extra-financial rating agency Vigeo about the Home Healthcare activity led to this issue being given an SRI label. This evaluation is based on the social, environmental and governance criteria of the Home Healthcare activity that concerns more than one million patients worldwide.

At the time of the SRI bond issue, Air Liquide committed to publishing extra-financial indicators specifically relating to its Home Healthcare activity.

(a) *Socially Responsible Investment: application of sustainable development principles to investment. Approach consisting in systematically considering the three dimensions – environment, social/societal, governance – in addition to the usual financial criteria.*



### Indicators concerning the Home Healthcare activity

In the framework of this SRI bond issue, Air Liquide made a commitment to publishing during the life of these bonds, i.e., nine years, indicators specific to the Home Healthcare activity in the area of the environment, safety and employee diversity.

Number of patients treated	2010	2011	2012	2013	2014
Total number of patients treated by the Air Liquide Home Healthcare Division	600,000	700,000	1,000,000	1,100,000	1,200,000
<b>Number of employees</b>					
Home Healthcare activity employees <sup>(a)</sup>	4,893	5,494	7,303	7,748	8,183
<b>Safety</b>					
Number of lost-time accidents of at least one day among employees	29 <sup>(b)</sup>	28 <sup>(b)</sup>	42 <sup>(b)</sup>	77 <sup>(b) (c)</sup>	62 <sup>(b) (c)</sup>
Number of accidents of subcontractors and temporary workers <sup>(d)</sup>	15 <sup>(b)</sup>	7 <sup>(b)</sup>	10 <sup>(b)</sup>	13 <sup>(b)</sup>	9 <sup>(b)</sup>
<b>Equality</b>					
% of women among Managers and Professionals	53%	55%	55%	56%	58%
% of women among Managers and Professionals hired during the year	62%	62%	40%	70%	56%
<b>Training</b>					
Average number of days of training per employee, per year	2	2.1	1.6	2	2 <sup>(e)</sup>
<b>Kilometers driven and CO<sub>2</sub> emissions related to transportation</b>					
Kilometers driven per patient followed per year			155	147	124
CO <sub>2</sub> emissions related to transportation per patient (kgCO <sub>2</sub> /patient) per year			39	35	29

(a) Employees under contract.

(b) No fatal work accidents.

(c) Including 17 work accidents involving activities acquired at the end of 2012 and in 2013.

(d) Personnel working under an Air Liquide contract at a Group site, or at a customer site, or as a delivery vehicle driver.

(e) 15 hours a year according to counting in hours (base: 1 day = 7.5 hrs).

### A COMPANY RESPONSIBLE TO ITS CUSTOMERS AND PATIENTS: FROM LISTENING TO ACTION

As part of its Corporate Social Responsibility and Sustainable Development approach, **customer and patient satisfaction is a priority for Air Liquide**. The Group carries out surveys to measure customer and patient satisfaction and establishes action plans to continuously improve satisfaction levels. Air Liquide's relationship with industrial customers of very diverse sizes and sectors as well as with healthcare professionals, patients and associations in the Healthcare activities are at the heart of the concerns of the Group's teams and guide the Company's development. The quality of this relationship concerns each entity and employee. It is based on the definition of precise commitments that the Group's teams endeavor to respect in their daily activities, in a spirit of professionalism and service.

In a context of a change in its customers and patients' expectations and growing diversity of its customers and patients, the Group has set itself the following objectives:

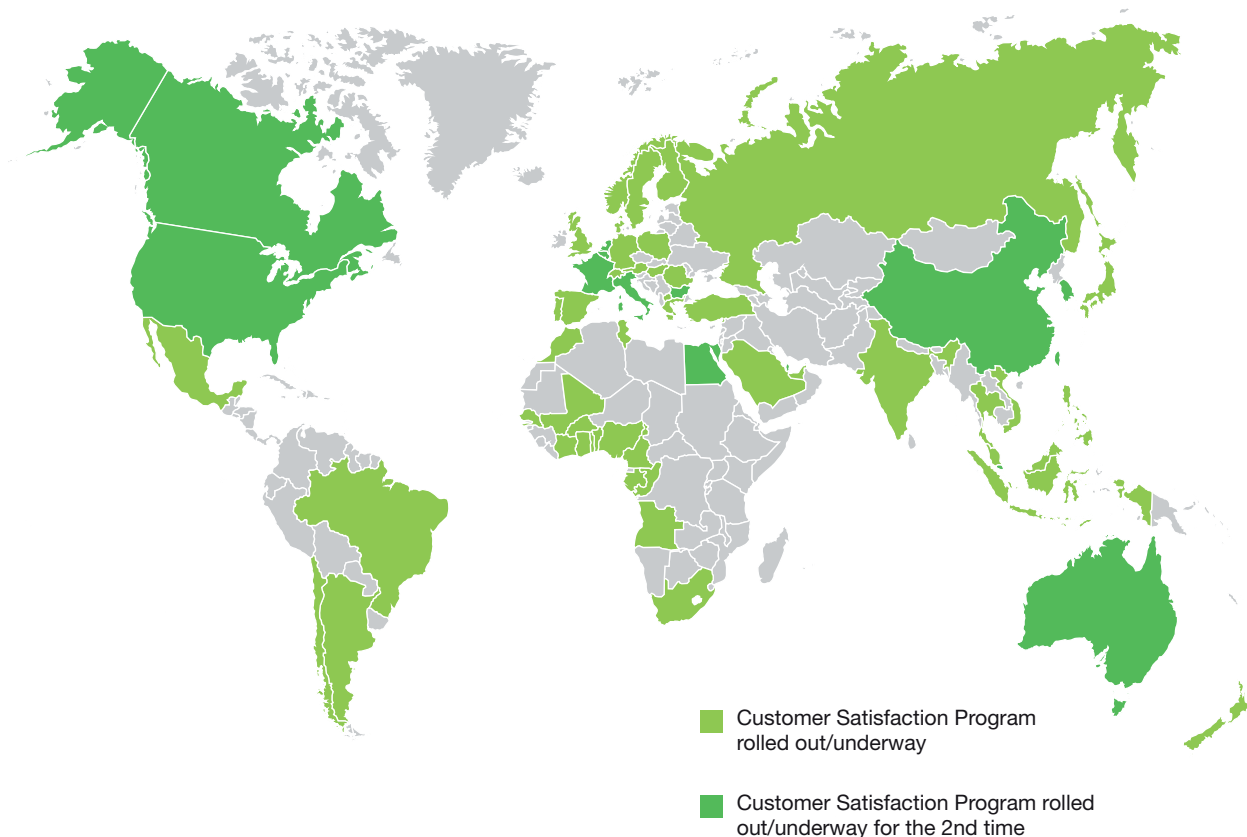
- continually increase customer loyalty and satisfaction;
- ensure customer loyalty over the long term;

- gain the trust of new customers to ensure the Group's growth.

The Group has implemented a tool called "Action Surveys" for all of its World Business Lines around the world. The tool is rolled out at all subsidiaries as part of a three-step process of ongoing improvement:

1. **Listening to customers and patients** through interviews conducted by specialized companies, along with customer site visits, and **measuring the improvement in satisfaction from one satisfaction survey to the next**.
2. **Creating action plans** and getting Group employees involved in areas for improvement as identified through survey analyzes and interviews conducted in the field.
3. **Implementing action plans**: managers are responsible for implementing the action plans and measuring their progress. Some action plans are shared with customers.

In 2014, **18,000 customer and patient surveys** were conducted, supplemented by **850 customer and patient visits**, and more than **150 new action plans** were launched. **16 countries**, including those in which the **main subsidiaries** are based, implemented this program for the **second time** in 2014.



In 2014, the percentage of Group sales related to entities where customer satisfaction surveys and action plans had been carried out in the last two years was 80%, up from 76% in 2013.

#### Percentage of Group sales related to entities where customer satisfaction surveys were carried out

Year	2011	2012	2013	2014	2015 objective
Percentage of Group sales related to entities where a customer or patient satisfaction survey has been carried out in the last two years.	39%	66%	76%	80%	85%

#### A commitment to customers which is getting results

In the past two years, the **15,000 industrial customer satisfaction surveys** conducted in all regions revealed that **89% of customers are satisfied or very satisfied with Air Liquide**. Customers particularly appreciated product and service quality, safety, and the behavior and efficiency of teams in contact with them. The 11% of somewhat dissatisfied customers are subject to a specific follow-up by teams from the subsidiaries, and specific action plans will be implemented to improve satisfaction.

These satisfaction levels are partly the result of **the effectiveness of targeted action plans**. For example, in December 2014, the results of the second wave of customer surveys, carried out by Air Liquide Australia, shows a significant improvement in customer satisfaction compared to 2012.

In **South Korea**, the **Electronics Business Line** redesigned its quality control system following the 2012 Action survey. Production of certain advanced technology products was geographically relocated to better meet customer needs. In 2014, the percentage of **“very satisfied”** and **“extremely satisfied”** customers increased from **40% to 50%**.

These surveys also provide feedback on concerns and incidents encountered by the customers in their relations with the Group. Priority action plans are created to address any areas of dissatisfaction.

To mobilize the entire organization, workshops raising awareness about the customer experience have also been rolled out. The workshops, called "Inside Customer Shoes", bring together employees from Procurement, Sales, Production and Human Resources. In 2014, "Inside Customer Shoes" workshops were held in 10 countries and involved over **3,000 Group employees – five times more than in 2013**. The progress of this program has been demonstrated by the substantial number of subsidiaries that have gotten involved in raising employee awareness on this issue, multiplying the number of sessions held.

### A Group that listens to its patients and healthcare professionals

The Group's determination to improve its listening capacities for its stakeholders includes the Healthcare Business Line. **Air Liquide is particularly attentive to its patients' needs** in order to improve the quality of its service on an ongoing basis.

The "Action Surveys" tailored to this activity have been roll out since 2011. Since then, the subsidiaries that produce and distribute medical gases to **hospitals** have conducted surveys with the technical and procurement departments of the customer hospitals as well as with doctors who use the gases.

In the **Home Healthcare** activity, patients benefiting from Air Liquide's services as well as the doctors prescribing the treatments, pharmacists distributing these products and healthcare coverage authorities responded to these **satisfaction surveys**.

In 2014, these surveys were conducted in France, the United States, Italy, Australia and various countries in Africa and Asia, polling more than 6,500 patients, prescribers, pharmacists, and regional health authorities. The results regarding their level of satisfaction were positive.

### 3.2.2. PROTECTING THE LIVES OF OUR PATIENTS AND OUR CUSTOMERS' ENVIRONMENT

#### Revenue linked to life and the environment

Over 40 applications of industrial and medical gases preserve the environment for the Group's customers and the life of patients: these applications represent **45% of revenue** <sup>(a)</sup>.

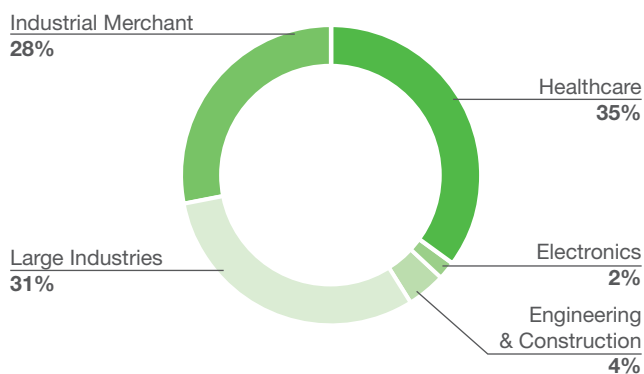
Air Liquide has consolidated this life- and environment-related revenue since 2005. Revenue related to life and the environment is calculated for **each Group activity**: Large Industries, Industrial Merchant, Healthcare, Electronics, and Engineering & Construction.

Below are some examples of applications which preserve the environment for customers and life for patients within the Group's different activities:

- For customers of the **Large Industries** activity:
  - using hydrogen in refineries to remove sulfur from hydrocarbons, thus reducing the emissions of sulfur oxide, which are responsible for acid rain;
  - using oxygen in blast furnaces to reduce the consumption of coke, whose production and usage is very polluting.
- For customers of the **Industrial Merchant** activity:
  - packaging in a modified atmosphere to protect foods and reduce chemical additives;
  - inerting with nitrogen for the safety of industrial installations;
  - fusing glass by using pure oxygen, which considerably reduces emissions of nitrogen oxides, one of the gases that causes acid rain;
  - treating water with oxygen at sewage plants to reduce the use of chemicals;
  - using rare gases like krypton to improve the insulation of double-glazed windows.
- For patients of the **Healthcare** activity:
  - using oxygen in hospitals and for the Home Healthcare activity;
  - using hygiene products in the fight against nosocomial infections;
  - manufacturing adjuvants for vaccines.
- For customers of the **Electronics** activity:
  - using industrial gases in the renewable energy industry employing photovoltaic technology.
- For customers of the **Engineering & Construction** activity:
  - selling hydrogen production units to third parties for refining, to limit sulfur emissions into the atmosphere;
  - selling equipment for valorizing biogas.

(a) 2013 data. 2014 data will be available mid-2015.

### Breakdown of revenue related to life and the environment by activity



The percentage of Air Liquide's revenue related to life and the environment increased sharply between 2005 and 2013, going from 33% to 45% of the Group's total revenue. This growth illustrates the development of the applications linked to preserving life and the environment in Air Liquide's global revenue.

### INNOVATION RELATED TO LIFE AND THE ENVIRONMENT

Almost 60% of the Group's innovation expenditure in 2014 was devoted to work preserving life and the environment. Innovation is a growth driver for the future in terms of revenue related to life and the environment, and focuses on the following:

#### ■ Environment:

- energy efficiency of the Group's production units;
- hydrogen, as a clean energy carrier;
- hydrogen to desulfurize hydrocarbons;
- industrial gases for the photovoltaic industry;
- CO<sub>2</sub> capture and recovery;
- second-generation biofuels;
- biomass recovery and purification of biogas.

#### ■ Healthcare and Hygiene:

- research on medical gases, in particular for anesthesia, analgesia, and in respiratory diseases;
- hygiene and sterilization products to combat nosocomial infections;
- development of vaccine adjuvants.

Detailed information on these innovative initiatives for our customers and our patients is presented in the Innovation section of Chapter 1 of the Reference document.

## 3.3. The Company's ethics

The Group endeavors to take into account the interests of its different stakeholders through its decision-making processes as well as in carrying out each of its actions. This approach, inspired by the Group's Executive Management, guides the action of each entity and employee to ensure the Company's responsible growth.

### PRINCIPLES OF ACTION

Air Liquide formalized the Principles of Action guiding the Group's strategy and development in a document that explains its approach to all its stakeholders. Available in 16 languages, this document was distributed to all the Group's entities and can be viewed at [www.airliquide.com](http://www.airliquide.com) under Company/Ethics, in French and English.

### SOCIAL AND ENVIRONMENTAL RESPONSIBILITY

#### Social and Environmental Responsibility Policy

In addition to the principles of action, the Group's policies were completed and compiled into a global protocol called the BLUEBOOK. This protocol is accessible to all the Group's employees and concerns the internal information systems that they usually use. These policies are in the form of Procedures, Codes and Reference Guides.

In the BLUEBOOK, the Social and Environmental Responsibility Policy defines the commitments made by the Group in the framework of its activities to promote the respect for and safety

of men and women, the protection of the environment, ethics and participation in the economic and social development of the regions in which it operates.

This Social and Environmental Responsibility Policy has implemented a consistent Sustainable Development approach at every level of the Company and defines the guidance on this subject for the subsidiaries and departments. It is available at [www.airliquide.com](http://www.airliquide.com) under Company/Ethics, in French and English.

## Commitment to Human Rights

Air Liquide recognizes the importance of protecting Human Rights in all countries in which the Group operates, and has a responsible procurement policy for conducting business with suppliers.

The Group's Corporate Social and Environmental Responsibility policy is very much inspired by compliance with the 10 principles of the United Nations Global Compact, the Universal Declaration of Human Rights, and international labor law.

This policy stipulates, for example, that Air Liquide shall respect Human Rights and the dignity of its employees, subcontractors, temporary workers and suppliers. In this framework, the Group's entities notably exclude any form of discrimination, harassment, the use of forced labor or child labor and any undermining of the freedom of association. Air Liquide's policy aims at respecting labor law in all the countries in which it operates, and is therefore considering taking into account the fundamental conventions of the International Labor Organization (ILO) on this subject.

**In 2014, Air Liquide signed the Global Compact.** Introduced in 1999 by the United Nations, the Global Compact aims to encourage businesses to adopt a socially responsible attitude by committing to embracing and promoting ten principles relating to Human Rights, labor, sustainable development and anti-corruption.

## EMPLOYEE CODES OF CONDUCT

The Group's subsidiaries must implement a local Code of Conduct. This decentralized approach combines respect for local customs and regulations and Air Liquide's ethical commitment. It also helps the subsidiaries to embrace the Group's ethical principles by writing their own Codes of Conduct themselves in their working language. As a result, in 2014, 94% of the Group's employees belonged to subsidiaries that have a local Code of Conduct. The 6% of employees who do not yet have a local Code of Conduct primarily correspond to entities recently acquired by the Group and undergoing consolidation. Today, these Codes of Conduct are available in 23 languages.

These Codes of Conduct must adhere to 10 key concepts set out in the BLUEBOOK (the Group's Corporate Social and Environmental Responsibility policy):

- respect for laws and regulations;
- respect for people: health and safety conditions in the workplace, prevention of discriminatory actions, respect for third parties;
- respect for the environment;
- respect for competition law;
- respect for rules on insider trading;
- prevention of conflicts of interest: links to a competitor, customer or supplier, respect for rules on corruption;
- protection of Air Liquide's activities: protection of information, property and resources;
- transparency and integrity of information;
- internal controls and audits;
- implementation of Codes of Conduct.

These 10 key concepts are detailed on the Group's website, [www.airliquide.com](http://www.airliquide.com), under Company/Ethics, in French and English.

These Codes of Conduct demonstrate the Group's commitment to respect the regulations concerning its economic activity but also ethical principles such as social rights and the fight against discrimination and harassment.

An e-learning program on employee Codes of Conduct was launched at Group level.

In addition, since 2007, a Group Ethics Officer has been responsible for providing advice and assistance to the entities in applying their Code of Conduct. He also handles all the questions submitted by employees on implementing these Codes of Conduct.

## RESPECT FOR COMPETITION LAW

Instructions and codes at the Group level were established as to proper behavior concerning respect for competition law, especially in Europe and the United States. The most important rules on competition law are also included in the employees' local Codes of Conduct. For some of the Group's activities, Healthcare in particular, specific Code of Conduct have been developed on competition law as well.

Audits are jointly conducted on a regular basis by the Group's internal audit departments and an external attorney. They carry out tests and interviews to identify and correct practices at risk in this area or any deviations observed.

Finally, awareness-raising meetings on compliance with competition law are regularly held throughout the Group.

Furthermore, an e-learning program was launched at the Group level on competition-related practices and international principles.

## FIGHT AGAINST CORRUPTION

In 2009, the Group formalized an **anti-corruption Code of Conduct** that met international standards. This code has been made available to all entities and an extract is available at [www.airliquide.com](http://www.airliquide.com) under Company/Ethics, in French and English.

This anti-corruption Code of Conduct, which is linked to the Corporate Social and Environmental Responsibility policy included in the BLUEBOOK, provides a reminder of the laws on the fight against corruption and deals with relations with intermediaries, particular cases such as mergers, acquisitions and partnerships, types of payments requiring particular attention, as well as administrative and accounting traceability requirements.

To strengthen the roll-out of this anti-corruption Code of Conduct throughout the Group, Air Liquide launched a **training program** in

2010 dedicated to disseminating knowledge of the anti-corruption Code of Conduct and its best practices to the Group's employees. In addition, a specific e-learning module was produced in 2013 to raise employee awareness more quickly. This training is now an integral part of the Air Liquide University program and is aimed at staff most exposed to corruption risk (sales, procurement, administrative management, and so on) and managers. These training programs are gradually being rolled out Group-wide.

Lastly, the new Supplier Code of Conduct (see under "Training" section) includes a chapter on corruption prevention.

## HANDLING DEVIATIONS

Currently, the most significant cases of fraud and deviation, once detected, are transmitted to the Audit Committee of the Board of Directors, along with measures for investigating and handling these situations. Starting in early 2015, the Group will gradually introduce a formal ethical alert system ("whistleblowing") into its entities worldwide, whereby any employee can anonymously file an alert message with an independent company. The topics are then analyzed and processed by the Group's Ethics Officer.

## 3.4. Relying on responsible suppliers

Air Liquide's responsible procurement policy is an integral part of the Group's Corporate Social Responsibility and Sustainable Development approach.

**Air Liquide's responsible procurement policy** makes use of several tools:

- to start with, the **Buyers' Code of Conduct**, translated into 13 languages, sets out the ethical and sustainable development principles that govern the Group's procurement;
- in addition, **sustainable development clauses** are being systematically included into the Group's new **framework contracts**. These clauses allow for the possibility of conducting external audits at the suppliers and subcontractors concerned. They also include compulsory reporting elements from the supplier, in particular on safety, energy and water consumption, and social rights;
- since 2009, Air Liquide's responsible procurement policy has been strengthened by a **process that evaluates suppliers** by means of a questionnaire on sustainable development. All Group buyers are now systematically required to use this questionnaire to evaluate suppliers presenting a potential CSR risk. Certain answers are considered eliminatory such as the absence of a commitment to health and safety, of regular inspections of high-risk tools, of compliance with local

legislation on the minimum wage, or of measurement of energy consumption. Air Liquide is developing, with all its subsidiaries, this evaluation approach concerning its suppliers, with the support of a partner specialized in responsible procurement. The evaluation includes the environment, social issues, the ethics of business and the suppliers' own procurement policy. This supplier evaluation policy was formalized in the Group's BLUEBOOK protocol. For the past five years, the Group has conducted annual evaluation campaigns for approximately 700 suppliers. In 2014, a new global campaign was conducted among 235 suppliers. It included the reassessment of around sixty suppliers identified in previous years as needing improvement;

- in 2014, a new on-site audit initiative was launched. Five suppliers, considered to be at risk during reassessments made 18 months after the first evaluation, were audited at sites in Italy, Argentina and China. These on-site audits were conducted according to an international benchmark by an independent auditor specializing in the field of responsible procurement, in the presence of procurement representatives from Air Liquide and Group HS <sup>(a)</sup> E managers. Action plans were implemented at three suppliers and two suppliers were disqualified;
- for the first time in 2014, **Air Liquide published a new Key Indicator for responsible procurement**. This is the

(a) Health, Safety & Environment.



percentage of Air Liquide's critical suppliers who have had a CSR evaluation by an external provider, specializing in responsible procurement. At the end of 2014, this indicator stood at 31%;

- since 2013, a **Code of Conduct** has been routinely sent to all Group suppliers. This code, which can be found on Air Liquide's website, applies to the Group's existing and new suppliers. Air Liquide expects each of its suppliers to respect the Group's ethical principles and ensure that all their employees and subcontractors comply with this Code of Conduct.

The Code of Conduct for Air Liquide suppliers is based on the following fundamental principles:

- compliance with international laws and regulations, respect for human rights, social rights, and labor rights in accordance with the International Labor Office, control of certain raw materials, <sup>(a)</sup> and compliance with all legislation applicable to environmental protection,
- ban on child labor and forced labor,
- health and safety at work,
- non-discrimination and prevention of harassment, regardless of origin, gender, beliefs or disability, in accordance with the Universal Declaration of Human Rights and its ethical principles,
- respect for the environment and preservation of natural resources, with a constant focus on continually improving their products and services to make them more environmentally friendly,
- prevention of conflicts of interest,

- prevention of corruption,
- access to information and checks that the rules set forth in the Code of Conduct are applied for tenders and qualification or performance evaluation procedures for each supplier in any format, such as a questionnaire or an audit by Air Liquide or a third party.

Other tools and initiatives are deployed in the context of the Group's responsible procurement policy. For example, social, environmental and ethical **risks** relating to procurement have been **mapped** and monitored since 2010 so that they can be assessed and their development checked over time. In 2014, a major meeting with the Group's main suppliers in Europe was organized by Air Liquide's Procurement Department to discuss issues and exchange information. One of the themes addressed during the day was awareness of corporate social responsibility.

**Training** sessions on supplier evaluation have been held for Group buyers on a regular basis for many years. In addition, a specific training module on responsible procurement will be rolled out in 2015, and is aimed at everyone in the Group that is involved in procurement.

In 2014, sub-contracting for the Air Liquide Group came to a total of 1.47 billion euros. Sub-contracted activities are mainly those which are too far-removed from the Group's activities or that require specific resources or that are linked to a concentrated workload at particular times. The total amount of Group procurement in 2014 was 9 billion euros, a significant part of which was related to energy, natural gas and naphtha procurement.

Since 2008, Air Liquide has published the number of lost-time accidents of its subcontractors and temporary workers. In 2014, there were 92 lost-time accidents of this type, including one fatality recorded.

### 3.5. Relations with public authorities

Air Liquide has formalized a "Public Affairs" policy governing the Group's interactions with public authorities throughout the world. It deals with reducing risks related to regulatory changes, developing market opportunities and more generally bringing the Group into the public debate.

This policy specifies that Air Liquide works with the public authorities of each country in which it does business, in a transparent manner, following ethical rules and applying political neutrality. All the Group's actions respect the official lobbying regulations in force in the countries in which it is present. Air Liquide is thus registered in the "transparency register" of European institutions and has committed to following the rules enacted by this register's Code of Conduct.

Managers specialized in public affairs have been appointed in the principal countries, comprising a network of around 20 people worldwide, coordinated at Group level by the European and International Affairs Division.

The tasks of these managers are to follow public initiatives that may have an impact on the Group and to interact with the public authorities to defend or promote Air Liquide's interests. These interactions can take place either directly or through the professional associations of which Air Liquide is a member. The Group is active in several federations and associations, such as Afep [French private companies association,] the French *Cercle de l'Industrie* [industry circle,] and the European Roundtable of Industrialists, currently chaired by Air Liquide's Chairman & CEO, Benoît Potier. The Group also calls on outside consultants in this area.

(a) In particular, the supplier must carefully and as far as possible identify the source and track the chain of command for various minerals like tantalum, tin, tungsten and gold involved in the manufacture of products supplied to Air Liquide.

## Environmental, Social and Governance (ESG) Report

Public affairs cover all the Group's activities. The priorities in this area remain unchanged from 2013, and form part of a long-term process:

- the competitiveness of companies at worldwide level;
- energy transition and the environment with the boom in alternative energies (hydrogen energy, biogases, photovoltaic, wind turbines, etc.), and energy efficiency;
- the carbon market with changes in European regulations and the development of regional markets in North America and Asia-Pacific;

- the defence of Air Liquide's shareholding model;
- at European level, the space question notably concerning current discussions on the future European space launcher;
- the defence of intellectual property and the launch of the European patent.

At Corporate level, the Group dedicated a budget of approximately 3 million euros for 2014 to perform these missions successfully.

In relation to fiscal matters, Air Liquide is particularly attentive to paying the taxes in the countries where the Group is present and to the desire for good relations with the different local tax authorities.

### 3.6. Industrial management system and certifications

A decade ago, the Group introduced an Industrial Management System (IMS) specific to its businesses. It is designed to strengthen the process for managing safety, reliability, environmental protection and industrial risk management. **It has now been introduced throughout the Group.** An indicator makes it possible to track the percentage of revenue covered by the Group's IMS internal audits over the last five years. **Between 2010 and 2014, 101 units were audited, representing 93% of the Group's activities** in terms of revenue. In five years, almost the entire Group was audited on the implementation of its Industrial Management System (IMS).

The Group considers the IMS that was specifically created to be one of the best adapted to its businesses. Alongside this approach and to meet the requests of certain customers, the Group entities carry out other initiatives such as ISO certifications.

The **ISO9001** quality certifications cover about **70%** of the Group's revenue. Likewise, the **ISO14001** certifications, an international

benchmark in environmental management, **cover 27% of the Group's revenue.**

For several years, in certain regions the Group has undertaken to obtain the occupational health and safety certification "**OHSAS18001**", which now covers **16%** of the Group's revenue.

**Environmental incidents**, such as **accidents relating to personal safety**, are reported by Air Liquide subsidiaries worldwide. They are analyzed in depth depending on their nature so that prevention measures can be strengthened.

The worldwide "**Responsible Care**" Charter is an initiative of the International Council of Chemical Associations. It formalizes the commitment of the signatories to strengthen the global performance of the chemical industry in health, safety and environmental protection. Air Liquide signed it in 2010 at Group level, confirming many principles that the Company already very largely follows.

#### Industrial management system and certifications

	Scope	2010	2011	2012	2013	2014
Estimate of the revenue of Group entities covered by an ISO9001 quality certification	World	71%	76%	76%	72%	70%
Estimate of revenue of Group entities covered by an ISO14001 environmental certification	World	25%	27%	29%	27%	27%
Estimate of revenue of Group entities covered by an OHSAS18001 occupational Health and Safety management system	World	12%	15%	18%	15%	16%

## ➤ REPORTING METHODOLOGY

### Protocol and definitions

In the absence of a relevant and recognized protocol for industrial gas operations, Air Liquide has created its own protocol to define its reporting methods for human resources, safety and environmental indicators. This protocol includes all the definitions, measurement procedures and collection methods for this information. In line with the Group's commitment to continuous improvement, Air Liquide is progressively completing the work of adjusting to its sustainable development indicators protocol to reflect changes in the Group.

This protocol is based on the general principles defined by the Group with regard to scope, responsibilities, controls and limits, and establishes definitions, the departmental responsibilities, tools and data-tracing methods for each indicator. This document is regularly updated. Moreover, this protocol takes into account all the Group's formalized procedures in the framework of the IMS (Industrial Management System).

### Scope and consolidation methods

Human resources and environmental indicators are consolidated worldwide for all companies globally and proportionally integrated within the financial consolidation scope pro rata according to the integration percentage.

Safety indicators are consolidated worldwide for all companies in which Air Liquide has operational control or is responsible for safety management.

Apart from these general rules, there are certain specific ones:

- information on the impact of transportation (kilometers traveled by delivery trucks, CO<sub>2</sub> emitted) is calculated on the basis of data collected in the main countries where the Group is established around the world;
- information on kilometers saved and CO<sub>2</sub> emissions avoided through on-site air gas production units and efficiency measures pertains to fully consolidated subsidiaries;

- environmental and energy indicators for the main types of production units operated by the Group cover about 99% of the Group's revenue in Gas & Services, and 98% of the Group's total revenue;
- for environmental and energy indicators, production units are included in the reporting system from the effective date of their industrial commissioning;
- electricity consumption, and the indirect CO<sub>2</sub> emissions related to it, are only taken into account when Air Liquide pays for this electricity. Energy consumption of on-site units, as well as water consumption specific to the sale of treated water (which is not part of the Group's core business) are excluded from the consolidation scope of the data. When the Group has cogeneration units in a country where ASUs are available, the indirect emissions from the electricity of these units is not taken into account;
- the segmentation between advanced economies and developing economies for direct and indirect greenhouse gas emissions is established by the Finance Division.

### Reporting and responsibilities

The human resources, safety and environmental indicators are produced by several data-collection systems in the Group, each under the responsibility of a specific department:

- human resources indicators included in the Group's general accounting consolidation tool are under the responsibility of the Human Resources Department;

- the energy consumption and CO<sub>2</sub> emissions indicators for the main air separation units, and cogeneration, hydrogen and carbon monoxide units are tracked by the Large Industries business line using a dedicated Intranet tool;

## Reporting methodology

- as a complement, the collection of environmental and safety data is carried out by the Safety and Industrial Management System Department using a dedicated Intranet tool, and includes accident reporting:
  - for all units, the data of the Group's accident reporting,
  - for the units of the Large Industries business line, other environmental indicators (atmospheric emissions, water consumption, discharge to water, etc.),
  - for the smaller units (acetylene, nitrous oxide, carbon dioxide units and Hygiene and Specialty Ingredients business), the Welding business units and the Engineering & Construction business units, the Research & Development sites and the Technical Centers, and all indicators (energy use, atmospheric emissions, water consumption, discharge to water, etc.);
- indicators on Industrial Merchant transportation are the responsibility of this business line;
- indicators on the transportation of Medical Gases and Home Healthcare are the responsibility of the Healthcare business line;
- the estimate of the percentage of the Group's revenue with respect to the implementation of the Industrial Management System (IMS), ISO9001, ISO14001 and OHSAS18001 are indicators under the responsibility of the Safety and Industrial System Department;
- among the subjects covered by the French "Grenelle 2" law, soil pollution and the consideration of noise pollution are not relevant for the industrial gases business given the size of the Group's sites and the noise levels generated. They are therefore not mentioned in this report.

## Controls

Each department in charge of collecting data is responsible for the indicators provided. Control occurs at the time of consolidation (review of changes, inter-entity comparisons).

Safety and energy indicators are tracked monthly. In addition, audits of environmental data are carried out by the Safety and

Industrial System Department on a sample of sites representative of the various types of units monitored. Where the data reported are inconsistent or missing, an estimated value may be used by default.

## Methodological limits

The methodologies used for certain human resources, safety and environmental indicators can have certain limits:

- the absence of nationally or internationally recognized definitions, in particular for indicators on managers and professionals and social performance indicators;
- the representativeness of the measurements taken and required estimates. This is particularly the case for indicators regarding CO<sub>2</sub> emissions avoided, water consumption, kilometers avoided per on-site unit and training.

## ➤ INDEPENDENT VERIFIER'S REPORT

### Independent verifier's report on the consolidated social, environmental and societal information presented in the management report

To the Shareholders,

In our quality as independent verifier of L' Air Liquide of which the admissibility of the application for accreditation has been accepted by the COFRAC, under the number n° 3-1050 <sup>(a)</sup>, we present our report on the consolidated social, environmental and societal information established for the year ended December 31, 2014, presented in the chapter "2014 Corporate Social Responsibility and Sustainable Development Report" of the management report, hereafter referred to as the "CSR Information," pursuant to the provisions of article L. 225-102-1 of the French Commercial Code (Code de commerce).

#### RESPONSIBILITY OF THE COMPANY

It is the responsibility of the Board of Directors to establish a management report including CSR Information referred to in article R. 225-105-1 of the French Commercial Code (Code de commerce), in accordance with the protocols used by the company (hereafter referred to as the "Criteria"), and of which a summary is included in the chapter "Reporting methodology" of the management report and available on request.

#### INDEPENDENCE AND QUALITY CONTROL

Our independence is defined by regulatory requirements, the Code of Ethics of our profession as well as the provisions of article L. 822-11 of the French Commercial Code (Code de commerce). In addition, we have implemented a quality control system, including documented policies and procedures to ensure compliance with ethical standards, professional standards and applicable laws and regulations.

#### RESPONSIBILITY OF INDEPENDENT VERIFIER

It is our role, based on our work:

- to attest whether the required CSR Information is present in the management report or, in the case of its omission, that an appropriate explanation has been provided, in accordance with the third paragraph of article R. 225-105 of the French Commercial Code (Code de commerce) (Attestation of presence of CSR Information);
- to express a limited assurance conclusion, that the CSR Information, overall, is fairly presented, in all material aspects, in accordance with the Criteria (Limited assurance on CSR Information).

Our verification work was undertaken by a team of ten people between November 2014 and March 2015 for an estimated duration of fifteen weeks.

We conducted the work described below in accordance with professional standards applicable in France and the Order of May 13, 2013 determining the conditions under which an independent third-party verifier conducts its mission, and in relation to the opinion of fairness, in accordance with the international standard ISAE 3000 <sup>(b)</sup>.

(a) Scope available at [www.cofrac.fr](http://www.cofrac.fr).

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

## 1. Attestation of presence of CSR Information

We obtained an understanding of the company's CSR issues, based on interviews with the management of relevant departments, a presentation of the company's strategy on sustainable development based on the social and environmental consequences linked to the activities of the company and its societal commitments, as well as, where appropriate, resulting actions or programs.

We have compared the CSR Information presented in the management report with the list as provided for in article R. 225-105-1 of the French Commercial Code (Code de commerce).

In the absence of certain consolidated information, we have verified that the explanations were provided in accordance with the provisions of article R. 225-105-1, paragraph 3, of the French Commercial Code (Code de commerce).

We verified that the CSR Information covers the consolidated perimeter, namely the entity and its subsidiaries, as aligned with the meaning of article L. 233-1 of the French Commercial Code (Code de commerce) and the entities which it controls, as aligned with the meaning of article L. 233-3 of the same Code, with the limitations specified in the Methodological Note in the section "Reporting methodology" of the chapter "2014 Corporate Social Responsibility and Sustainable Development Report".

Based on this work, and given the limitations mentioned above, we confirm the presence in the management report of the required CSR information.

## 2. Limited assurance on CSR Information

### NATURE AND SCOPE OF THE WORK

We undertook about twenty interviews with people responsible for the preparation of the CSR Information in the business lines of Large Industries, Industrial Merchant and Healthcare, and the department of Sustainable Development, Purchasing, Communication, Safety and Industrial System and Human Resources in charge of the data collection process and, if applicable, the people responsible for internal control processes and risk management, in order to:

- assess the suitability of the Criteria for reporting, in relation to their relevance, completeness, reliability, neutrality, and understandability, taking into consideration, if relevant, industry standards;
- verify the implementation of the process for the collection, compilation, processing and control for completeness and consistency of the CSR Information and identify the procedures for internal control and risk management related to the preparation of the CSR Information.

We determined the nature and extent of our tests and inspections based on the nature and importance of the CSR Information, in relation to the characteristics of the Company, its social and environmental issues, its strategy in relation to sustainable development and industry best practices.

For the CSR Information which we deemed to be the most important <sup>(a)</sup>:

- At the level of the consolidating entity and business lines, we consulted documentary sources and conducted interviews to corroborate the qualitative information (organization, policies, actions, etc.), we implemented analytical procedures on the quantitative information and verified, on a test basis, the calculations and the compilation of the information, and also verified their coherence and consistency with the other information presented in the management report.

#### (a) **Environmental and societal information:**

*Indicators: Annual electricity (GWh) and thermal energy consumptions (TJPCI), evolution of energy consumption per m<sup>3</sup> of air gas produced and per m<sup>3</sup> of hydrogen produced (base 100 in 2007), evolution of the distance traveled per ton of industrial gas delivered (oxygen, nitrogen, carbon monoxide, base 100 in 2007), direct & indirect greenhouse gas (GHG) emissions (scopes 1 & 2, in MtCO<sub>2</sub>e), annual water consumption (Mm<sup>3</sup>).*

*Qualitative information: General environmental policy (management of the industrial system and certification), sustainable use of resources (energy consumption, measures undertaken to improve energy efficiency), climate change, water supply considering local constraints, economic and social territorial impacts (employment, regional development, impact on regional and local populations especially regarding home care activities), relation with stakeholders (particularly patient and customer's satisfaction as well as activities related to life and environment), responsible purchasing policy and measures undertaken in favour of consumers' health and safety.*

#### **Social information:**

*Indicators: Headcount (Nb), recruitments and departures (% headcount), rate of women within the managers and professionals population (present and hired %), rate of employees having attended at least a training session during the year (%) and number of days of training per employee per year, rate of performance appraisals performed by managers during the year (%), frequency rate of the group staff.*

*Qualitative information: Absenteeism, health and safety at the work place, training policies, diversity and equality of treatment and opportunities.*



- At the level of the representative selection of entities and sites that we selected <sup>(a)</sup>, based on their activity, their contribution to the consolidated indicators, their location and a risk analysis, we undertook interviews to verify the correct application of the procedures and undertook detailed tests on the basis of samples, consisting in verifying the calculations made and linking them with supporting documentation. The sample selected therefore represented on average 15% of the energy consumption, and 20% of Group Employees.

For the other consolidated CSR information, we assessed their consistency in relation to our knowledge of the company.

Finally, we assessed the relevance of the explanations provided, if appropriate, in the partial or total absence of certain information.

We consider that the sample methods and sizes of the samples that we considered by exercising our professional judgment allow us to express a limited assurance conclusion; an assurance of a higher level would have required more extensive verification work. Due to the necessary use of sampling techniques and other limitations inherent in the functioning of any information and internal control system, the risk of non-detection of a significant anomaly in the CSR Information cannot be entirely eliminated.

## CONCLUSION

Based on our work, we have not identified any significant misstatement that causes us to believe that the CSR Information, taken together, has not been fairly presented, in compliance with the Criteria.

## OBSERVATIONS

Without qualifying our conclusion above, we draw your attention to the following point:

- the definitions of the quantitative training indicators and especially "number of hours of training per employee per year" are open to interpretation and lead to a heterogeneous application by the different subsidiaries.

Paris-La Défense, March 6, 2015

The independent verifier  
French original signed by

ERNST & YOUNG et Associés

Eric Duvaud  
Associé développement durable

Bruno Perrin  
Associé

(a) Environmental indicators: On -site audits of air gases network of Mississippi River USA (Geismar, Plaquemine -LA, Evergreen and Norco units), units of air production of Cangzhou, of hydrogen units of La Porte (USA), Port Jérôme (France) and Campana (Argentina), of cogeneration units of Geismar (USA) and the Industrial Merchant sites of Geismar and La Porte (USA). Two follow up audits of Tianjin Binhai (China) and Santa Cruz (Brazil),

Safety & Social indicators: Air Liquide Industrial USA, Large Industrial US (safety indicators only), Air Liquide Ptyo (South Africa), Soxal (Singapore), Air Liquide Russia, VitalAire France and Air Liquide Engineering France (social indicators only) and Orkyn (France) and one follow up audit of Air Liquide China (social indicators only).

## > APPENDIX

### Link between Air Liquide's Sustainable Development indicators and the indicators of the Global Reporting Initiative (GRI) <sup>(a)</sup>

Air Liquide indicators	GRI indicators
<b>Human Resources</b>	
Group employees	LA1
Distribution of employees by geographic zone	LA1
Turnover of employees (leaving the Group)	LA2
Retention rate of Managers and Professionals	LA2
% of women in the Group	LA13
% of women among Managers and Professionals	LA13
Average number of days of training per employee and per year	LA10
% of employees who have had a performance review meeting with their direct supervisor during the year	LA12
Diversity indicator (number of nationalities)	LA13
% of employees with benefits coverage through the Group	LA3
<b>Safety</b>	
Number of lost-time accidents of Group employees	LA7
Accident frequency of Group employees	LA7
Number of lost-time accidents of subcontractors and temporary workers	LA7
<b>Energy and environment</b>	
Total annual electricity consumption	EN3/EN4
Total annual thermal energy consumption	EN3/EN4
Evolution of energy consumption per m <sup>3</sup> of air gas produced (ASU)	EN6
Evolution of energy consumption per m <sup>3</sup> of hydrogen produced (HyCO)	EN6
Evolution of the distance traveled per ton of gas delivered	EN6
Total annual water consumption	EN8
Total direct greenhouse gas emissions	EN16
Total indirect greenhouse gas emissions	EN16
Total direct and indirect greenhouse gas emissions	EN16
Consumption of materials (calcium carbide, ammonium nitrate, raw materials for the Welding business)	EN1
Emissions into the atmosphere (NOx)	EN20
Emissions into the atmosphere (SOx)	EN20
Estimate of emissions into the atmosphere (VOC)	EN20
Discharge to water (oxidizable matter, suspended solids)	EN21
Total mass of waste by type and waste treatment	EN22
<b>Transportation</b>	
Estimate of CO <sub>2</sub> emissions by transportation	EN29
Estimate of CO <sub>2</sub> emissions avoided through on-site units	EN29
<b>Social</b>	
% of employees belonging to a unit with a local Code of Conduct	SO3
<b>Responsibility</b>	
% of the Group sales concerning the units where a customer or patient satisfaction survey has been conducted	PR5

(a) Global Reporting Initiative (GRI) – an independent body that designs and promotes guidelines aimed at improving the quality, stringency and usefulness of reporting on economic, environmental and social performance.





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