2009 Sustainable Development Report

Introduction

Sustainable development seeks to bring together, in one approach, requirements that were long considered incompatible: long-term wealth creation, respect for human beings and environmental protection. These themes are the three pillars of sustainable development.

Since its creation, Air Liquide has had a long-term approach to its activities. One business, one name, steady growth, regular dividends, long-lasting relations with its major customers and the loyalty of employees and individual shareholders demonstrate this commitment.

Air Liquide has therefore developed a sustainable development model that is specific to the Company, with four dimensions that were formalized in 2003 through a commitment signed by Benoît Potier, Chairman and CEO of the Group:

- **creating value for shareholders** by developing the Company's activity and performance over the long term and communicating this performance in a transparent manner;
- **developing the potential of the Company's men and women** in their commitment to common objectives, this theme focusing first on the **safety** of people and property;
- **preserving life and the environment** in the Group's operations and at its customers' sites. This dimension also covers safety issues related to people and assets that are at the heart of Air Liquide's policy;
- **innovating** for tomorrow to guarantee the growth of the Company and its customers.

In 2009, the Group created a Social and Environmental Responsibility Policy in line with its Sustainable Development approach.

This policy defines the commitment made by the Group with respect to safety, 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 puts into practice a Sustainable Development approach that is coherent at every level of the Company and defines the focus for all the subsidiaries and departments.

Air Liquide has gradually established a structured Sustainable Development approach that now has over **170 indicators**, presented in the pages that follow, to measure the Group's performance in the four dimensions that define this approach. These sustainable development indicators are collected worldwide and are published each year with the financial indicators in the Reference Document.

In addition, the Group has defined eight objectives concerning the key indicators that are vital for sustainable development. These objectives notably concern long-term shareholder remuneration, the place of women in the Company, training, safety, energy performance of production units and the filing of international patents.

Most of these objectives cover the years 2005 to 2009. They are therefore coming to an end in this Sustainable Development Report. Air Liquide has already initiated a reflection to define new enriched objectives for the coming years. They will be presented in the next Sustainable Development Report.

Like the financial data, the extrafinancial or sustainable development data have been reviewed each year since 2003 by the Statutory Auditors.

In 2009, the Group wished to raise the level of assurance of this reporting. The sustainable development reporting now benefits from a superior level of assurance called "limited assurance" for a selection of indicators, marked by the symbol "*" on the following pages.

This review is not an obligation. It reflects Air Liquide's commitment to give more value to all these indicators provided to its stakeholders and, in particular, individual shareholders, investors, customers and employees.

Reporting methodology

PROTOCOL AND DEFINITIONS

In the absence of a relevant and recognized benchmark for industrial gas activities, Air Liquide has created a 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 gradually making adjustments 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, 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 truck, CO_2 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_2 emissions avoided through on-site air gas production units concerns the subsidiaries globally integrated within the financial consolidation scope;
- 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 and Services, and 98% of the Group's total revenue;
- production units, concerning Environmental and Energy indicators, are included in the reporting system as of their industrial service start-up;
- electricity consumption, and the indirect CO_2 emissions related to it, is 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 data consolidation scope.

REPORTING AND RESPONSIBILITIES

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 dual responsibility of the Finance Department and the Human Resources Department;
- the energy consumption and carbon dioxide emissions indicators from the main air separation units, cogeneration, hydrogen and carbon monoxide units are tracked by the Large Industries business line using a dedicated intranet tool;
- as a complement, the collection of environmental and safety data is carried out by the Safety and Industrial System Department using a dedicated intranet tool, and includes accident reporting:
  - for all entities the data of the Group's accident reporting,
  - for the units mentioned above, 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 chemical products units), the welding units and the Engineering and Construction units, the Research and Development centers and the technical centers all indicators (energy use, atmospheric emissions, water consumption, discharge to water, etc.);
- indicators on kilometers traveled are the responsibility of the Industrial Merchant business line;
- the estimate of the percentage of the Group's revenue where the Industrial Management System (IMS), the ISO standards 9001 and 14001 and the OHSAS 18001 are being rolled out are indicators under the responsibility of the Safety and Industrial System Department;
- finally, indicators for the "carbon content" of the Group's main products are established by the Energy Services Group Department from Energy and Transportation indicators.

CONTROLS

Each department in charge of collecting data is responsible for the indicators provided. Control occurs at the time of consolidation (review of changes, intersite 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 is incoherent 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 engineers and managers and social performance indicators;
- how representative the measurements taken and necessary estimates are, in particular, concerning indicators on carbon dioxide emissions avoided, water consumption, kilometers avoided per on-site units and training.

Statutory auditors' limited assurance report
on a selection of Human Resources, Safety and Environment indicators

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

Further to L'Air Liquide's request and in our capacity as statutory auditors of L'Air Liquide, we have performed a review in order to express the limited assurance that the Human Resources, Safety and Environment indicators for the financial year 2009 published and identified by the "*" symbol (the "Indicators") in the 2009 Sustainable Development Report included on pages 41 to 73 of the 2009 Reference Document (the "Sustainable Development Report") have been prepared in accordance with the Group's sustainable development reporting procedures applicable in 2009 (the "Reporting Criteria").

Air Liquide's management was responsible for preparing the Indicators as shown in the "reporting and responsibilities" section on page 44 of the Sustainable Development Report. The Reporting Criteria, a summary of which is included in the "reporting methodology" section on pages 43 and 44 of the Sustainable Development Report, comprises procedures and methodological sheets defined by the Group. It is Air Liquide's Sustainable Development Department's responsibility to establish the Reporting Criteria and to ensure its accessibility.

It is our responsibility to express a conclusion on these Indicators on the basis of our review. Our review was conducted in accordance with the ISAE 3000 international standard of IFAC [(a)]. Our independence is defined by legal and regulatory texts as well as our professional code of ethics. A higher level of assurance would have required more extensive work.

Nature and scope of our review

We conducted the following review to be able to express our conclusion:

- We have assessed the Reporting Criteria with respect to its accuracy, its completeness, its neutrality, its understandability and its relevance.
- At the Group level, we have conducted the following tasks:
  - within the appropriate Departments (Sustainable Development Department, Human Resources Department, Safety and Industrial System Department, Large Industries business line), we have interviewed the persons in charge of collecting the data upon which the Indicators are calculated;
  - we have assessed the application of the Reporting Criteria, implemented analytical procedures and, on a sampling basis, we have verified the calculation and consolidation of the Indicators.
- We have selected a sample of six entities [(b)] for Human Resources Indicators, seven entities [(c)] for Safety Indicators and seven units [(d)] for Environment Indicators. This selection was made on the basis of their activity, their contribution to the Indicators, their location, and the results of the review performed during prior financial years. At the level of the selected entities and units, we have verified the understanding and application of the Reporting Criteria and probed the data in order to verify calculations and compare inputs with supporting documents.
- We have reviewed the presentation of the Indicators on pages 49 to 70 of the Sustainable Development Report.

On average, the selected entities and units account for 17% of the consolidated value of Environment Indicators [(e)], 10% of the consolidated value of Human Resources Indicators [(f)], and 13% of the consolidated worked hours upon which Safety Indicators are calculated.

To conduct the aforementioned scope of work, we called on members of our teams specialized in sustainable development. Taking into account the review performed during the previous seven financial years in various activities and countries, we consider that our work provides a sufficient basis for the conclusion expressed below.

(a) ISAE 3000: «Assurance Engagement other than reviews of historical data», International Federation of Accountants, International Audit and Assurance Board, December 2003.

(b) AL Morocco, AL UK Ltd, Gaz Industriels Service (France), SOAEO (the Far East), Vitalaire GmbH and AL Austria.

(c) AL Brazil, AL Portugal, Large Industries Europe, SOXAL (Singapore), Gaz Industriels Service (France), AL UK Ltd and Vitalaire GmbH.

(d) The air gases pipelines of the Northern region of Large Industries Europe (France, Belgium and the Netherlands) and of Singapore, the air separation unit and hydrogen and carbon dioxide unit of Estarreja (Portugal), the hydrogen production unit of Paulinia (Brazil) the cogeneration unit of Pergen (the Netherlands) and the air separation unit of Geismar (United States).

(e) On average 13% of the produced air volumes from the air separation units, 19% of the produced volumes from HyCO units, 14% of water consumption, 12% of electricity consumption, 23% of thermal energy consumption, 2 % of direct CO_2 emissions.

(f) On average 12% of headcount, 3% of women hired during the year among engineers and managers, 15% of training time, 10% of employees who had an annual performance review with their supervisor.

Information about the Reporting Criteria

The Reporting Criteria calls for the following remarks from our part:

- The Group presents the main methodologies used for data reporting in the methodological note shown on pages 43 and 44 of the Sustainable Development Report, as well as in the comments and footnotes associated with the Indicators published in tables within the Sustainable Development Report.
- The different reporting perimeters for the Indicators related to Human Resources, Safety and the Environment are detailed in the "scope and consolidation methods" part on page 43 of the Sustainable Development Report.
- Compared with the review of the previous financial year, we have noticed the following improvements as part of the continuous effort of the Group to strengthen the reliability of its reporting:
  - For Environment Indicators, further internal controls were implemented, in particular by the Large Industries business line with respect to the evolution of energy consumption per volume of air gas produced;
  - For Safety Indicators, in order to improve the reliability of reported "worked hours" at the Group level, which are key for the calculation of Safety Indicators, the Safety and Industrial System Department has initiated a detailed comparison of the reporting perimeters for Human Resources Indicators on one hand and Safety Indicators on the other hand this financial year; these works could be formalized more properly;
  - For Human Resources Indicators, the Reporting Criteria was amended in a way to clarify some definitions and provide them with examples in order to ensure its better understanding by the persons in charge of the data reporting at the business unit's level.
- We have also identified the following areas for improvement:
  - For Safety Indicators, the Group should clarify the definition of "worked hours" data so as to ensure a common understanding throughout all business units included within the reporting perimeter, in particular regarding the accounting of overtime;
  - For Human Resources Indicators, the controls undertaken by business units which consolidate multiple subsidiaries could be strengthened, in particular with respect to data related to training and annual performance reviews.

Conclusion

Based on our review, nothing has come to our attention that causes us to believe that the Indicators were not established, in all material aspects, in accordance with the Reporting Criteria.

Courbevoie and Paris-La Défense, March 10, 2010

The statutory auditors

MAZARS	ERNST & YOUNG Audit
Frédéric Allilaire	Olivier Breillot

Creating value for shareholders

The Group wished to include the relationship with its shareholders in its Sustainable Development approach. Air Liquide and its shareholders have had a relationship of confidence for over a century and the Group puts its shareholders at the heart of its strategy with a single objective: enhancing shareholder value through sustained and regular growth of profits and dividends. Shareholder loyalty has accompanied Air Liquide's strategy over the years.

A long-term relationship

Since its origin in 1902, Air Liquide has grown successfully because of its relationship of confidence with its individual shareholders and institutional investors.

Becoming an Air Liquide shareholder also means backing a responsible actor that helps protecting life and the environment and that demonstrates its commitment to human, social and societal issues.

Air Liquide has formalized its privileged and long-term relationship with its shareholders in the "Shareholders' Charter", which is based on four commitments:

- consideration and respect for all shareholders;
- remuneration and increased value of their investments;
- listening to and informing shareholders;
- a dedicated shareholder service.

EVOLUTION OF % OF REGISTERED CAPITAL AND % OF CAPITAL ELIGIBLE FOR LOYALTY BONUS SINCE 2000

Year	Registered capital	Capital eligible for loyalty bonus
2000	30%	27%
2001	29%	26%
2002	27%	24%
2003	28%	24%
2004	30%	24%
2005	31%	25%
2006	32%	26%
2007	37%	26%
2008	33%	26%
2009	**32%**	**25%**

In 2007, the share of capital owned by institutional investors holding direct registered shares increased notably due to one important institutional investor that sold its shares in 2008. However, the proportion of registered capital owned by individual shareholders increased in 2008 and 2009.

Evolution of share ownership

Air Liquide's share ownership is evenly balanced between individual shareholders and French and non-French institutional investors. The 410,000 individual investors hold **38%** of the capital. This represents nearly four times more than the average of other CAC 40 groups.

French and non-French institutional investors represent respectively 26% and 36% of the capital.

At the end of 2009, the share of capital held by employees and former employees of the Group is estimated at 2%, of which 1.4% (in the meaning of article L.225-102 of the French Commercial Code) correspond to shares subscribed by employees during employee reserved capital increase operations or held through mutual funds.

In %	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Individual investors	45	42	40	40	39	38	38	37	38	38
French institutional investors	24	20	21	23	24	25	24	30	26	26
Foreign institutional investors	29	35	37	35	36	36	37	32	35	36
Treasury shares	2	3	2	2	1	1	1	1	1	>0

Air Liquide, a long-term investment

Since it was first listed on the French Stock Exchange in 1913, Air Liquide has always shown a profit.

A policy of sustained distribution and regular allocation of free shares has permitted the shareholder to see his or her initial investment increase.

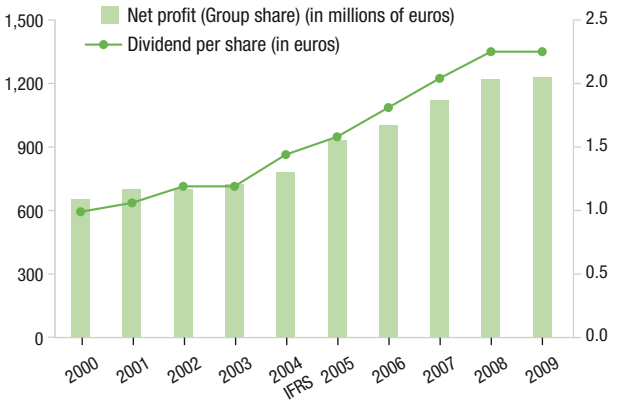
Air Liquide creates value by developing its activities and optimizing its performance over the long run. Over the last 30 years, Air Liquide's revenue has shown an average annual growth of +7.6%. This growth has been profitable: the Group's earnings have followed a similar trend, with an annual average growth of the net profit per share of +8.5%.

During the last 10 years, nearly 50% of earnings have been distributed to shareholders. Over the same period, the dividend has had an average annual growth of +11.2%.

	2000	2001	2002	2003	2004 IFRS	2005	2006	2007	2008	2009
Net profit (Group share) *(in millions of euros)*	652	702	703	726	780	933	1,002	1,123	1,220	1,230
Net profit per share *(in euros)* [(a)]	2.39	2.61	2.64	2.75	2.97	3.56	3.79	4.26	4.70	4.70
Dividend per share *(in euros)* [(a)]	0.99	1.06	1.19	1.19	1.44	1.58	1.81	2.04	2.25	2.25

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

NET PROFIT AND DIVIDEND



OBJECTIVE

In the last 10 years, the growth in value of a portfolio of Air Liquide shares has been +8.7% a year on average, including gross dividends reinvested in shares, bonus shares and loyalty bonuses granted to registered shareholders. The Group's objective is to maintain this comprehensive remuneration policy for shareholders to ensure regular long-term value enhancement in a transparent manner.

More information on Air Liquide and its shareholders is available in the Shareholder's Guide or in the Shareholders section at www.airliquide.com

A social enterprise and corporate citizen

42,300 men and women in 75 countries compose 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 a social and human commitment, notably through the Air Liquide Foundation. The Social and Environmental Responsibility Policy codified in 2009 has strengthened this approach.

A SOCIAL ENTERPRISE

Diversity

Diversity is one of the pillars of Air Liquide's Human Resources policy. The Group is strongly committed to fighting all forms of discrimination (nationality, gender, age, experience, ethnic origin, training). The diversity of its employees makes it possible to better listen to and understand different viewpoints, update thought processes and broaden recruitment visions in order to attract the best talents. Air Liquide operates on diverse and complex markets. Diversity helps anticipate and adapt to this complexity. The fact that 25 different nationalities are represented among the Group's senior managers is a considerable asset from this viewpoint.

In 2009, L'Air Liquide S.A. illustrated its commitment to diversity by signing the Charte de la Diversité (Diversity Charter) in France, available on the Company's website.

Air Liquide's objectives are to continue to increase diversity among its employees and to seek a better, more equitable division of responsibilities between men and women while placing more emphasis on the many cultures Air Liquide is composed of. For example, between 2003 and 2009, the percentage of women who were hired for managerial and engineering positions rose from 14% to 24%.

Air Liquide's general ambition is to have employees who are representative of the environment in which they work.

Training

Air Liquide is committed to training its employees on a regular basis. Training is an integral part of the Company's growth. It allows employees to work efficiently and safely while improving productivity and employability. In 2009, 71% of the Group's personnel had at least one training session during the year. The average number of training days per employee and per year reached 2.4 in 2009.

The Group has invested in better professional qualifications and training programs for young people to ease their integration into the business world. As a result, 195 young people have benefited from work-study contracts in France and abroad, combining theoretical learning in their university or school and a practical internship at Air Liquide.

In 2009, Air Liquide founded its corporate University. Based on a decentralized model – and therefore accessible to all employees – and equipped with modern, pedagogical techniques, it has a dual objective:

- proposing about 20 specific programs, ranging from integrating new employees to developing leadership capacities, as well as "business" training programs given by the different business lines;
- formalizing and rolling out the training processes and disseminating good practices that go hand in hand with the Group's training dynamic.

Since its creation, the Air Liquide University has already trained over 1,100 Group employees.

Remuneration

Employee remuneration is based on local market conditions, internal equity and applicable legislation. It is generally made up of a base salary plus complementary compensation elements. In 2009, 50% of employees received an individual variable share in their remuneration.

For some of the employees, this individual variable share includes sustainable development objectives: they focus on subjects such as energy, diversity and safety.

In addition, remuneration can also include benefits such as profit-sharing and medical expenses. In 2009, 97% of the employees benefited from some sort of social coverage through the Group.

The handicapped

For Air Liquide, diversity and equal opportunity also mean better insertion of handicapped employees into its teams, and through subcontracting to specialist companies or associations. In 2009, handicapped employees represented 1.2% of the Group's personnel.

The three agreements the Company signed with social partners in France are in line with this spirit. These agreements are about to be extended over a new three-year period.

Other actions have been implemented and are currently underway, in particular, offering internships or on-the-job training programs for handicapped people, maintaining employment of handicapped workers at Air Liquide and increasing cooperation with aid-through-work centers. This approach is coordinated in France by the *Mission Handicap Air Liquide*. This program also conducts awareness-raising operations in-house. So, in November 2009, on the occasion of the 13th week for the employment of the handicapped in France, Air Liquide mobilized to fully take part in this event. The aim was to sensitize the employees on this issue and to acquire a better understanding of handicaps in general.

Social dialogue

The European Works Council now has 28 employee representatives from 15 countries [(a)]. 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. The Council meets once a year chaired by a member of the Executive Committee. The main themes discussed during this meeting are: safety, the Group's current activities, the annual financial statements and Air Liquide's strategy.

Today, 82% of Air Liquide's employees have access to a representation, dialogue or consultation structure.

Employee awareness-raising on sustainable development

Many initiatives are created at Air Liquide to raise employee awareness on sustainable development issues and encourage them to promote them in their daily activities. "Earth Day", the "One day without my car, one day for my planet" event and the "Better and Cleaner" Olympiads are a few examples.

"EARTH DAY"

On April 22, 2009, Air Liquide celebrated "Earth Day" and created an environmental questionnaire in 10 languages on the intranet.

Most of the Group's units took part in this initiative, organizing awareness-raising meetings on the subject and encouraging environmental actions. Over 2,000 questionnaires were also received, containing recommendations to promote the reduction of each employee's environmental impact on a daily basis. The suggestions most often mentioned were: waste sorting, energy savings, use of non-disposable cups in coffee machines and consumption of organic foods in the company restaurants.

"ONE DAY WITHOUT MY CAR, ONE DAY FOR MY PLANET"

In September 2009, Air Liquide conducted an in-house initiative "One day without my car, one day for my planet". A survey, in which over 3,000 people took part, confirmed that the car remains the most often used means of transportation for professional travels (75% of the answers).

Certain questions on the use of public transportation also made it possible to establish a hierarchy of the advantages and drawbacks of this means of transportation according to employees, and to understand its limited use. Although it is considered less polluting than the car (60% of answers), it is restrictive in terms of time (50% of answers). Since September, subsidiaries have been increasingly promoting carpooling as an alternative means of transportation.

This day helped raise employee awareness on sustainable development in the Group and on the CO_2 emissions generated by the employees' daily activities.

THE "BETTER AND CLEANER" CHALLENGE BETWEEN AIR LIQUIDE'S RESEARCH CENTERS

The "Better and Cleaner" Olympiads on sustainable development were launched in December 29 between all the Air Liquide R&D centers.

The purpose of this challenge is to raise awareness at the research centers on environmental questions by bringing them together around a common project whose goal is to reduce the intensity of the greenhouse gas effect of the Group's future products and services. This competition should make it possible to decrease the carbon footprint of each unit, while finding the best environmental practices developed by researchers worldwide.

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

The evaluation of each center's annual environmental performances will be based on the monitoring of three key indicators for which standards of excellence were defined: paper consumption, water consumption and the frequency of air travel for business.

The best global performance and the greatest improvement compared to 2009 will both be rewarded at the end of 2010.

Three outstanding local initiatives, because of their role in lowering environmental impact, in sustainable development, or of their social benefits, will also be selected, as well as the best specific environmental project, evaluated in terms of sustainable development as well as its economic feasibility.

A RESPONSIBLE COMPANY VIS-À-VIS ITS SUPPLIERS AND SUBCONTRACTORS

Subcontracting

The total amount of subcontracting of the Air Liquide Group was 1,240 million euros in 2009. Subcontracted activities are mainly those that are not core businesses of the Group, that require specific resources and that can be called on to handle production overload.

Responsible purchasing in the Group

The Company is not only responsible from the economic viewpoint. It also has an environmental, social, societal and ethical role. Air Liquide's responsible purchasing approach is in line with this evolution. It is an extension of the Group's Sustainable Development approach.

The Group's responsible purchasing policy makes use of several tools. First, the buyers' code of conduct, which is a code that is integrated into the Group's purchasing policy (one out of the 12 policies of the BLUE BOOK, see below in the paragraph "Social and Environmental Responsability Policy") spells out the ethical principles of sustainable development on which purchasing is based. Translated into 13 languages, it specifies that suppliers must be transparently and fairly evaluated and that they are bound to respect Air Liquide's sustainable development commitments.

In addition, sustainable development clauses are being gradually included in certain Group framework contracts. These clauses allow for the possibility of conducting external audits at the suppliers' and subcontractors' concerned. They also include reporting elements, in particular on safety and energy and water consumption.

In 2008, Air Liquide published for the first time the number of accidents for subcontractors and temporary workers. In 2009, this indicator decreased, going from 154 accidents to 148 compared to the year before.

In 2009, the responsible purchasing policy was strengthened by the distribution of a sustainable development questionnaire, now accessible to all buyers who are required to present it to the new major suppliers. Certain answers are considered eliminatory: for instance, the absence of a commitment on health and safety, of regular inspections of high-risk tools, of respect for local legislation on minimum wage and finally, of the measurement of energy consumption.

In 2010, risk mapping on purchasing will be created to determine specific audits for certain suppliers.

A CORPORATE CITIZEN

Principles of action

In 2006, the Group formalized its Principles of Action in a document that explains its approach to all its key stakeholders (customers, personnel, suppliers, partners and local communities). Available in 16 languages, this document was distributed in 2007 to all the Group's units and can be consulted on the website in French and English: www.airliquide.com

Social and Environmental Responsibility Policy

As a complement to the Principles of Action, the Group's policies were completed and regrouped in 2009 in a global Reference Document called the BLUEBOOK. This Reference Document is accessible to all the Group's employees on the internal information systems that they usually use. These policies are in the form of Capital procedures, codes and reference guides.

In the BLUEBOOK, the Social and Environmental Responsibility Policy defines the commitments taken by the Group in the framework of its activities to promote the respect for and the safety of men and women, the protection of the environment, ethics and participation in the economic and social environment of the regions in which it operates.

This Social and Environmental Responsibility Policy has implemented a coherent Sustainable Development approach on every level of the Company and defines the orientations on this subject for the subsidiaries and departments.

Employee codes of conduct

The Group's subsidiaries are encouraged to implement local codes 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, at the end of 2009, 69% of the Group's employees belonged to subsidiaries that have a code of conduct.

The implementation of these codes of conduct is supported by the Group Guidelines, which are a reference guide to Air Liquide's Social and Environmental Responsibility Policy. These Group Guidelines are based on 10 fundamental principles:

- respect for laws and regulations;
- respect for human beings: safety and hygienic 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: ties with a competitor, customer, 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.

Details on these 10 fundamental principles are available on the Group's website.

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.

In addition, in 2007, a Group Ethics Officer was appointed. He is responsible for providing advice and assistance to the units in applying their codes of conduct. He also handles all the questions submitted by employees on implementing these codes of conduct.

Respect for competition Law

Furthermore, certain departments have drawn up guides and codes detailing their operating principles in their specific field.

Therefore, good practices have been created on competition law, especially in Europe and the United States. The most important rules on competition law are also included in the employee's local codes of conduct. For some of the Group's activities, healthcare in particular, specific codes of conduct have been developed on competition Law as well.

Finally, training seminars and compliance meetings on competition Law are regularly held throughout the Group.

Anti-corruption code of conduct

In 2009, the Group rolled out an anti-corruption code of conduct in all units. This code, which is part of the Social and Environmental Responsability Policy of the BLUE BOOK, 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. The Group is currently developing training seminars on this new code.

Corporate philanthropy

Social and human commitment is an ongoing concern for Air Liquide. The Group has, since its very beginnings, carried out philanthropic actions, especially in the preservation of life and the environment.

The purpose of the Air Liquide Foundation, created in 2008, is to encourage and develop these initiatives. It has a worldwide scope and supports projects in the 75 countries in which the Group operates.

The Foundation has three missions:

- in the environmental field, it supports scientific research on the preservation of our planet's atmosphere;
- in the health and respiration field, it supports scientific research on the human respiratory function;
- in the area of micro-initiatives, the Foundation encourages proximity actions with a local anchoring in the regions of the world where the Group is present and in which its has expertise, for example, in education, training, etc. Each micro-initiative is followed by an Air Liquide employee who is a volunteer sponsor. The Group's employees who would like to get involved can sponsor a project to which they are geographically close and in which they have an interest.

With a budget of nearly 3 million euros over five years, the Air Liquide Foundation provides an intervention framework for philanthropic initiatives that are presented to it and that correspond to its missions. It provides them with financial, material and human resources.

The Foundation's Board of Directors is composed of nine members comprised of five members of the Air Liquide Group, an employee representative and three exterior experts in the Foundation's three areas. The Board is chaired by Benoît Potier, Chairman and CEO of the Air Liquide Group. The Board of Directors is assisted in its functions by a Project Selection Committee that examines the projects submitted about four times a year. The Committee is comprised of seven members including a representative of the Shareholders Communication Committee.

Projects may be submitted, on line, in French or English *via* the Foundation's website, www.fondationairliquide.com.

In 2009, the Air Liquide Foundation supported 22 projects: 2 environmental research projects, 3 medical research projects and 17 micro-initiatives.

Among the environmental research projects, the Foundation backed in particular two projects on studying climate change in the Arctic. The project carried out by the physician and explorer Jean-

Louis Étienne concerns measuring CO_2 and aerosol concentration in the atmosphere. The goal of the "Under the Pole" project is to study the thickness of the ice pack.

Among the medical research projects, the project carried out by the PremUp Foundation in France on chronic respiratory diseases in premature infants focuses on identifying the inflammatory mechanisms that cause these pathologies and on developing new treatments.

In the framework of micro-initiatives, the Air Liquide Foundation is, for instance, supporting the creation of a social protection center in Long Haï, Vietnam, in the Ba Ria-Vung Tau province (southern Vietnam). Launched in partnership with the local public authorities and the associations Pour les *Enfants des Rizières* and *Enfance Avenir Partenariat Vietnam,* the construction of the center will make it possible to house and feed a hundred abandoned children, monitor their health, give them medical care and help them obtain an education.

Apart from these Air Liquide Foundation projects, the Group's units can carry out their own philanthropic actions. So, in 2009, Air Liquide Canada gave nearly 100,000 euros to the Centraide association in greater Montreal, which fights against all types of poverty in Canada. In addition, after the damage caused by the Morakot typhoon in August 2009 in Asia, Air Liquide Taiwan collected over 11,000 euros to help the victims.

STOREBRAND

This Norwegian major investment fund has positioned Air Liquide among the best companies for its environmental and social performances.

ETHIBEL SUSTAINABILITY INDEX

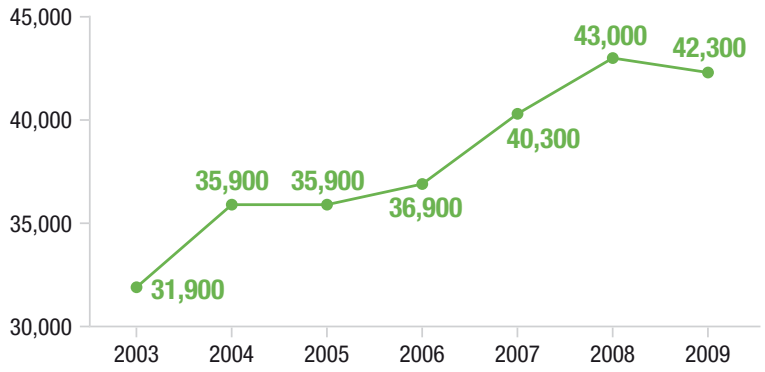
Ethibel, a European extrafinancial rating agency, that is part of the VIGEO group, selected Air Liquide as one of the leaders in sustainable development for the fifth consecutive year, including it in its "Ethibel Excellence" index.

INDICATORS AND OBJECTIVES FOR THE GROUP AS A WHOLE

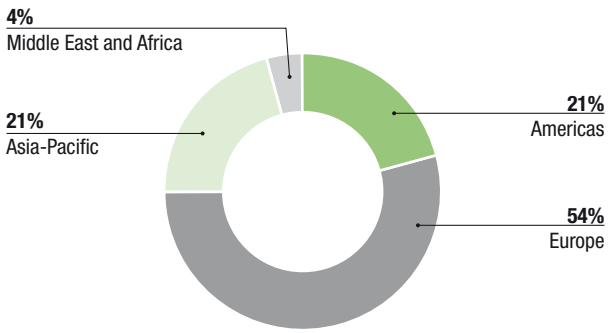
Employees [a]	2003	2004	2005	2006	2007	2008	2009
Group employees	31,900	35,900	35,900	36,900	40,300	43,000	42,300*
■ Women			8,310	8,670	9,630	10,300	10,300
in %			23%	23%	24%	24%	24%
■ Men			27,590	28,230	30,670	32,700	32,000
in %			77%	77%	76%	76%	76%
Joining the Group [b]						19.2%	10.5%
Leaving the Group [c]						12.5%	12.2%
% of employees having resigned during the year [d]		3.4%	3.7%	4.8%	5.0%	5.0%	3.2%

(a) Employees under contract, excluding temporary employees.
(b) Hiring or integration due to acquisitions. The percentage is calculated based on the number of employees at the end of 2008.
(c) Retirement, resignation, lay-offs, departures due to disposals… The percentage is calculated based on the number of employees at the end of 2008.
(d) Calculation based on the number of employees at the end of 2008.
(*) Indicator verified by the statutory auditors.

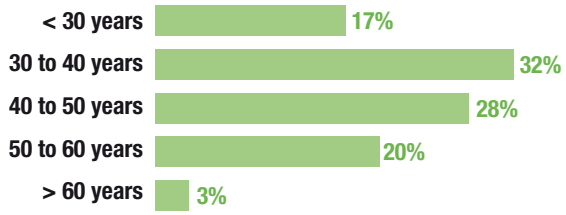
EVOLUTION OF EMPLOYEES OVER 7 YEARS



DISTRIBUTION OF EMPLOYEES BY GEOGRAPHIC ZONE



DISTRIBUTION OF EMPLOYEES BY AGE



Parity and Diversity	2003	2004	2005	2006	2007	2008	2009
Parity							
% women among engineers and managers	14%	17%	17%	18%	19%	22%	24%
% women among engineers and managers hired during the year	24%	31%	28%	29%	30%	29%	29%*
% women among employees considered as high potential	20%	21%	24%	27%	32%	32%	36%
Number of nationalities							
Among expatriates	36	36	36	40	40	48	46
Among senior managers	25	21	20	23	22	22	25
Among employees considered as high potential	35	37	40	43	44	42	47

(*) Indicator verified by the statutory auditors.

	2003	2004	2005	2006	2007	2008	2009
Training							
% total payroll allocated to training	About 3%	About 3%	About 3%	About 3%	About 3%	About 3%	About 2%
Average number of days of training per employee and per year [a]	2.5 days	2.7 days	2.6 days	2.7 days	2.9 days	3.1 days	2.4 [b] days*
% employees who attended a training program at least once during the year		67%	67%	70%	68%	71%	71%
Remuneration							
% employees with an individual variable share as part of their remuneration	36%	40%	41%	43%	49%	51%	50%
Performance review							
% employees who have had a performance review meeting with their direct supervisor during the year	60%	70%	72%	70%	71%	68%	73%* [c]
% employees who have had a career development meeting with the HR Department during the year				13%	20%	16%	14%
Ethics							
% employees belonging to a unit with a local code of conduct						57%	69%
Social performance							
Average seniority in the Group			12 years	12 years	11 years	10 years	11 years
% handicapped employees [d]			1.3%	1.3%	1.2%	1.2%	1.2%
% employees having access to a representation/ dialogue/consultation structure			74%	77%	83%	81%	82%
% employees belonging to a unit at which an internal satisfaction survey was conducted within the last three years [e]			56%	71%	64%	58%	37%
% employees with benefits coverage through the Group [f]			98%	97%	98%	98%	97%
Employee shareholders							
% capital held by Group employees [g]	0.9%	0.9%	1.2%	1.1%	1.1%	1.0%	1.4%
% Group employees that are shareholders of L'Air Liquide S.A.		Over 40%	About 60%	About 50%	About 50%	Over 40%	Over 60%

(a) Calculated in average number of employees during the year.
(b) 18 hours a year according to the new calculation method in hours (base: 1 day = 7 hr. 30 min.).
(c) In 2009, calculated on the basis of employees with "long-term contracts".
(d) For the countries where regulations allow this data to be made available.
(e) Indicator for units of over 300 employees.
(f) Includes retirement benefits.
(g) In the meaning of article L225-102 of the French Code of Commerce.
(*) Indicator verified by the statutory auditors.

Parity

OBJECTIVE

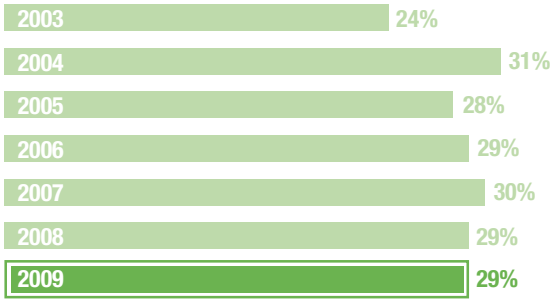
To strengthen the position of women in the Group, in particular through recruitment of engineers and managers. The Group's objective is to increase the hiring of women in this category, from nearly one out of three new hires to more than two out of five within five years (2005-2009).

MONITORING THE OBJECTIVE

In seven years (2003 to 2009), the percentage of women among engineers and managers hired in the Group went from 24% to 29%. In 2009, many countries have exceeded the Group's objective of 40%. In addition, women now represent 36% of all employees considered as having high potential. 11 general management positions in the subsidiaries are held by women in the Group.

During the same period, the percentage of women among engineers and managers in the Group rose from 14% to 24%. Today, the percentage of women among engineers and managers is the same as the overall proportion of women in the Group.

% OF WOMEN AMONG ENGINEERS AND MANAGERS HIRED OVER 7 YEARS



Training

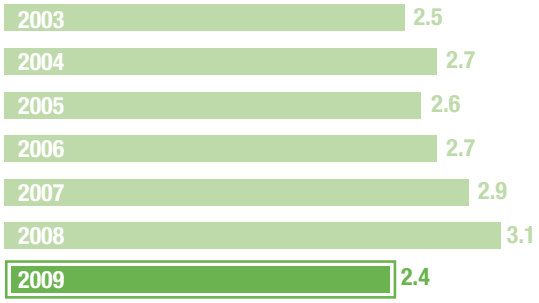
OBJECTIVE

To increase training opportunities so that by 2009, all employees have the chance to enhance their skills and facilitate their advancement through, on average, at least three training days a year.

MONITORING THE OBJECTIVE

In 2008, the number of training days per person and per years reached 3.1, going beyond the objective of three days that had been set. The year 2009, which underwent an unprecedented economic slowdown, requiring a strong cost reduction program throughout the Group, had an impact on training programs, bringing the number of training days down to 2.4 per employee. Through the launch of the Air Liquide University in 2009, the Group is determined to strengthen its employee training program and will set new and ambitious training objectives during the year 2010.

AVERAGE NUMBER OF TRAINING DAYS PER EMPLOYEE AND PER YEAR



Monitoring performance

OBJECTIVE

On every site, in every region, in every unit, the Group's objective is that 100% of its employees meet their direct supervisor once a year for a performance evaluation interview and meet a manager from the Human Resources Department about every three years for a career development interview.

MONITORING THE OBJECTIVE

In 2009, the percentage of employees having had a meeting with their direct supervisor in the Group strongly rose and reached 73%, the highest rate observed over the last seven years. The percentage of employees having had a meeting with their Human Resources Department was 14%. This department continues to focus on holding these meetings, which are the "keystone" of the Company's Human Resources policy.

% OF EMPLOYEES WHO HAVE HAD A PERFORMANCE REVIEW MEETING WITH THEIR HIERACHY DURING THE YEAR

Preserving life and the environment

Safety and the environment are at the heart of the company's industrial policy. Over 40 industrial and medical gas applications preserve life and the environment for the Group's customers: these applications represent **36% of revenue**.

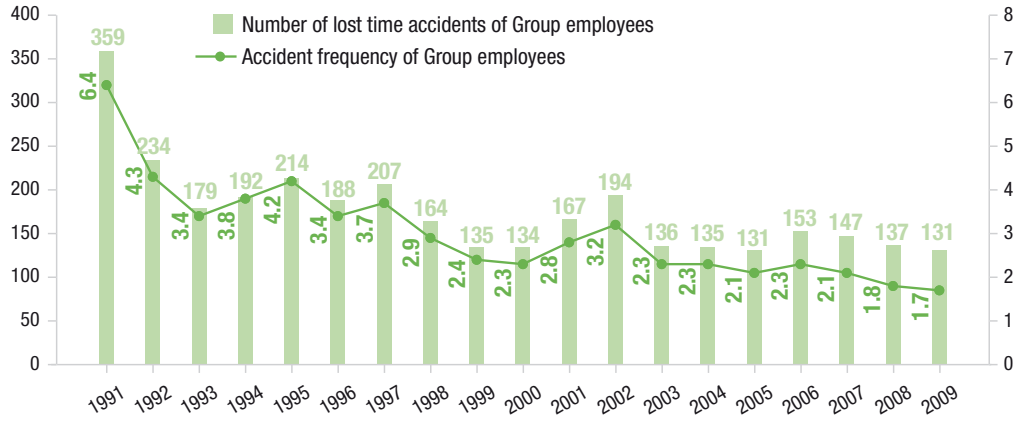
The year **2009** was not really representative of Air Liquide's activity because it was a year of **economic recession** in a large number of countries in which the Group is present.

- Despite this **difficult context**, the Group was able to maintain its utmost attention on **safety**: the number of accidents continued to drop and the accident frequency rate continued to improve to reach **the lowest frequency the Group has ever had**. The number of **accidents for subcontractors and temporary workers** also **decreased**.
- The **volumes of air gas** produced, and especially oxygen, **declined**. As a result, **electricity consumption** and in particular that of air separation units was **lower**, as well as the related indirect emissions of CO_2. For the same reason, **energy consumption per m³ of air gas** produced did **not improve** because many of the units functioned outside their optimal level of energy efficiency.
- **Total thermal energy consumption** and **direct CO_2 emissions** generally **increased** due mainly to the ramping up of the cogeneration unit in Pernis, the Netherlands.
- **Cogeneration** is a very energy efficient technique avoiding CO_2 emissions in comparison to units producing steam and electricity separately. The ramping up of the Pernis cogeneration unit **in 2009 greatly increased the amount of CO_2 emissions avoided by the Group.**
- Although the volume of hydrogen production also decreased slightly, the **energy performance** of **hydrogen** production units **continued to improve.**
- Finally, for all these reasons, the Group's **total** direct and indirect **greenhouse gas emissions declined slightly**.

GROUP SAFETY INDICATORS

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Number of lost time accidents of Group employees [a]	359	234	179	192	214	188	207	164	135	134	167	194	136	135	131	153	147	137	131
Accident frequency of Group employees [b]	6.4	4.3	3.4	3.8	4.2	3.4	3.7	2.9	2.4	2.3	2.8	3.2	2.3	2.3	2.1	2.3	2.1	1.8	1.7*
Number of accidents of subcontractors and temporary workers [c]																		154 [d]	148 [e]

(a) No fatal accidents in 2009, none in 2008, one in 2007, one in 2006, none in 2005.
(b) Number of accidents involving lost time per million hours worked by Group employees. Accidents defined as recommended by the International Labor Office.
(c) Personnel working in the framework of a contract with Air Liquide or on a Group site, or on a customer site or as a delivery vehicle driver.
(d) Including three fatal accidents (among them, two were traffic accidents).
(e) Including four fatal accidents (among them, two were traffic accidents).
(*) Indicator verified by statutory auditors.



OBJECTIVE

The Group's objective is zero accidents, on every site, in every region, in every unit.

MONITORING THE OBJECTIVE

In the difficult context of the year 2009, the Group continued to improve its safety policies and actions: the number of lost time accidents decreased and the accident frequency of 1.7 accidents per million hours worked is at its lowest level ever.

During the last 20 years, the accident frequency could be divided by four even if the number of employees increased by 50%, which confirms the Group's capability to communicate its safety culture to its new employees.

Furthermore, the Group assumes the same responsibility for safety for its subcontractors and temporary personnel. In 2009, the number of accidents of subcontractors and temporary workers decreased as well.

GROUP ENVIRONMENTAL INDICATORS

Presented here are the environmental elements most representative of the Group's businesses. They concern:

- large air separation units;
- cogeneration units;
- hydrogen and carbon monoxide units;
- acetylene units;
- nitrous oxide units;
- carbon dioxide liquefaction and purification units;
- units in the hygiene and specialty chemicals sectors;
- units for welding equipment and products;
- Engineering and Construction units;
- Research and Development centers and technical centers;
- transportation;
- waste and byproducts.

MOST RELEVANT ENVIRONMENTAL INDICATORS FOR THE TOTAL OF THE 10 UNITS (474 SITES OR PRODUCTION UNITS) IN THE WORLD SCOPE

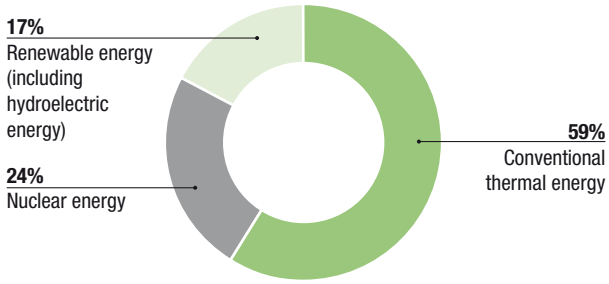
	Scope	2004	2005	2006	2007	2008	2009
Total annual electricity consumption *(in GWh)*	World	17,636	20,991	22,281	23,232	23,223	21,139*
Total annual thermal energy consumption *(in LHV Terajoules)*	World	128,357	143,082	155,725	160,033	177,395	183,381*
Evolution of energy consumption per m^3 of air gas produced	**World**	**100.0**	**101.2**	**101.0**	**100.0**	**101.3**	**103.3***
Evolution of energy consumption per m^3 of hydrogen produced [(a)]	**World**	**100.0**	**99.0**	**98.3**	**98.3**	**97.1**	**97.0***
Total annual water consumption *(in millions of m^3)*	World	44	49	55.6	57.4	59.7	59.9* [(b)]
Annual amount of CO_2 emissions avoided by cogeneration and on-site units *(in thousands of tonnes)*	World	-647	-723	-757	-636	-638	-830
Total direct emissions of greenhouse gases (GHG) *(in thousands of tonnes CO_2 eq.)* [(c)]	World	6,205	7,342	7,917	8,100	9,014	9,386* [(d)]
Total indirect GHG emissions *(in thousands of tonnes CO_2)* [(e) (f)]	World			7,631	7,995	7,952	7,447*
Total direct and indirect GHG emissions *(in thousands of tonnes CO_2 eq.)*	**World**			**15,548**	**16,095**	**16,966**	**16,833***

(a) Also includes the quantities of carbon monoxide produced in these units.
(b) Representing less than 0.5 one-thousandth of the industrial water consumption of the countries under review.
(c) Includes CO_2 emissions and nitrous oxide emissions.
(d) Representing less than 1 one-thousandth of GHG emissions in the countries under review.
(e) Calculation takes into account the primary energy source each country uses to produce electricity (source: International Energy Agency).
(f) Total indirect GHG emissions generated by the production of electricity purchased outside the Group. The indirect emissions only concern CO_2 emissions.
** Indicator verified by the statutory auditors.*

Analysis of direct and indirect emissions and electric energy used

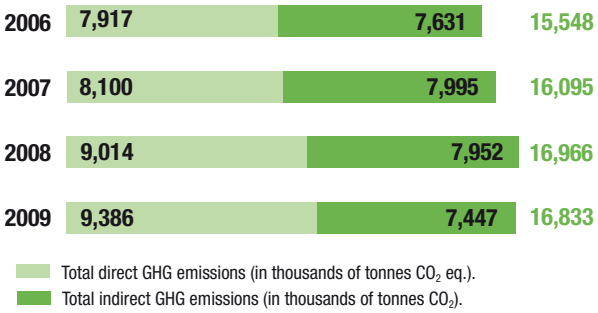
ORIGIN OF ELECTRIC ENERGY USED [a]

By taking into account the different types of primary energy in the countries where the Group is present, it is possible to present the global breakdown of the electrical energy used.



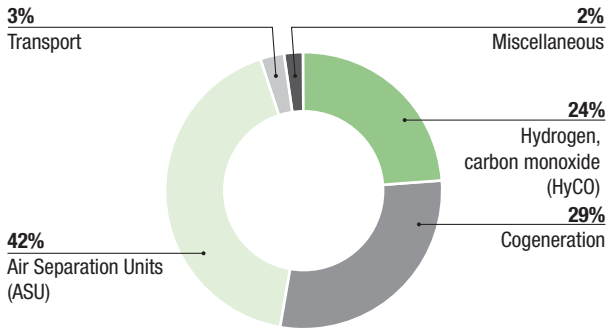
(a) Calculation takes into account the primary energy source each country uses to produce electricity (source: International Energy Agency).

DIRECT AND INDIRECT GREENHOUSE GAS EMISSIONS [b]



(b) Indirect emissions only concern CO_2 emissions.

BREAKDOWN OF DIRECT AND INDIRECT EMISSIONS OF GREENHOUSE GASES (GHG) (ASU, COGEN, HYCO, TRANSPORT, MISCELLANEOUS)



DETAILS ON INDICATORS FOR EACH OF THE 10 UNIT TYPES, TRANSPORTATION AND WASTE AND BYPRODUCTS

1. Air separation units

Worldwide, Air Liquide operates **265 large air separation units**. They produce oxygen, nitrogen and argon, with some sites producing rare gases like krypton and xenon.

Environment: These **factories "without chimneys"** do not use any combustion process. Since they produce almost no carbon dioxide (CO_2), sulfur oxide (SOx) or nitrogen oxide (NOx) emissions, they are particularly environmentally friendly. They consume electricity almost exclusively: worldwide, they use about **2,300 MW** each instant, the equivalent of the production of two nuclear power plants. Their cooling systems require back-up water.

Air separation units	Scope	2004	2005	2006	2007	2008	2009
Annual electricity consumption *(in GWh)* [(a)]	World	16,931	20,179	21,379	22,296	22,235	20,141
Evolution of energy consumption per m^3 of gas produced [(b)]	**World**	**100.0**	**101.2**	**101.0**	**100.0**	**101.3**	**103.3***
Annual back-up water consumption *(in millions of m^3)*	World	28	32	34.2	36.2	34.6	33.2
Evolution of back-up water consumption per m^3 of gas produced [(c)]	**World**	**100.0**	**103.6**	**100.4**	**98.1**	**95.8**	**102.1**
Discharge to water: oxidizable matter *(in tonnes)*	World	Below 2,000	Below 1,000	Below 500	Below 500	Below 250	Below 250
Discharge to water: suspended solids *(in tonnes)*	World	Below 2,000	Below 1,000	Below 500	Below 500	Below 250	Below 250

(a) Also including small volumes of purchased steam.
(b) Gases produced (oxygen, nitrogen, argon) calculated in m^3 of equivalent gaseous oxygen. Base 100 in 2004.
(c) Excluding the energy consumption of units with an open cycle water cooling system. Base 100 in 2004.
** Indicator verified by the statutory auditors.*

OBJECTIVE

To reduce, within five years (2005 to 2009), the Group's annual world consumption of electrical energy by air separation units, at constant scope, by at least 400 GWh, or the annual domestic consumption of electricity of a city of 180,000 people and which leads to an emission reduction of about 140,000 tonnes of CO_2 per year.

MONITORING THE OBJECTIVE

The unprecedented downturn in the global economy that began in late 2008 forced to Group to operate numerous air separation units far from their optimal conditions. The economic slowdown continued through most of the year 2009 even if there were signs of economic recovery late in 2009. This impact of this economic slowdown on the efficiency of our operations was profound, erasing the previous gains of efficiency and cumulatively presented a decline of 784 GWh compared to 2004. In spite of this setback, the Group remains dedicated to reducing its environmental footprint by reducing energy consumption needed to produce its products and continues to invest in energy efficiency programs.

EVOLUTION OF ENERGY CONSUMPTION PER m^3 OF GAS PRODUCED IN AIR SEPARATION UNITS

2. Cogeneration units

Worldwide, Air Liquide operates **18 cogeneration units**. They produce steam and electricity simultaneously. They consume natural gas and water, most of which is converted into steam for customers. Most of the steam is 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.

Environment: Combustion of natural gas gives off carbon dioxide (CO_2) and produces some nitrogen oxide (NOx) emissions, but practically no sulfur oxide (SOx) emissions. The cogeneration units are more energy efficient concerning CO_2 emissions than separate production units for electricity and steam. They therefore help reduce CO_2 emissions in the industrial basins they supply. In 2009, the Group's cogeneration units **avoided 772,000 tonnes of CO_2 emissions being discharged into the atmosphere**, so they were about **14% more efficient** than the separate production of electricity and steam.

In 2009, the increase in energy consumption and CO_2 emissions of the cogeneration units came from the ramping up of the Pernis cogeneration unit in the Netherlands. This unit replaces older units using heavy crude oil. **Consuming natural gas, the Pernis unit essentially reduces CO_2 and sulfur oxide emissions.**

Cogeneration units	Scope	2004	2005	2006	2007	2008	2009
Annual natural gas consumption (or thermal energy) *(in LHV Terajoules)*	World	74,065	67,474	68,584	64,685	74,168	87,642
Annual amount of CO_2 emissions into the atmosphere prevented through cogeneration units [(a)] *(in thousand of tonnes)*	World	-647	-666	-693	-573	-575	-772
Emissions into the atmosphere: CO_2 (carbon dioxide) *(in thousand of tonnes)*	World	4,155	3,785	3,848	3,629	4,161	4,917
Emissions into the atmosphere: NOx (nitrogen oxide) *(in tonnes)*	World	2,060	2,350	2,630	2,300	2,700	3,160
Emissions into the atmosphere: SOx (sulfur oxide) *(in tonnes)*	World	Below 100	Below 100	Below 100	Below 50	Below 50	Below 50
Annual water consumption *(in millions of m^3)*	World	7.9	7.9	8.7	7.9	11.5	13.5

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

3. Hydrogen and carbon monoxide production units

Worldwide, Air Liquide operates **36 large hydrogen and carbon monoxide production units.** They also produce steam for certain customers. Carbon monoxide is an indispensable raw material for producing plastics in the chemical industry. These units primarily use natural gas and certain amounts of water required for the reaction that produces hydrogen.

Environment: The **desulfurization of hydrocarbons** to produce sulfur-free fuels is one of the main applications for hydrogen. In 2009, the hydrogen Air Liquide supplied to refineries throughout the world resulted in **avoiding about 700,000 tonnes of sulfur oxide emissions being discharged into the atmosphere**, which is greater than all the sulfur oxide emissions from a country like France. These units emit carbon dioxide (CO_2) and lead to nitrogen oxide (NOx) emissions but produce practically no sulfur oxide (SOx). They also consume electricity and their cooling systems require back-up water.

The energy efficiency of these units per m³ of CO_2 of gas produced by these units continued to improve in 2009 and reached almost 3% compared to 2004, which is equivalent to a decrease in CO_2 emissions on the scale of 100,000 tonnes per year.

Hydrogen and carbon monoxide units	Scope	2004	2005	2006	2007	2008	2009
Annual thermal energy consumption *(in LHV Terajoules)*	World	54,021	75,380	86,699	94,880	102,717	95,306
Annual electricity consumption *(in GWh)*	World	375	435	507	512	518	478
Evolution of energy consumption per m³ of gas produced [(a)]	**World**	**100.0**	**99.0**	**98.3**	**98.3**	**97.1**	**97.0***
Emissions into the atmosphere: CO_2 (carbon dioxide) *(in thousands of tonnes)*	World	1,789	2,895	3,389	3,795	4,226	3,923
Emissions into the atmosphere: NOx (nitrogen oxide) *(in tonnes)*	World	Below 1,000	700	800	950	860	750
Emissions into the atmosphere: SOx (sulfur oxide) *(in tonnes)*		Below 500	Below 500	Below 500	Below 250	Below 250	Below 250
Annual consumption of process and back-up water *(in millions of m³)*	World	5	5.3	9.6	9.8	10.6	10.2
Discharge to water: oxidizable matter *(in tonnes)*	World	Below 50	Below 100	Below 100	Below 100	Below 200	Below 200
Discharge to water: suspended solids *(in tonnes)*	World	Below 500	Below 500	Below 500	Below 500	Below 1,000	Below 1,000

(a) Hydrogen and carbon monoxide. Base 100 in 2004.
(*) Indicator verified by statutory auditors.

EVOLUTION OVER 6 YEARS OF ENERGY CONSUMPTION PER m³ OF GAS PRODUCED IN HYDROGEN AND CARBON MONOXIDE UNITS

4. Acetylene production units

Worldwide, Air Liquide operates **51 acetylene production units** (a gas used mainly in welding and metal cutting). 50 of them produce this gas through the decomposition of a solid – calcium carbide – using water. One unit fills cylinders with this gas wich is delivered by another industrial company.

Environment: This process produces lime, which is generally recycled (at around 90%) in industrial and agricultural applications (cf. paragraph on waste and by products).

Acetylene units	Scope	2004	2005	2006	2007	2008	2009
Annual electricity consumption *(in GWh)*	World			12	11	10	10
Annual water consumption *(in millions m^3)*	World	0.4	0.4	0.4	0.4	0.4	0.3
Annual calcium carbide consumption *(in tonnes)*	World	36,200	38,900	38,100	38,500	41,100	34,100
Estimate of emissions of volatile organic compounds (VOC) into the atmosphere *(in tonnes)* [a]	World				170	140	150

(a) Mainly loss of acetylene into the atmosphere.

5. Nitrous oxide production units

Worldwide, Air Liquide operates **10 nitrous oxide production units**. 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 solution in water.

Nitrogen oxide units	Scope	2004	2005	2006	2007	2008	2009
Annual electricity consumption *(in GWh)*	World	6	6	7	6	6	5
Annual water consumption *(in millions of m^3)*	World	0.1	0.1	0.1	0.1	0.1	0.1
Annual ammonium nitrate consumption *(in tonnes)*	World	25,100	24,500	24,540	21,500	20,000	19,000
Emissions of nitrous oxide into the atmosphere *(in tonnes)*	World	800 [a]	800 [a]	800 [a]	780	550	410 [b]

(a) Estimate for 2004 to 2006.
(b) Corresponding to the equivalent of 127,100 tonnes of CO_2.

6. Carbon dioxide liquefaction and purification units

Worldwide, Air Liquide operates **61 carbon dioxide liquefaction and purification units**. Carbon dioxide has many industrial applications but is used mainly in the food industry to deep-freeze foods or to produce carbonated beverages.

Environment: Carbon dioxide is most often a byproduct of chemical units operated by other manufacturers. In some cases, it is found naturally in underground deposits. 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 directly emitted into the atmosphere.

Carbon dioxide liquefaction and purification units	Scope	2004	2005	2006	2007	2008	2009
Annual electricity consumption *(in GWh)*	World	306	353	320	340	375	411
Annual water consumption *(in millions of m^3)*	World	1.8	1.9	1	1.2	1.3	1.7
Discharge to water: oxidizable matter *(in tonnes)*	World	Below 100	Below 100	Below 50	Below 50	Below 50	Below 150
Discharge to water: suspended solids *(in tonnes)*	World	Below 100	Below 100	Below 50	Below 50	Below 50	Below 50

7. Hygiene and specialty chemicals production units

Hygiene and specialty chemicals production units are located at **eight sites** in France, Belgium, Germany and China. These units consume natural gas, electricity and water. Combustion of natural gas produces small quantities of carbon dioxide.

Air Liquide contributes to patient safety at the hospital with disinfectant and antiseptic products and related services. The Group's experts work closely with hospitals to help them reduce the risk of nosocomial infections and contamination.

Hygiene and specialty chemicals units	Scope	2004	2005	2006	2007	2008	2009
Annual electricity consumption *(in GWh)*	World	18	18	18	20	22	21
Annual thermal energy consumption *(in LHV Terajoules)* [a]	World	271	228	245	245	274	234
Air emissions: CO_2 (carbon dioxide) *(in thousands of tonnes)*	World	12	9	9	9	10	9
Air emissions of volatile organic compounds (VOC) *(in tonnes)*	World				320	250	150
Annual water consumption *(in millions of m^3)*	World	0.6	0.5	0.5	0.5	0.6	0.4
Discharge to water: oxidizable matter *(in tonnes)*	World	Below 1,000	Below 1,000	Below 1,100	Below 1,000	Below 1,000	Below 800
Discharge to water: suspended solids *(in tonnes)*	World	Below 100	Below 100	Below 100	Below 100	Below 100	Below 100

(a) Including thermal energy corresponding to steam purchases.

8. Welding equipment and products production units

The **welding equipment and products production units** are mainly located on **13 sites** in the world. They are welding equipment assembly (electric welding units, torches, regulators) or welding consumables (electrodes, welding wire and flux) production units.

Welding equipment and products production units	Scope	2006	2007	2008	2009
Annual electricity consumption *(in GWh)*	World	57 [a]	67 [a]	68 [a]	49
Annual thermal energy consumption *(in LHV Terajoules)*	World	197	223	218	166
Emissions of CO_2 into the atmosphere *(in thousands of tonnes)*	World	11	13	12	9
Annual water consumption *(in millions of m^3)*	World	1.1	1.2	0.5	0.4
Annual consumption of raw materials *(in thousands of tonnes)* [b]	World		150	170	116

(a) Values revised in 2009. Modifications not taken into account in the synthesis table p. 59.
(b) Metals and materials for the production of welding products.

9. Engineering and Construction units

The **Engineering and Construction** units are located at **six sites,** in France, China, Japan and India. They are mainly units for the construction of air separation columns and cryogenic tanks.

Environment: Lurgi's integration into the Air Liquide Group broadened the Group's 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.

Engineering and Construction units	Scope	2007	2008	2009
Annual electricity consumption *(in GWh)*	World	11	10	11
Annual water consumption *(in millions of m^3)*	World	0.1	0.1	0.1
Annual consumption of raw materials *(in thousands of tonnes)* [a]	World	7.2	7.7	4.5

(a) Mainly metals.

10. Principal Research and Development Centers and technical centers

The **principal Research and Development centers and technical centers** are located at **six sites** in France, Germany, the USA and Japan. Although these centers' environmental impact is very low compared to other Group units, it was nevertheless decided to present their environmental impact.

Environment: **Over 60% of the R&D budget** is directly earmarked for **environmental issues** (saving energy, producing in a cleaner way, developing energies of the future) and **protecting life.**

Research and Development centers and technical centers	Scope	2008	2009
Annual electricity consumption *(in GWh)*	World	8	13
Annual thermal energy consumption *(in LHV Terajoules)*	World	18	33
Discharge of CO_2 into the atmosphere *(in thousands of tonnes)*	World	1	2
Annual water consumption *(in millions of m^3)*	World	0.02	0.02

11. Transportation

In 2009, trucks delivering Air Liquide liquid gases or gas cylinders travelled **363 million kilometers** throughout the world and emitted about **399,000 tonnes of carbon dioxide**. On-site nitrogen, oxygen and hydrogen units reduced truck deliveries, a source of carbon dioxide (CO_2) emissions. These on-site units were able to **save the 54 million extra kilometers** travelled by trucks and therefore the emission of **58,000 tonnes of carbon dioxide**.

Environment: Supplying large customers via pipeline from the Group's production units also considerably limits truck transportation. These pipeline systems, which are environmentally friendly and safe, total over **8,500 kilometers worldwide**. For air gases and hydrogen, which represent most of the volumes the Group delivers, **85% of deliveries are made via pipeline or through on-site units**. **As a result, only 15% of all air gases or hydrogen are delivered by trucks.**

	Scope	2003	2004	2005	2006	2007	2008	2009
Kilometers traveled by all vehicles delivering gas in liquid or cylinder form *(in millions of km)*	World	303	325	369	375	377	395	363
Estimate of CO_2 emissions generated by these vehicles *(in thousands of tonnes)*	World			404	411	413	433	399
Evolution of the efficiency of deliveries for liquefied gases (oxygen, nitrogen, argon, carbon dioxide) [(a)]	**World**	**100**	**96.1**	**98.0**	**96.3**	**95.1**	**95.9**	**97.6**
Estimate of truck transport kilometers avoided through on-site customer units *(in millions of km)*	World	-55	-54	-56	-60	-59	-58	-54
Estimate of CO_2 emissions avoided by these on-site units *(in thousands of tonnes)*	World			-57	-64	-63	-63	-58
Percentage of deliveries of air gases and hydrogen via pipeline or on-site	World			84% [(b)]	85%	84%	84%	85%

(a) In km per tonne delivered. Base 100 in 2003.
(b) In 2005, this percentage only applied to air gases.

12. Waste and byproducts

Although the quantity of waste and byproducts produced is small, with a concern for exhaustiveness of the reporting and exemplarity, Air Liquide nonetheless decided to publish the following estimated figures.

The main waste and byproducts produced by the Group's production units are lime from the acetylene production units (byproduct), metal waste, oils, paints and solvents.

Environment: The average recycling ratio of waste is over 90% [(a)].

Waste and byproducts	Scope	2008	2009
■ Annual quantity of lime produced (extracted dry equivalent) by the acetylene production units *(in tonnes)*	World	47,000	39,400
% recycled	World	Over 90%	Over 90%
■ Metal waste *(in tonnes)* [(b)]	World	9,500 [(c)]	6,000
% recycled	World	Over 99%	99%
■ Oils *(in tonnes)*	World	700 [(c)]	600
% recycled	World	88%	89%
■ Paints and solvents *(in tonnes)*	World	200 [(c)]	200
% recycled	World	8%	30% [(d)]

(a) Calculation is based on the weight of the waste.
(b) Metal waste that is not dangerous.
(c) Values revised in 2009.
(d) In addition, 50% are incinerated.

"CARBON CONTENT" OF AIR LIQUIDE'S MAIN PRODUCTS IN 2009

Taking into account the characteristics of Air Liquide suppliers of electricity, the Group has built a model [a] calculating the "carbon content" of its main products in certain countries. These figures include both direct and indirect [b] emissions, those connected to production, filling and also transportation.

In 2008, the "carbon content" of oxygen, nitrogen and hydrogen delivered via pipeline, oxygen and nitrogen delivered in liquefied form and oxygen delivered in pressurized cylinders was indicated.

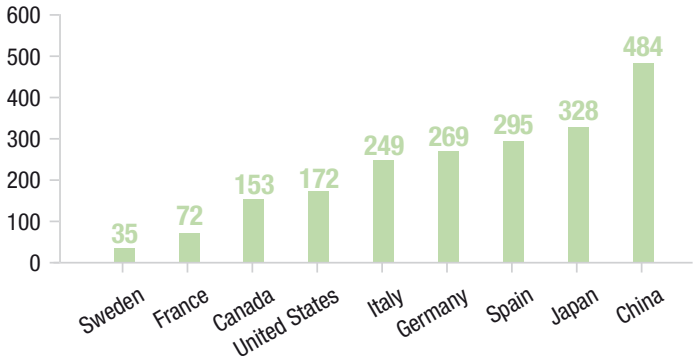
In 2009, the calculation of the "carbon content" is expanded to other products (nitrogen and argon in cylinders, liquefied carbon dioxide) and other countries in Europe (Italy, Spain, Sweden), North America (Canada) and Asia (China).

"CARBON CONTENT" OF AIR LIQUIDE'S MAIN PRODUCTS IN 2009 (gCO_2/Nm^3 [c])

		Europe					North America		Asia	
		France	Germany	Italy	Spain	Sweden	United States	Canada	Japan	China
Oxygen	Oxygen via pipeline [d]	72	269	249	295	35	172	153	328	484
	Liquid oxygen	150	484	458	531	96	321	294	595	846
	Oxygen in cylinders [e]	478	793	800	837	269	657	685	[f]	[f]
Nitrogen	Nitrogen *via* pipeline [d]	24	89	82	97	11	57	51	108	160
	Liquid nitrogen	106	320	306	351	75	216	200	395	550
	Nitrogen in cylinders [e]	431	621	640	648	246	547	587	[f]	[f]
Argon	Argon in cylinders [e]	584	1190	1167	1272	320	910	912	[f]	[f]
CO_2	Liquid CO_2	114	215	242	252	62	264	134	[f]	[f]
		Belgium					United States			
Hydrogen	Hydrogen via pipeline [g]	619					668			

(a) The methodology and calculations for the model of these figures were validated by Ecofys, a consulting firm specialized in sustainable development. These calculations take into account in each country the different energy sources used to produce electricity (source: International Energy Agency). In the USA, the calculation of indirect emissions for air gases takes into account the data from the main electricity production units that supply Air Liquide.
(b) Concerning the CO_2 emissions from electricity production consumed by Air Liquide.
(c) $Nm^3 = m^3$ of gas at atmospheric pressure at 0 °C.
(d) At 40 bar, pressure standard for these pipelines.
(e) At 200 bar, pressure standard for cylinders.
(f) Not available.
(g) At 100 bar, pressure standard for these pipelines.

"CARBON CONTENT" OF OXYGEN VIA PIPELINE IN SOME COUNTRIES WHERE AIR LIQUIDE IS PRESENT (gCO_2/Nm^3 [c])



The figure above shows a large variation from one country to another because of the major differences in the type of energy used in each country, notably to produce electricity. For example, in France and Sweden, electricity production units use very little coal (which emits a great deal of CO_2), unlike in Germany, the USA and Japan.

INDUSTRIAL MANAGEMENT SYSTEM (IMS) AND QUALITY, ENVIRONMENTAL AND HEALTH AND SAFETY CERTIFICATIONS

In 2004, the Group launched a new industrial management system (IMS) to strengthen safety, reliability, the preservation of the environment and risk management. **The system is now implemented in nearly all the Group's operations (over 99% of the Group's revenue).** At the start of 2007, a new indicator was established to track the percentage of revenue covered by the Group's IMS internal audits. In 2007, 2008 and 2009, **46 units** were audited, representing **76%** of the Group's activities in terms of revenue.

The Group has taken several other quality initiatives, especially in the implementation of good production practices (Common Good Manufacturing Practices), the "Responsible Care" and ISO certification. ISO 9001 quality certifications cover about 74% of the Group's revenue.

The Group has also undertaken a proactive approach to preserving the environment by obtaining ISO 14001 certifications, an international reference for environmental management. **These ISO 14001 certifications now cover about 25% of the Group's revenue.**

Furthermore, Air Liquide adopted the QHSAS 18001 certification concerning occupational health and safety management and covering in 2009 about 14% of the Group's revenues.

Likewise, **environmental incidents,** like accidents involving personnel safety, are reported by Air Liquide subsidiaries worldwide. They are analyzed in depth depending on their nature so that prevention measures can be strengthened.

	Scope	2004	2005	2006	2007	2008	2009
Estimate of the Group entity's revenue that had an internal IMS audit	World				46%	71% [(a)]	76%
Estimate of Group entity's revenue covered by an ISO 9001 quality certification	World	65%	67%	73%	73%	75%	74%
Estimate of Group entity's revenue covered by an ISO 14001 environmental certification	World	14%	15%	22%	24%	24%	25%
Estimate of Group entity's revenue covered by an OHSAS 18001 occupational health and safety management system	World						14%

(a) Figure revised during the 2009 reporting.

PRINCIPAL EUROPEAN DIRECTIVES AND REGULATIONS APPLICABLE TO AIR LIQUIDE IN THE ENVIRONMENTAL AND SAFETY FIELDS

SEVESO 2 DIRECTIVE

This European directive focuses on preventing major industrial risks. It applies to any facility where dangerous substances exceed certain quantities. These facilities are divided into two categories according to this quantity: Seveso 2 "high threshold" and "low threshold". In Europe, mainly because of their stocks of oxygen, 93 "low threshold" and 23 "high threshold" Air Liquide sites are involved. Seveso regulations apply only to Europe but if the Seveso "high threshold" criteria were applied worldwide, 21 other Group sites could be included.

CO_2 DIRECTIVE IN EUROPE

The objective of the European directive, which establishes a quota system for greenhouse gas emissions in Europe, is to decrease these emissions like the Kyoto Protocol. Implementation for CO_2 in the industrial sector began on January 1, 2005. As air separation units emit practically no carbon dioxide, this directive only applied, for the 2005-2007 period, to Air Liquide's five cogeneration sites and two hydrogen production sites in France, the Netherlands and Spain. Air Liquide's quotas (about 1.2 million tonnes of CO_2 per year) for the 2005-2007 period covered the emissions observed.

For the second period (2008 to 2012), the directive will only apply to seven cogeneration sites in France, Germany, the Netherlands and Spain and a single hydrogen production site in Belgium. Air Liquide's quotas (about 2.9 million tonnes of CO_2 per year) should cover the anticipated emissions.

For the third period (2013-2020), in addition to the sites mentioned, the directive will propose to encompass the Group's other large hydrogen production sites in Europe. The specific quota allocation methods for CO_2 emissions are currently being drawn up by the European Union on the basis of the revision of the ETS (Emissions Trading Scheme) directive voted in December 2008.

EUROPEAN REACH REGULATION

REACH (Registration, Evaluation, Authorisation 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 to the Union.

This regulation went into effect on June 1, 2007, but the registration and evaluation procedures will be spread out over about 12 years.

Air Liquide's main products such as oxygen, nitrogen, rare gases, CO_2, hydrogen and helium are excluded from the scope of REACH.

Carbon monoxide, acetylene and a few specialty gases in electronics fall, however, under these regulations. In addition, one quarter of the revenue of the specialty chemicals business is concerned by REACH.

In total, less than 10% of the Group's revenue is concerned by REACH.

An innovative company

Air Liquide was founded in 1902 through an innovation, a new liquefaction and air separation technology. Innovation remains an essential value of the Company. Air Liquide files around 250 patents a year. Innovation and sustainable development are inseparable.

A certain number of indicators in the innovation field are presented below.

Above and beyond these indicators, innovation is an integral part of Air Liquide's culture and is one of the basic components of its Sustainable Development approach.

Certain patented innovations make a major contribution to the Group's growth. Each year, Air Liquide singles out the inventors of patents that have been successfully commercialized.

Each year on November 8th, the anniversary of the Group's foundation in 1902, the Group celebrates an Innovation Day during which the main innovations developed during the year are exhibited.

Over 60% of the Group's R&D budget is devoted to work on life, the environment and sustainable development with four major subjects:

- **CO_2 capture and storage,**
- **hydrogen, a clean energy carrier,**
- **second-generation biofuels,**
- **development of industrial gas applications in the photovoltaic industry.**

Despite the difficult context of the year 2009, the Group **maintained its innovation budget at 218 million euros**. Likewise, the number of patents filed during the year attained the **record figure of 280**, which is greater than that for each of the preceding six years.

INDICATORS FOR THE GROUP AS A WHOLE

	2009
Innovation budget	218 million euros
Number of researchers	1,000 researchers with 30 nationalities
Number of research centers	8
Industrial partnerships	Over 100
Academic collaborations	Over 120 with universities and research institutes
Number of inventions patented	2,508

Patents	2004	2005	2006	2007	2008	2009
New inventions patented during the year	225	236	267	263	257	280
Patents filed directly in the Group's four main zones of operation [(a)]	109	103	108	152	129	156

(a) According to the definition of the Group's intellectual Property Department.

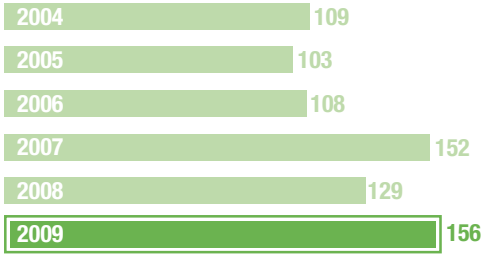
OBJECTIVE

To disseminate innovations within the Group and promote innovators. Within five years (2005-2009) and in the largest number of fields, to file over 500 new patents, an average of 100 per year, directly usable in the Group's four main operation zones: Europe, the United States, Japan and China [(a)].

MONITORING THE OBJECTIVE

The Group's objective to file 500 new patents within five years (2005-2009) in these four zones has been topped with 648 new patents during the same period thanks to strengthened policies for patent filing in China.

NUMBER OF PATENTS FILED [(a)] IN THE GROUP'S FOUR MAIN PRESENCE ZONES (EUROPE, THE UNITED STATES, JAPAN AND CHINA)



(a) According to the definition of the Group's Intellectual Property Department.

Appendix

CORRESPONDENCE BETWEEN AIR LIQUIDE'S SUSTAINABLE DEVELOPMENT INDICATORS AND THE INDICATORS OF THE "GLOBAL REPORTING INITIATIVE" (GRI) [a]

Air Liquide indicators	GRI indicators
Human Resources	
Group employees	LA1
Distribution of employees by geographic zone	LA1
Turnover of employees (leaving the Group)	LA2
% of women	LA13
% of women among engineers and managers	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 (number of nationalities)	LA13
% employees with benefits coverage through the Group	LA3
Safety	
Number of lost time accidents of Group employees	LA7
Accident frequency of Group employees	LA7
Number of accidents of subcontractors and temporary workers	LA7
Energy and environment	
Total annual electricity consumption	EN3/EN4
Total annual thermal energy consumption	EN3/EN4
Evolution of energy consumption per m^3 of air gas produced	EN6
Evolution of energy consumption per m^3 of hydrogen produced	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, materials for welding)	EN1
Emissions into the atmosphere (NOx)	EN20
Emissions into the atmosphere (SOx)	EN20
Emissions into the atmosphere (VOC)	EN20
Discharge to water (oxidizable matter, suspended solids)	EN21
Total mass of waste by type and waste treatment	EN22
Transportation	
Estimate of CO_2 emissions by truck delivery	EN29
Estimate of CO_2 emissions avoided through on-site units.	EN29

(a) Global Reporting Initiative (GRI): network - based organization that sets out principles and indicators that can be used to measure and report economic, environmental and social performances.