AIR LIQUIDE IS THE WORLD LEADER IN GASES FOR INDUSTRY, HEALTH AND THE ENVIRONMENT

AIR LIQUIDE

2011 ANNUAL REPORT

EXPLORE

EXPLORE —
Building Leadership positions

AIR LIQUIDE FOUNDATION —
At the heart of social commitment

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Air Liquide is the world leader in gases for industry, health and the environment

Oxygen, nitrogen, hydrogen and rare gases have been at the core of Air Liquide's activities since its creation in 1902. Using these molecules, Air Liquide continuously reinvents its business, anticipating the needs of current and future markets. The Group innovates to enable progress, to achieve dynamic growth and a consistent performance.

Innovative technologies that curb polluting emissions, lower industry's energy use, recover and reuse natural resources or develop the energies of tomorrow, such as hydrogen, biofuels or photovoltaic energy… Oxygen for hospitals, home healthcare, fighting nosocomial infections… Air Liquide combines many products and technologies to develop valuable applications and services not only for its customers but also for society.

A partner for the long term, Air Liquide relies on employee commitment, customer trust and shareholder support to pursue its vision of sustainable, competitive growth.

The diversity of Air Liquide's teams, businesses, markets and geographic presence provides a solid and sustainable base for its development and strengthens its ability to push back its own limits, conquer new territories and build its future.

Air Liquide explores the best that air can offer to preserve life, staying true to its Corporate Social Responsibility and sustainable development approach.

Present in 80 **countries with** 46,200 **employees**

Interview with Benoît Potier, Chairman and CEO of the Air Liquide Group

What is your general impression of 2011?

2011 will be remembered as a year marked by major international events. In particular, I am referring to the political changes seen across the Arab world, the earthquake and tsunami in Japan, and the flooding in Asia. In each of these situations, our top priorities were always ensuring employee safety and continuity in our operations. In Tunisia and Egypt, we maintained our operations delivering oxygen to hospitals and nitrogen needed for safety purposes on industrial facilities. The Group also expressed solidarity and support for the people of Japan, especially Air Liquide's 2,700 employees. I would like to pay tribute to all of our teams who worked extremely hard to carry on our activities.

In mid-2011, the world was again drawn into a new cycle due to the sovereign debt crisis in Europe. This crisis is serious because it is structural, affecting governments and citizens, the world financial markets, our customers and, consequently, our markets. With a potential economic slowdown on the horizon, companies have also begun to adopt precautionary measures.

What are your general conclusions locating at 2011 for the Group?

The Group showed a solid performance in 2011 in spite of the diverse economic environments. We reached our objectives with €14.5 billion in revenue (up 7.2%), 8.1% growth in operating profit, and a net profit increase of 9.4%. These figures line up perfectly with the revenue and profit growth rates over the last 30 years, showing how the Group has performed consistently despite the ups and downs of history.

With these results, Air Liquide has once again demonstrated its ability to adapt in an unsettled environment and keep growing, while still controlling expenses.

Did the Group continue to build leadership positions in 2011, especially in developing economies?

We increased our market share in developing economies, which now represent 21% of Gas & Services sales (compared to 15% in 2008). In 2011, these countries saw 20% growth in Gas & Services activities, compared with 5% in advanced economies. This translates to four percentage points of the Group's entire growth!

We also established activities in new countries such as Mexico and Ukraine, where we signed a major contract in the steel industry. At the same time, we claimed more important positions in Chile, Saudi Arabia, Russia, Turkey and of course China, which remains one of our main engines of growth. Thus we pursued our geographic development through strategic decisions that are bearing fruit today.

How did 2011 sit with respect to your ALMA 2015 strategic program?

The ALMA 2015 plan comprises four main components: Growth, Efficiency, Return On Capital Employed, and Responsibility.
Concerning growth, 2009-2011 has been a period of acceleration for the Group, with growth two percent higher than during 2005-2008. Investment decisions reached €2 billion in 2011, and more than 60% related to developing economies, giving us a competitive advantage in these growing markets.
In terms of efficiency, the programs we deployed on a global scale helped us generate €270 million in savings. This result is above the full-year objective of €200 million set by ALMA 2015, and also brings the total amount of efficiency gains generated over the last five years to €1.3 billion. Furthermore, Return On Capital Employed was 12.1%, higher than in the previous period.

Finally, throughout 2011 we prepared the deployment of our Corporate Social Responsibility approach, which we will implement in 2012.

What does the Responsibility program involve?

As part of ALMA 2015, Air Liquide reaffirmed its ambition to be the leader through performance and responsibility over the long term. Beyond financial performance, the Group takes into account the interests of all its stakeholders to direct its actions and attain its results.

We have defined commitments to four stakeholder groups – shareholders, customers and patients, employees and communities – and through three fields of action: environmental footprint, business practices and governance, and innovation. These commitments and their associated objectives will be gradually introduced throughout 2012.

For instance, our commitment to shareholders is to deliver long-term performance thanks to a steady increase of investment value and to ensure respect and consideration in the relationship with shareholders. Another example is our effort to increase customer and patient satisfaction, using regular surveys. By 2015, these surveys will cover entities representing 85% of Air Liquide sales.

Given the current global economic situation, what do you expect to see in 2012?

Our starting point for 2012 is the foundation we laid in 2011: solid performance in an uncertain environment. The market trends are well established: energy, environment, health, developing economies and high-tech remain long-term growth drivers for the Group. We have also pursued our investment momentum to fuel future growth.

Twenty-nine start-ups of new production units are scheduled in 2012. Our portfolio of investment opportunities for the year – projects that we are looking closely at and competing for – is more than €4 billion, which is higher than in late 2010. In this context, and barring a major economic downturn, Air Liquide continues to aim for growth in net profit in 2012.

You are a strong advocate of a united Europe. Are you worried by the sovereign debt crisis, which led to the euro crisis, or by European industrial competitiveness?

The crisis in Europe affects both governments and citizens. Regarding sovereign debt, a policy of spending that systematically outweighs income is not sustainable over the long term, while raising taxes will have a negative impact on growth. Industry, the backbone of the European economy, will play a role in returning to growth. Nevertheless, if European industry does not recover global competitiveness, Europe will have a lot of trouble coming out of the crisis. Remaining competitive is key. The Group will contribute to growth by helping to structure industrial sectors where large groups as well as small- and medium-sized businesses can provide added value from start to finish. More generally, being competitive will be more achievable if Europe displays the stability that encourages long-term investment, vital for long-term industrial cycles.

How do you view the current global situation?

The environment is characterized more and more by volatility, uncertainty and complexity. At the same time, globalization of opportunities and markets is on the rise.

For a global company like ours, this means that agility and responsiveness, as well as the solidarity of our teams, are essential. These qualities are fundamental for meeting new customer expectations, integrating new digital tools, and bringing new solutions to the market. The context requires us to combine rigorous management and an entrepreneurial spirit in order to keep moving forward even when the winds are unfavorable.

What do you mean by rigorous management and entrepreneurial spirit?

Especially in 2012, rigorous management means making sure that expenses do not grow faster than sales, and continuing to drive efficiency in all our operations. This will enable us to preserve margins so we can finance our investments and continue to achieve our ALMA 2015 objectives.
At the same time, we have to keep our entrepreneurial spirit, which has been the Group's strength since its creation. This requires us to offer our customers and patients increasingly innovative, competitive solutions with high added value. It demands that our teams show tenacity and resourcefulness to overcome obstacles and innovate constantly to maintain our competitive edge.

"Our growth depends on continuously pushing the boundaries of our business through innovation."

How are you preparing for the future? Does Air Liquide have the talent it needs to grow and move forward?

We recruit continuously in the countries and businesses where we are growing. In a "normal" environment, we planned to recruit about 30,000 employees by 2015, which amounts to a net increase of 15,000 people, taking into account newcomers and departures. In 2011, 2,600 new employees joined the Group. Air Liquide has succeeded in recruiting the talent it needs. However, looking at the demographics, I am uncertain whether the technical and technological skills we will need are available in Europe. That's why it is important to me and other industrialists to better orient more young people toward scientific and technological careers, notably in France. Similarly, promoting technical education and apprenticeships will make it possible to provide the skills needed by the most competitive companies and thus help them prepare for the future.

What is the Group's growth based on?

Our growth is not simply limited to the rising GDP of countries where we operate. Foremost, it depends on our ability to seize all gas outsourcing opportunities and take–overs of existing sites, as we have done over the past several years.
Our growth also depends on continuously pushing the boundaries of our business through innovation. There are plenty of examples: what we did recently in electronics with fluorine, in health with services for patients with diabetes, in Large Industries with gasification, or in more pioneering fields like hydrogen energy and gaseous drugs. Energy, environment, high-tech, health: the Group's growth drivers are all at the heart of the 21st century.

Innovation has always been fundamental to the Group's strategy. You have recently started talking about "open innovation". What does this mean to you?

Our innovation spending reached €252 million in 2011, an increase of 7% over 2010. We also registered 330 patents in 2011, 10% more than the previous year. We are the only company in our business sector that maintained the same level of innovation spending during the 2009 financial crisis.
Our approach to innovation is more and more open: 60% of research projects are now undertaken as part of public-private partnerships. In France, we develop projects with young, innovative companies, industry chairs in schools and universities, and business clusters. In France, we have partnerships with 21 such clusters, focused on topics such as energy, environment and health, as well as bio-resources, materials and information technology.

"Explore", the title of this annual report, is a constant guiding principle for our teams. We are committed to tirelessly exploring new frontiers in order to take advantage of growing markets and plan our medium-term development with confidence.

COMMITTING EVER MORE

Ever more transparency

Focusing on long-term progress, taking into account the interests of its different stakeholders through its decision-making processes as well as in carrying out each of its actions, the Group promotes best practices to improve business operations, achieve its commitments, and manage risks at every level. This approach guides the action of each entity and employee to ensure the Company's responsible growth.

Board of Directors as at December 31, 2011

A BENOÎT POTIER
Chairman and Chief Executive Officer
Expiration date of term: 2014

B THIERRY DESMAREST
Director
Expiration date of term: 2013

C ALAIN JOLY
Director
Expiration date of term: 2013

D KAREN KATEN
Director
Expiration date of term: 2012[a]

E GÉRARD DE LA MARTINIÈRE
Director
Expiration date of term: 2015

F CORNELIS VAN LEDE
Director
Expiration date of term: 2015

G BÉATRICE MAJNONI D'INTIGNANO
Director
Expiration date of term: 2014

H THIERRY PEUGEOT
Director
Expiration date of term: 2013

I PAUL SKINNER
Director
Expiration date of term: 2014

J JEAN-CLAUDE BUONO
Director
Expiration date of term: 2012[b]

K PROFESSOR ROLF KREBS
Director
Expiration date of term: 2012[b]

L JEAN-PAUL AGON
Director
Expiration date of term: 2014

M SIÂN HERBERT-JONES
Director
Expiration date of term: 2015

[a] Renewal of term proposed at the Annual General Meeting on May 9, 2012

[b] Renewal of term not requested

Corporate governance

Role of the Board of Directors

The Board of Directors determines the major orientations of the Company's activities. Accordingly, it examines and approves the Group's major strategic orientations.

It ensures the implementation of these orientations by Executive Management.

Subject to the powers expressly attributed to Shareholders' Meetings by law and in accordance with the corporate purpose, the Board deals with any issues concerning the smooth running of the Company and manages corporate business pursuant to its decisions.

The internal regulations stipulate that the specific powers legally attributed to the Board of Directors include in particular the choice of Executive Officers, the determination of the terms and conditions governing the remuneration and performance of their duties, the convening of Shareholders' Meetings, the determination of the agenda and draft resolutions, the preparation of the financial statements and Annual Management Report as well as the drafting of its operating procedures (formation of Committees, distribution of Directors' fees, etc.). The Board also exercises the powers granted to it by the Shareholders' Meeting, particularly with regard to the granting of stock options or the Conditional Grant of Shares to Employees, issues of marketable securities, or share buyback or employee savings programs.

Functioning of the Board of Directors

Informing the Directors: The internal regulations define the methods for informing the Directors. They specify, in particular, that prior to Board meetings, a file of meeting documentation dealing with key items on the agenda is sent out to Board members. The Chairman and Chief Executive Officer, assisted, if need be, by Executive Management members presents to the Board of Directors a quarterly report on the Company's management, in the same way as the Management Board reported previously to the Supervisory Board, the draft annual and interim financial statements and the various issues requiring the Board's authorization or approval.

Conduct of meetings: The internal regulations define the frequency of meetings and the rules of convening meetings and participation by video-conference or telecommunications.

Formation of Committees: The internal regulations define the purpose and operating procedures of the three Committees set up.

Training measures: The internal regulations stipulate that training relating to the Company's businesses is offered to Directors, particularly through site visits or meetings with senior management executives. More particularly, information on the Group's accounting, financial and operational specificities is offered to members of the Audit and Accounts Committee.

Appraisal of the Board of Directors

The internal regulations stipulate that: "The Board will ensure that an evaluation is carried out periodically of its composition, its organization and its functioning as well as those of its Committees. An update will be made by the Board on this topic once a year and a formal evaluation will be carried out under the authority of the Chairman of the Board of Directors every three years."

The Board's works in 2011

In 2011, the Board of Directors met five times with an effective attendance rate or attendance rate by telephone of 100% of its members. A full-day meeting on the monitoring of the main strategies was held in October.
The Board's activities related to the following issues:

Monitoring of the Group's day-to-day management, particularly by:

1. reviewing the **quarterly activity reports** presented by Executive Management; the annual and interim parent company and consolidated **financial statements** in the presence of the Statutory Auditors used to determine the dividend **distribution policy** and authorize the allotment of one free share for ten existing shares in 2012;

2. reviewing, at each meeting, in a very disrupted international economic and financial context, of the Group's **financial position**, and more specifically: financing (bond issue in renminbis and private placement in yens), and liquidity and debt management strategies;

3. reviewing the **minutes** of **Committee** meetings;

4. making **decisions**, in particular with respect to the investments necessary for the Group's medium-term development and corresponding financing capacities, the EMTN program, the stock option and Conditional Grant of Shares to Employees plans or the development of employee savings schemes;

5. reviewing at each meeting the **report on acquisitions, disposals and major projects in progress**;

6. reviewing **corporate documents**: responding to wishes from the Central Works Council, and reviewing the report on employee-related matters and forward-planning documents;

7. preparing the **Annual Shareholders' Meeting** (agenda, draft resolutions, Annual Management Report and other reports contained in the Reference Document prepared or approved by the Board of Directors, responses to shareholders' written questions).

Monitoring of the Group's main strategies on significant issues

As part of the presentations made by Executive Management and certain senior executives, the Board of Directors closely considered the following in 2011:

1. **questions relating to strategy** and particularly competitive analysis (October), crisis lessons and strategic objectives (October), acquisition strategy (October); and development of major projects;

2. **governance issues** concerning in particular organizational changes regarding governance of industrial operations in France (February and May); the rules of corporate governance (February 2011 and 2012), and the composition of the Board and committees, with in particular the efforts to increase the number of female members of the Board of Directors (February, May, October); share ownership strategy (February 2012);

3. **questions relating to the Group's social and environmental responsibility**, particularly the sustainable development policy, and the definition of social objectives and relevant indicators for the Group in these areas (December); safety policy and management of major industrial risks (December); and

4. **human resources issues**, and particularly the implementation of the profit-sharing bonus pursuant to the Law of July 28, 2011 (July); the annual deliberation of the Company's policy on professional and wage equality pursuant to the Law of January 27, 2011 (July).

Functioning of the corporate governing bodies

1. Renewal of the Senior Executive Vice-President term of office

2. Employment contract/corporate office of the Chairman and Chief Executive Officer

3. Remuneration

4. Shareholding obligation.

For more information, refer to the section entitled "Corporate Governance" in the Reference Document available at www.airliquide.com or by request.

Executive Management & Executive Committee

as at April 2, 2012

BENOÎT POTIER
Chairman and Chief Executive Officer
Born in 1957 – French

PIERRE DUFOUR
Senior Executive Vice-President[a]
Born in 1955 – Canadian

JEAN-PIERRE DUPRIEU
Executive Vice-President[b]
Born in 1952 – French

FRANÇOIS DARCHIS
Senior Vice-President,
Research and Development, New business – Innovation & Technology, Intellectual Property, Engineering and Construction,
Industrial Merchant WBL
Born in 1956 – French

FABIENNE LECORVAISIER
Group Vice-President,
Finance and Operations Control
Born in 1962 – French

JEAN-MARC DE ROYERE
Senior Vice-President,
Asia-Pacific
Born in 1965 – French

[a] Also supervising the Large Industries WBL

[b] Also supervising the Healthcare WBL

GUY SALZGEBER
Vice-President, Northern and Central Europe
Born in 1958 – French

AUGUSTIN DE ROUBIN
Vice-President, Southern
and Eastern Europe (including France)
Also supervising Welding and
Diving activities
Born in 1953 – French

MICHAEL J. GRAFF
Vice-President, Americas
Also supervising the Electronics WBL,
Safety and Industrial Systems
Born in 1955 – American

MOK KWONG WENG
Vice-President, North-East Asia
and South-East Asia
Born in 1953 – Singaporean

FRANÇOIS ABRIAL
Vice-President,
Human Resources
Born in 1962 – French

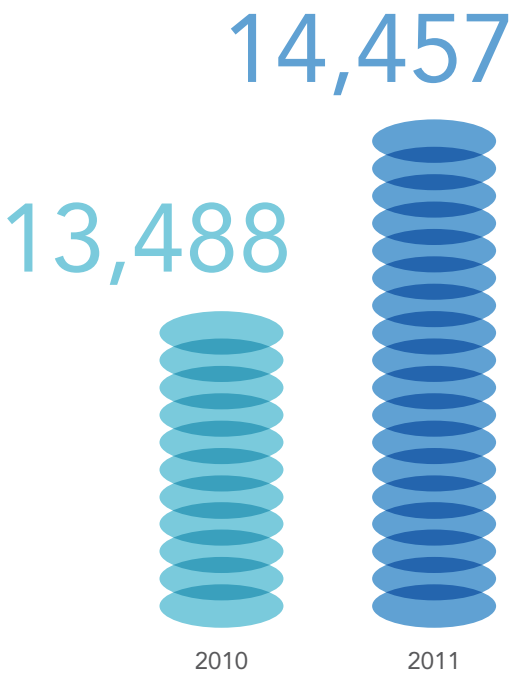
PASCAL VINET
Vice-President, Healthcare activities
Born in 1962 – French

Robustness of the development model

2011 saw a solid performance in terms of revenue, results and the progression of our balance sheet, despite a difficult second half that contrasted with a strong first half. The fourth quarter registered slower growth, particularly in the steel and electronics sectors, as some of our customers took a cautious approach, especially at the very end of the year. The Group continued its growth, notably in developing economies, which today represent 21% of sales. Overall, Air Liquide demonstrated its ability to adapt to diverse environments, particularly at year's end.

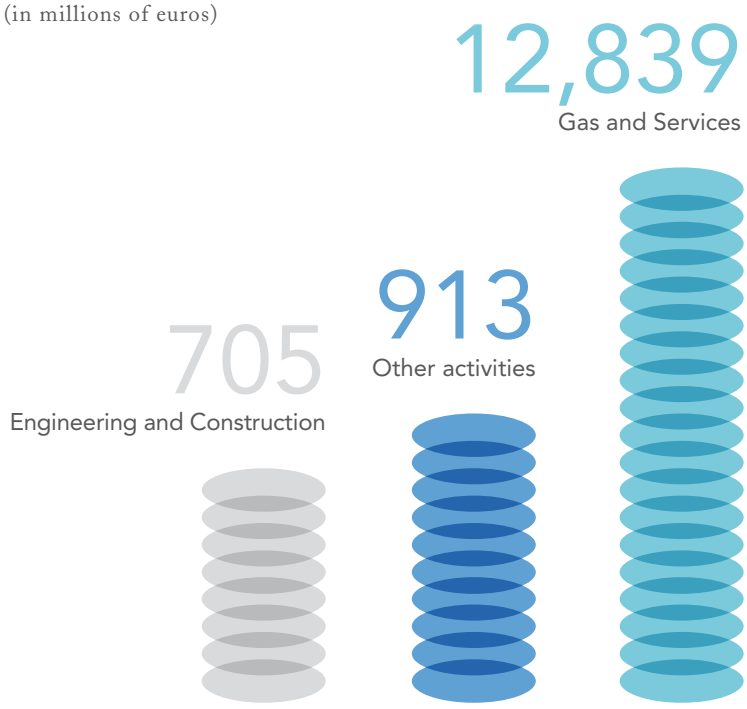
Revenue

(in millions of euros)



Group revenue by activity

(in millions of euros)



Dividend

€2.50[(a)]

(a) To be proposed at the Annual General Meeting on May 9, 2012.

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

Gas and Services Revenue (in millions of euros)

By geographical area

6,585
Europe

2,859
Americas

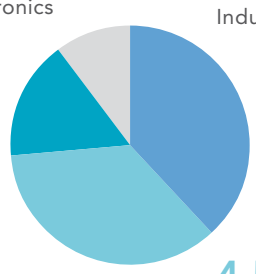
3,083
Asia-Pacific

312
Middle East and Africa

By business line

1,286
Electronics

4,892
Industrial Merchant

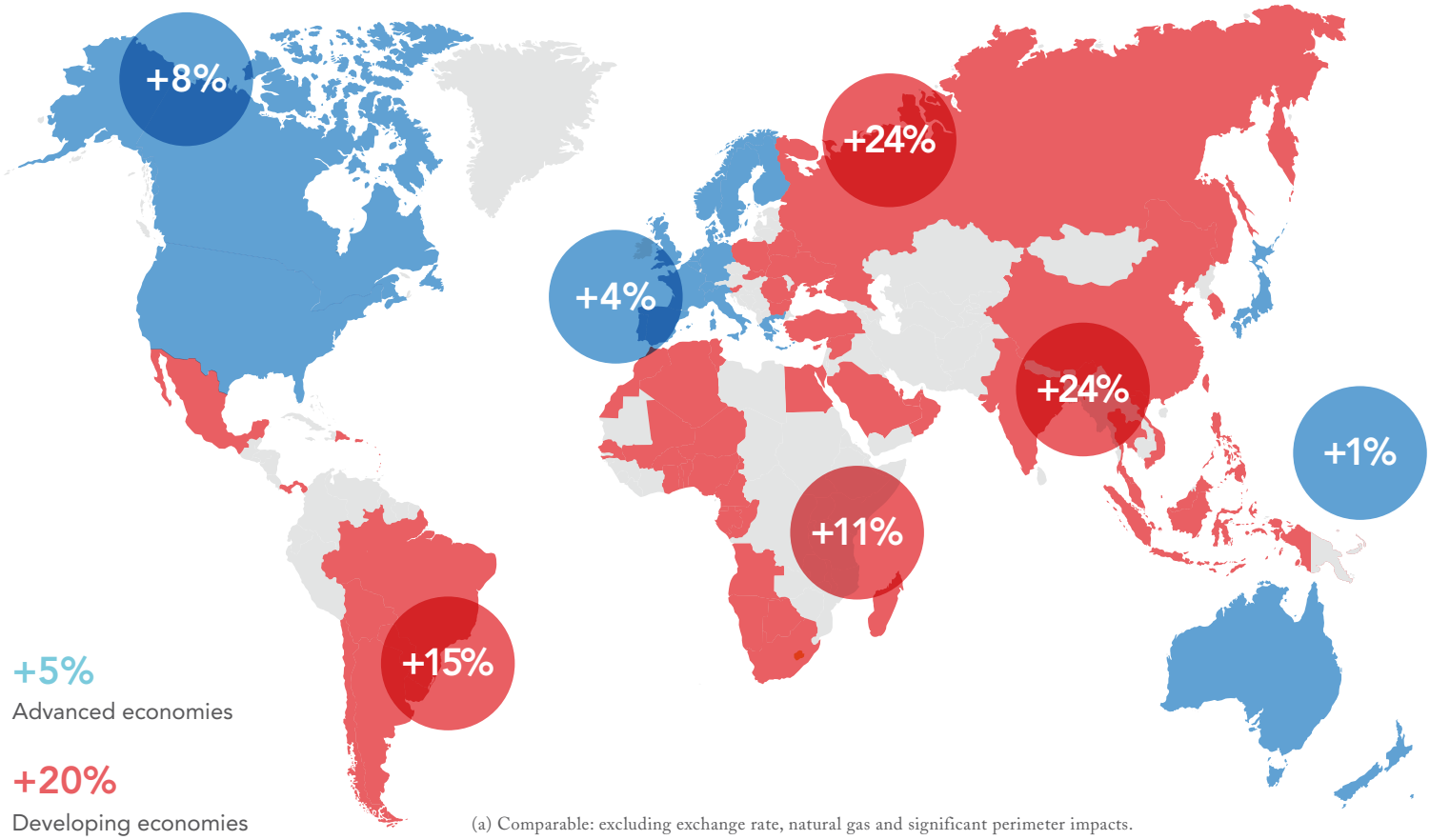


2,076
Healthcare

4,585
Large Industries

Comparable[(a)] Gas and Services sales growth

(2011/2010)

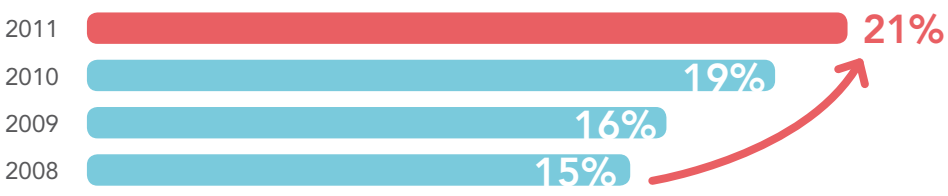


+5%
Advanced economies

+20%
Developing economies

(a) Comparable: excluding exchange rate, natural gas and significant perimeter impacts.

Gas and Services sales share in developing economies



Gas and Services

Industrial Merchant

The Industrial Merchant (IM) Business Line serves more than one million customers on a wide range of markets, offering comprehensive gas solutions to optimize their process efficiency and help them achieve greater respect for the environment. Thanks to its global network of experts and wide geographic reach that provides close proximity to its customers, the business line supplies innovative solutions including industrial and specialty gases, business expertise, application equipment, and associated services.

+3%
growth compared to 2010

€4,892
million in revenue in 2011

Large Industries

The Group builds and operates its own production units and pipeline networks to meet the critical gas needs of its customers at both a local and international level. Air Liquide supplies key customers in growing segments such as steel, chemicals, refining and energy. The fundamentals of LI's business are a rigorous project development process, its offer based on cutting-edge technology, and its global presence.

+14%
growth compared to 2010

€4,585
million in revenue in 2011

Electronics

Air Liquide is the leading supplier of the major manufacturers of electronic parts thanks to its global infrastructure and location in key Asian regions. The Group's diverse offer includes ultra-pure carrier gases, specialty gases and advanced precursors, and a complete line of on-site quality control and fluid management services. The Electronics business line also supplies equipment and installs gas and ultra-pure chemical product distribution units for its customers' new production facilities.

€1,286
million in revenue

+9%
growth compared to 2010

Healthcare

The Healthcare World Business Line is structured around two pillars: hospital care (medical gases, medical gas services and hygiene) and home healthcare. The Group supplies more than 6,000 hospitals and clinics with medical gases (oxygen, nitrous oxide, nitric oxide, xenon, etc.) to assist breathing, for anesthesia, pain relief and the preservation of human cells and tissue. Air Liquide continuously invests in research and development to find new medical applications for its primary gases. Furthermore, it is the European leader in hospital disinfection (surgical units, endoscopy, etc.). Air Liquide has also emerged as a leader in medico-technical management at home of more than 700,000 patients suffering from chronic diseases (respiratory disorders, diabetes, etc.), whose treatment requires the use of medical devices.

€2,076
million in revenue

+7%
growth compared to 2010

Engineering & Construction

Air Liquide's Engineering & Construction (E&C) Division designs, develops and builds competitive, innovative, reliable and efficient production units for the Group and its customers. The division has four objectives:

- Create a significant competitive advantage for the Group by developing a large portfolio of proprietary technologies
- Provide customers with tailored solutions by tracking projects on an operational level, improving continuously and fully using its recognized experience in project implementation
- Capitalize on synergies between local centers in a global network, situated so as to be as close to customers as possible
- Develop teams' expertise and skills while encouraging innovation

€705
million
in revenue

€1
billion
in orders

Diving

Originally specializing in diving equipment, the Aqua Lung subsidiary has diversified into several new markets over the past 10 years. Its product line has gained worldwide recognition in sectors as varied as swimming, public safety, aviation, and tactical and military equipment. In addition to these new markets, Aqua Lung continues to supply its traditional customers: specialty shops, sporting goods chains, and mass market retailers. To ensure sustainable growth, Aqua Lung prioritizes innovation and targets international markets with strong potential.

Welding

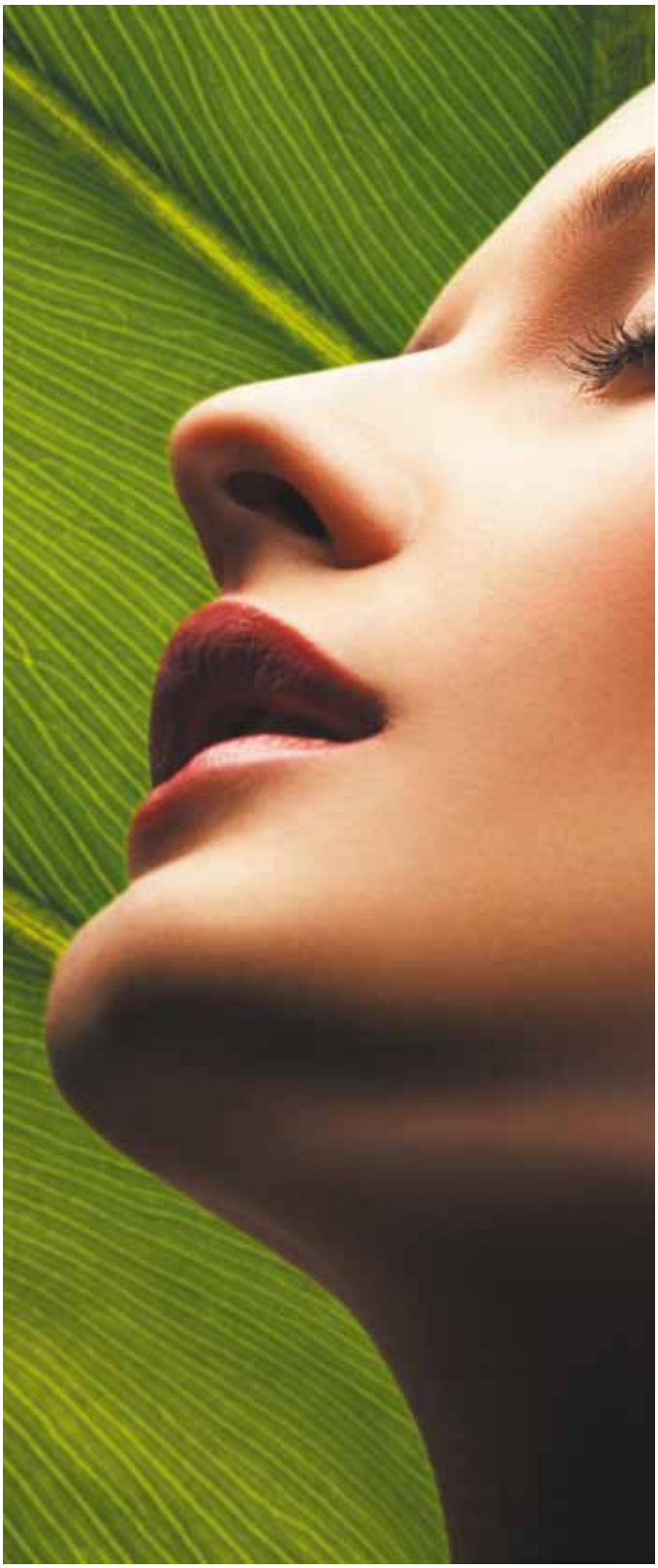
The Group's welding business, principally represented by Air Liquide Welding (ALW), designs, manufactures and markets equipment, tools and support products for welding and cutting. It also offers a number of support services for welding customers looking to optimize their production. ALW's large production capabilities and the constant innovations of its R&D center – commonly known as CTAS (Centre Technique des Application de Soudage) – enable Air Liquide to meet the needs of the automobile, railway and naval industries as well as equipment manufacturers in the chemical, food and energy sectors.

€429

million
in revenue

Specialty ingredients

For over 60 years, SEPPIC, an Air Liquide subsidiary, has designed and supplied a wide range of specialty ingredients – excipients and active ingredients – that are essential for the personal care and pharmaceutical industries as well as vaccine manufacturers. A recognized leader in its sector, SEPPIC is constantly developing its expertise in polymers, biology, immunology and the transformation of natural products.



Highlights

January

India: new developments in the west of the country
Commissioning of a new state-of-the-art air separation unit (ASU) to produce gaseous nitrogen.

Poland: two new ASUs commissioned
The new air separation units are the biggest liquid and gas production source in Central and Eastern Poland, with an aggregate production capacity of around 1,700 tonnes per day.

Acquisition of ADEP Assistance, a major homecare provider in France
Air Liquide acquired ADEP Assistance, specialist in medico-technical homecare for respiratory deficiencies.

February/March

United States: powering a hydrogen forklift fleet
The Group will provide liquid hydrogen, a distribution station, and the infrastructure to power the forklift fleet at Coca-Cola's facility in California.

April

New contract with Russia's leading steel producer
Air Liquide signed a new long-term agreement with Severstal. The Group will provide oxygen, nitrogen, and argon for the new steel plant.

New investment in the Philippines
Air Liquide invested more than €22 million in the construction and operation of a new ASU.

Air Liquide confirms its leading position in the photovoltaic industry
Air Liquide signed 15 additional long-term contracts with leaders in the photovoltaics industry in China, Taiwan, Japan and Germany.

May

Air Liquide: Challenge Bibendum technological partner in Berlin
The Group set up a hydrogen distribution station to fuel 30 hydrogen-powered vehicles presented during the event.

Further investments in Saudi Arabia
Signing of a new long-term agreement with Saudi Aramco for nitrogen supply. Air Liquide will invest more than €25 million in two ASUs.

Major investment in Chile's Santiago region
Air Liquide decided to invest in a new air gases plant. This unit represents a total investment of nearly €25 million.

June

China: further development in the Hefei industrial basin
Air Liquide announced the signing of a long-term agreement with IRICO Electronics, a glass manufacturer for the photovoltaic industry located in the industrial development and high-tech zone of Hefei.

First steps in Ukraine: long-term agreement with the steel industry leader
Air Liquide signed a long-term contract with EMZ, a subsidiary of Ukrainian steel leader Metinvest, to supply industrial gases. The overall Air Liquide investment is around €100 million.

July

France: contract with Nanomakers in nanopowders
Air Liquide will supply silane, hydrogen, acetylene, argon and equipment for Nanomakers' first industrial site in France.

Air Liquide Foundation supports research in neurodegenerative disorders
The Air Liquide Foundation decided to support the ICM's research work in the analysis of the mechanisms of neuronal degeneration in Parkinson's disease.

August/September

Issue of the first Renminbi-denominated bonds
Air Liquide is the first French company to issue Renminbi-denominated bonds for a total amount of €300 million in order to contribute to the financing of its development in China.

Germany: acquisition of a leader in home infusion therapy
Air Liquide announced the acquisition of Licher Medical Therapy, the German leader in medico-technical homecare for Parkinson's patients.

Major acceleration of growth in Turkey
Air Liquide will invest in a new Yango$_2$ production unit, a standardized ASU that is easy to deliver across the world at competitive prices and equipped with the Group's innovative technology.

October

Further investments in Bulgaria
Air Liquide will invest close to €10 million to expand its operations in Pirdop, located 80 km East of Sofia.

New contract with South Korean steelmaker
Air Liquide signed a contract with Posco, to design and build two very large ASUs.

November / December

Partnership for the development of the European market for hydrogen forklift trucks
Air Liquide and Plug Power, the world leader in fuel cells for forklift trucks, announced their intention to join forces to develop the market for hydrogen-powered forklift trucks in Europe.

China: major contract signed with Sinopec
Air Liquide signed a contract for the supply of oxygen and nitrogen with Sinopec, Asia's largest petroleum and petrochemical group, as part of a coal-to-hydrogen project.

Further investments in Singapore
Air Liquide is increasing its investments on Jurong Island in order to expand its industrial gas infrastructure.

Air Liquide Foundation: support for research into the carbon footprint of the mangrove in New Caledonia
The Air Liquide Foundation has chosen to give €120,000 over two years to the Institut de Recherche pour le Développement, a European research organization based in Marseille, France.

To be the leader of its industry through Performance and Responsibility over the long term

For many years, Air Liquide's development strategy has been founded on creating long-term value. This long-term performance is based on constant growth of the industrial gas market, a solid economic model and an offensive strategy of development.

STRATEGY

Solid growth drivers

The industrial gas industry has enjoyed steady growth over the last 100 years tied to increasing needs, the emergence of new applications supported by innovation and technological research and increased outsourcing by customers of gas production.

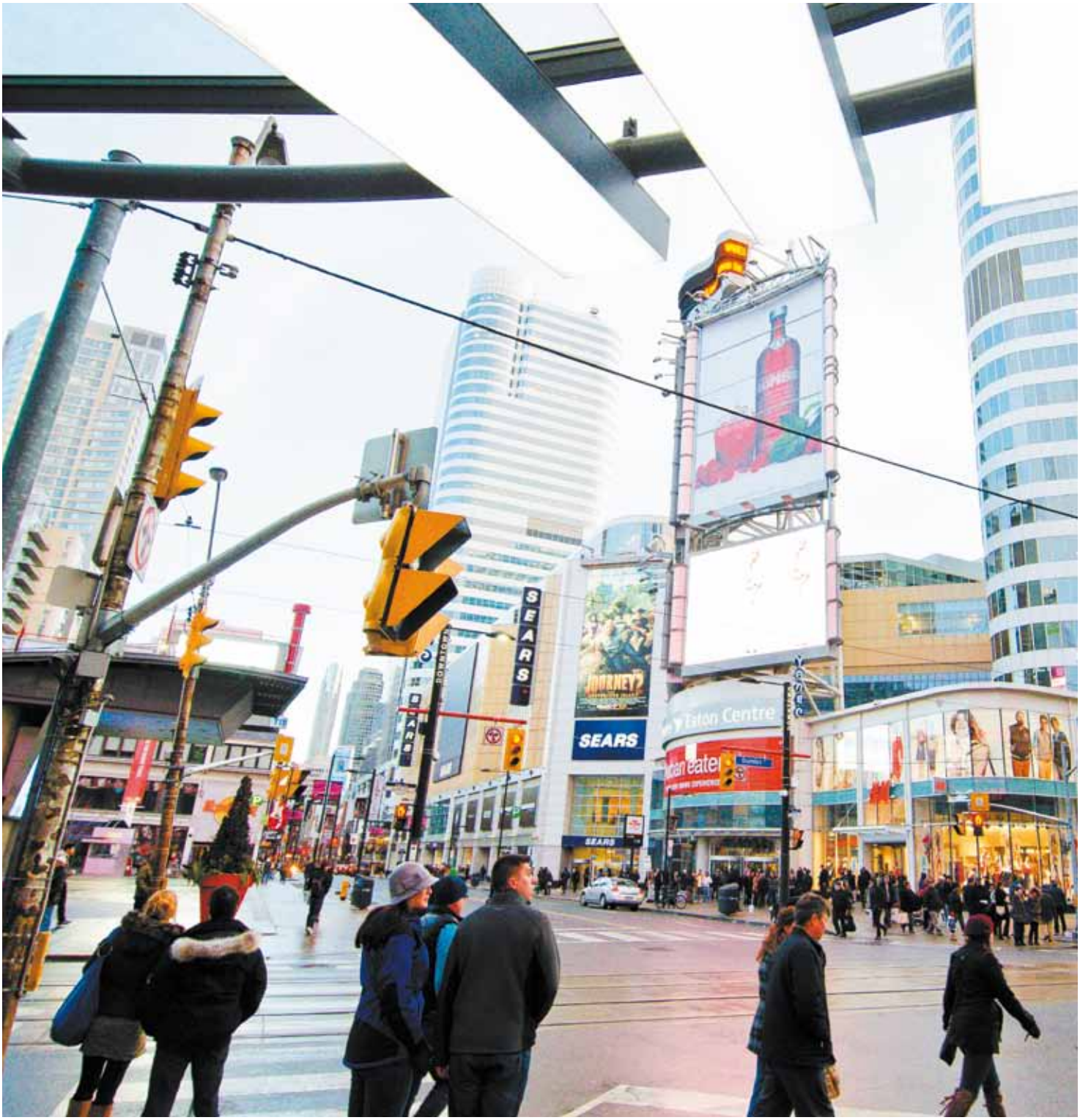
Opportunities offered by developing economies that are investing heavily in their industrial infrastructures. This is driving oxygen demand whose production is increasingly outsourced. Industrial development in general in these countries has increased demand for gas in a variety of applications.

65% of the Group's investment opportunities are today located in developing economies, together with 60% of investment decisions.

Energy concerns and Environmental protection: Industrial gases help customers improve their energy efficiency and are also used directly in the production of certain alternative energies.
As an example, the biomass or coal gasification process and the development of renewable energies such as photovoltaics consume substantial volumes of gas.
Further down the road, more potential for industrial gas consumption will come from the development of hydrogen fuel cell technology to supplement or replace fossil fuels for motor transportation and electricity supply in remote places. The majority of solutions to reduce CO_2 in the atmosphere require the supply of industrial gases and Air Liquide has the necessary proprietary technologies to offer innovative solutions to its clients.

Growth is constant in the healthcare market, primarily led by an aging population, changes in lifestyle and the arrival of health insurance in developing economies. In addition, health system budget restraints are encouraging the development of home healthcare solutions that reduce the cost to the community.
Air Liquide is strategically positioned in this sector, particularly in Europe, where it is leader, with an expanding range of therapies. Our medical gases are used to ventilate, oxygenate or anesthetize patients, manage pain and treat acute respiratory distress syndromes. Our research teams innovate through the ongoing development of these gases for new medical applications.
By 2015, the Group's strategic objectives consist in expanding its leadership in medical oxygen and delivering home healthcare services to 1 million patients.

There has been significant development in the high technology market, driven by numerous consumer product innovations and, more generally, by the increasing complexity of our industries. Hence, the demand for high-purity industrial gases has risen substantially to meet the needs of semiconductor, flat panel or solar panel manufacturers, particularly in Asia. In addition, the Group's expertise in gases, and more specifically in very low temperatures, allows it to contribute to major technological projects aiming to enhance knowledge in many fields such as theoretical physics, space or energy (nuclear fusion, superconductivity).



STRATEGY

A solid economic model

Air Liquide confirmed the resilience of its business model that relies on the variety of its application portfolio, its diverse geographical coverage, solid contracts and record efficiency gains.

Together, the Large Industries business line, benefiting from long-term contracts with take-or-pay clauses, and the Healthcare business line, enjoying steady growth independently of the economic cycle, guarantee the solidity of the business model. They account for 52% of Gas and Services revenue.

Developing economies now represent 21% of Gas and Services revenue. The diversity of customer industries and the geographical presence of the Group in over 80 countries further support the Group's growth potential. The Group's debt level is under control. The strength of the balance sheet enables to finance development projects and site takeovers, as well as acquisitions in the Industrial Merchant and Healthcare business lines.

ALMA 2015, the Group's growth program

It is based on the reaffirmed ambition to be the leader of its industry through performance and responsibility over the long term.

Based on growth estimates for the industrial gas market of between +7% and +8% by 2015, the Group has set new and ambitious performance objectives:

- **revenue growth of between +8% and +10%**, in a normalized environment, requiring capital expenditure of 12 billion euros for the 2011-2015 period;
- continued delivery of operational efficiencies for **over 200 million euros annually**;
- **improved ROCE** of between 12% and 13% by 2015.

The Group launched a review to define objectives for the 2011-2015 period concerning Key Responsibility Indicators. This review resulted in the introduction of a number of precise **Responsibility** objectives at the end of 2011. These now represent an integral part of the Group's strategy in the same way as Performance objectives.

The Corporate Social Responsibility approach seeks to serve the interests of all stakeholders: shareholders, employees, customers, patients and communities where the Group is present. It is founded on three fields of action: improve the environmental footprint, enhance business practices and governance and innovate relentlessly.

The following commitments underpin this approach:

- deliver long-term performance thanks to a steady increase of investment value, ensure respect and consideration in the relationship with **shareholders**;
- deliver value to customers and patients through safe, reliable and cost-effective solutions; proactively dialogue with **customers and patients**;
- be a great place to develop one's potential, providing **employees** with a safe, performing and respectful work environment;
- act as a good citizen in the countries where the Group operates, by participating in the development of local economies, the protection of life and the environment, and through a proactive dialogue with **communities**;
- contribute to continuously improve the **environmental footprint** of the Group operations, products, customers, suppliers and communities.
- maintain a well-designed organization and effective decision processes, committed to **ethical behavior**, appropriate risk management and proactive compliance with internal and external regulations;
- **innovate relentlessly** in order to bring sustainable and cost-effective solutions to society, leveraging partnerships with customers, suppliers, academics and communities.

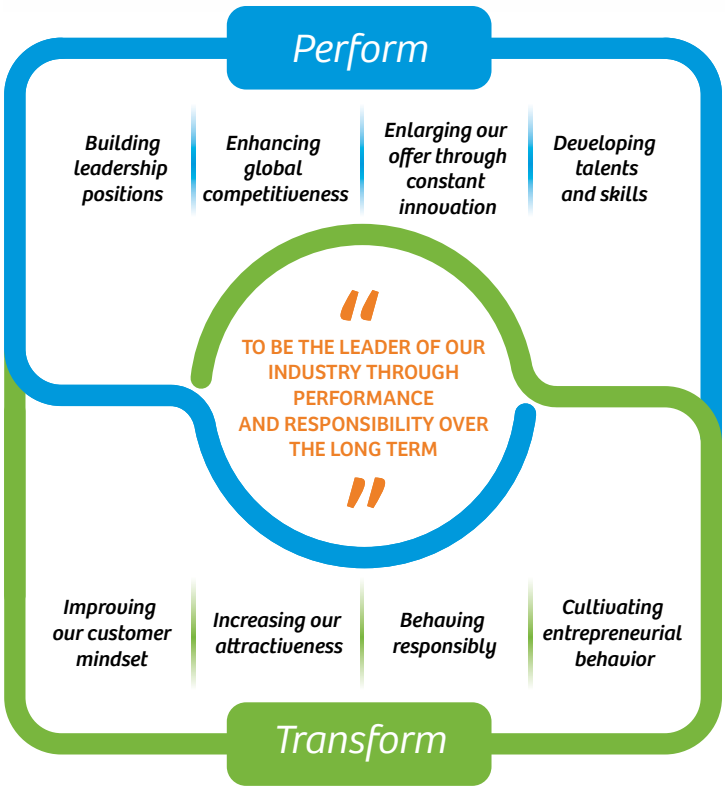
To meet these objectives, the Group will continue to rely on the four previously determined strategic initiatives:

- **establish leading positions** in developing economies and technologies and new markets;
- **strengthen its operational competitiveness** through efficiency and investment optimization;
- **expand its offering through constant** product and process **innovation**;
- **develop the talents** and expertise in order to support growth.

Four enablers have been introduced to further the Group's ability to pursue its strategic initiatives in a dynamic and responsible manner:

- improve the customer mindset;
- increase the Group's attractiveness;
- behave responsibly towards all stakeholders;
- cultivate an entrepreneurial behavior.

ALMA 2015 is implemented via a series of projects in all countries and regions and in each World Business Line in order to deliver a high-level of performance, responsibly over time.



Around the Europe zone

Europe stretches from the Atlantic to the Urals, but for Air Liquide the zone encompasses a part of Asia Minor (Turkey) and all of Russia. After a century marked by decisive events (two world wars, the rise and fall of the Eastern Bloc, and European integration), Europe is currently experiencing a period of relative political stability. This diverse zone is the largest integrated economic space in the world.

KEY FIGURES

€6.585
billion
in 2011 revenue

52%
of Group workforce

EUROPE GAS AND SERVICES REVENUE

Large Industries — 39%

Industrial Merchant — 33%

Healthcare — 24%

Electronics — 4%

EXPERIENCE

Air Liquide in Europe: a beautiful, enduring story

Founded in France more than a century ago, Air Liquide quickly expanded alongside industrial growth to countries including: Belgium (1906); Italy, Greece and Spain (1909); Sweden (1912) and the Netherlands (1913). The 1980s and 1990s witnessed new expansions to Russia (1989), Poland (1995) and beyond.

Today, Air Liquide is present in 25 European countries, with local subsidiaries of various sizes and stages of development. Europe is home to some of the Group's largest R&D centers, where teams are continuously designing new products and solutions.

More than half of the Group's Gas and Services revenue is earned in Europe, and employees in this zone represent more than 50% of the Group's global workforce. The continent accounts for about a million customers, from craftsmen to industrial giants.

All of the Group's activities are represented in the Europe zone. Industrial Merchant, a historic business line for Air Liquide, supplies gases in bulk and in cylinders to the welding, steelwork and metallurgy industries. Large Industries is the Group's most significant European activity, with operations in most European countries. It occupies a leading position in the large industrial basins of Western Europe, where Air Liquide has an important network of pipelines from Dunkirk (France) to Rotterdam (Netherlands), and in Germany's Ruhr region.

The Electronics business line supplies high-purity gases to semi-conductor manufacturers and the growing photovoltaics industry. First developed in Europe, the Group's Healthcare business occupies today a leading position in medical gases, hygienic products for hospital disinfection, and home healthcare services for patients with chronic diseases. The Group's Healthcare business is developing in Europe through innovation, new products and services that respond to customer and patient needs, and acquisitions, in particular in home healthcare. The Engineering and Construction Division in France, Germany and Poland owns more than 1,600 patents and offers solutions for industrial gas production, clean energy, gas purification, polymers, refining and oleochemistry. Finally, the Group's welding-cutting activity produces 80% of its revenue in Europe. It serves more than 28,000 customers, 10,000 of which are distributors and retailers.

Today, Air Liquide in Europe faces twin challenges. The Group must consolidate its positions in both Central and Western Europe, especially in the environment, high-tech and healthcare sectors, while also accelerating growth in Eastern Europe in traditional industrial sectors (such as steelwork, oil refining and glass). Air Liquide is using its human, technological and financial assets in Western Europe to drive solution development, conquer new markets, and continuously improve the competitiveness of its products and applications for all European industries.

VIEWPOINT / MICHEL DIDIER,
French economist, President of the Centre d'observation économique et de Recherche pour l'Expansion de l'économie et le Développement des Entreprises (Center for Economic Observation and Research for Economic Expansion and Business Development)

Can Europe be considered a single economic entity in the broad sense of the term?
Thanks to the European Union (today comprising 27 countries), the answer is yes in terms of the circulation of goods and capital. However, economic integration built on the principle of subsidiarity is far from complete. Public finances and taxation remain the responsibility of individual member states. This is where the difficulties with the euro zone start. The future of geographic expansion and changes in governance are uncertain. Nonetheless, the future is also encouraging because integration is an ongoing process.

Can the continent rely solely on Eastern Europe for further development?
It's complicated. Although Central and Eastern Europe are catching up economically, they will remain largely dependent on Western countries, which represent 90% of the economic weight of the "Old Continent". Moreover, Eastern Europe's demographic decline will certainly have an impact on the region's future growth and its demand for goods and services. Two exceptions to these trends are Russia, which should continue to benefit from oil and gas revenues, and Turkey, whose population growth is comparable to that of an emerging country.

For companies, what advantages does Europe have to offer compared to the rest of the world?
Responsible for 23% of global GDP, Europe remains the largest integrated market in the world, ahead of Canada / the United States (22%) and Southeast Asia (21%). The European continent is also a base of political and democratic stability. Finally, Europe plays a leading role in solving social and environmental challenges. It is an attractive region for its abundance of human and cultural capital, its effective workforce, and top-notch research and innovation!

HIGH-TECH

Nanopowders: Air Liquide's expertise makes a difference

Nanopowders, used in more and more industrial sectors (electronics, optics, energy, environment, healthcare, etc.), are a high-potential market, and manufacturing them requires high-purity gases. Air Liquide's recognized expertise in this sector has led to a long-term contract with Nanomakers, a French specialist in nanopowders.

Nanomakers specializes in the production of ultra-pure, ultra-homogenous silicon carbide nanopowders used to reinforce the mechanical and thermal resistance of industrial materials. Air Liquide has supplied gases (silane, hydrogen, acetylene, argon, etc.) and equipment to Nanomakers' first industrial site in Rambouillet (France) since early 2012. Air Liquide R&D teams will provide this new customer with scientific expertise in the fields of gas analysis and purification.

HEALTH

Successful launch of the Monnal T50 ventilator

The Monnal T50 ventilator was launched in December 2010 by Air Liquide Medical Systems (ALMS), enriching the Monnal product line with an equipment dedicated to treating at home patients with chronic respiratory diseases. Adapted for patient mobility, the compact, easy-to-use ventilator was designed to offer high-performance ventilation and practicality. Monnal T50 has already seen great success in Italy, France and India.

HEALTH

Accompanying home healthcare patients

Air Liquide, a leader in home healthcare in Europe, is continuing its development via acquisitions to meet the strong demand created by an ageing population and the rise in chronic diseases. 2011 was marked by two notable acquisitions:

- ADEP Assistance reinforces the Group's home healthcare respiratory assistance offer in France with recognized expertise, notably in invasive and non-invasive ventilation, in pediatrics, and for patients with severely disabling illnesses (such as neuromuscular diseases).
- Licher Medical Therapy, a leader in the German market, brings its expertise in the medico-technical management at home of Parkinson's disease patients using apomorphine pumps(1). A particularly innovative company, Licher differentiates itself by developing medical equipment (such as pumps) and consumables such as catheters and syringes to better respond to patient needs. This acquisition is a new step for the German VitalAire subsidiary, moving beyond its historical activity in respiratory assistance.
  To create a global offer in home healthcare for Parkinson's disease patients, VitalAire has also signed an apomorphine distribution agreement in Germany and Austria with the drug's manufacturer, pharmaceutical laboratory Britannia (STADA Group).

(1) Apomorphine treats the motor fluctuations of Parkinson's patients that are not sufficiently controlled by oral anti-Parkinson's medication.

FOOD

Captured and recycled CO_2

Carbon dioxide (CO_2) is used in many sectors of the food industry, such as carbonated beverages, food conservation, refrigeration and water treatment. It represents an expanding market in the United Kingdom.

British Sugar's bioethanol factory produces CO_2 through a process of natural fermentation. Until now, this CO_2 was simply released into the atmosphere.

Air Liquide decided to forge a partnership with British Sugar and invest in a new facility in Wissington. Set to start operations in spring 2012, this unit will recover, purify and liquefy the CO_2 emitted by British Sugar. This will add about 70,000 metric tons of CO_2 per year to Air Liquide's production capacity and contribute to its sustainable goals, all thanks to a partner's valuable by-product.

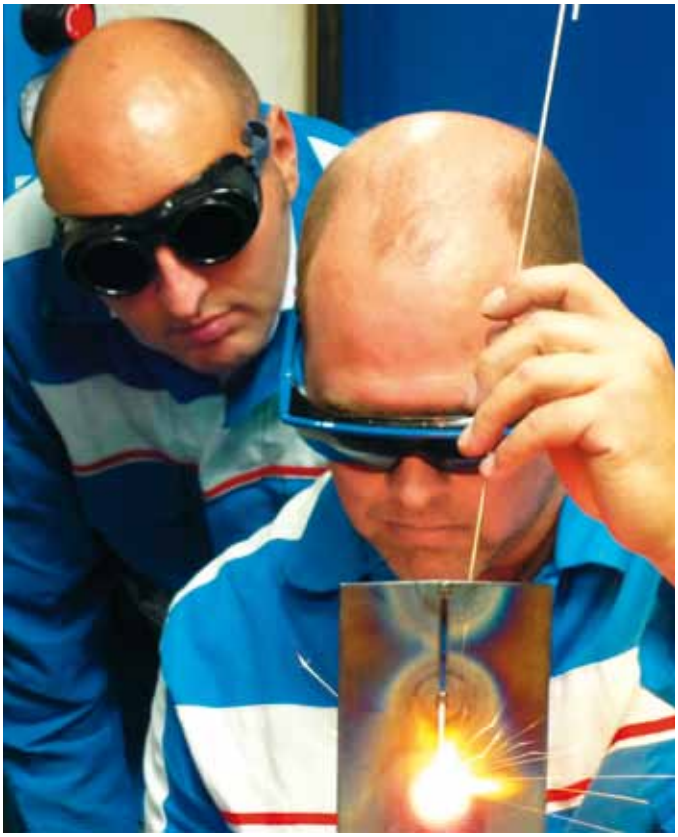
ENVIRONMENT

Welding has wind in its sails

Worldwide objectives for low-carbon energy production have stimulated the growth of the wind energy industry, giving rise to projects throughout Europe.

Air Liquide Welding (ALW), the Group's welding-cutting entity, has thus further developed in this sector by signing a major contract with Tag Energy Solutions, a British company specializing in offshore wind turbines. Tag Energy Solutions selected ALW for its expertise and ability to provide a global offer. ALW will now supply equipment (column & booms, weld heads, etc.) and welding consumables (wire and fluxes) to manufacture wind turbine towers.

Several other contracts were signed in 2011 to supply gas solutions for welding, cutting and thermal treatment used in the manufacture of wind turbines in Germany and Scandinavia.



CONQUERING MARKETS

Accelerating growth in Turkey

Air Liquide first entered Turkey in 2010, when it announced the investment in a new oxygen and liquid nitrogen production unit in the Ankara region. In 2011, the Group recorded a major win, signing a long-term contract with Turkish petrochemical industry leader PETKIM Group. Through this contract, Air Liquide performed the first large-scale outsourcing project of industrial gases in the history of Turkey.
Air Liquide will supply oxygen, nitrogen and compressed air to the PETKIM site in Aliaga, in the Izmir region. Air Liquide acquired PETKIM's three air gas production units, with a total production capacity of almost 400 metric tons of oxygen per day. Air Liquide's engineering teams will also install a new YangO_2 production unit, also with a capacity of 400 metric tons of oxygen per day. The Group's total investment in the Izmir region amounts to over €60 million.

Through this success, Air Liquide demonstrates its commitment to develop within the growing economy of Turkey, and takes a strong position at the heart of an important industrial basin.

EFFICIENCY

ALW: improved logistical performance brings customer satisfaction

Customer satisfaction is one of the major ongoing objectives of Air Liquide Welding (ALW), the Group's welding-cutting entity.
At stake is the delivery of large numbers of products to many geographically disperse customers.

ALW has put its customers at the heart of its strategy to better serve them and gain their trust. ALW regularly carries out "Voice of the Customer" surveys in several countries to identify areas of customer dissatisfaction and draft corrective action plans. In 2011, ALW concentrated on improving its logistical performance using a cross-disciplinary approach involving players from supply chain management, production, sales and sales administration. These efforts have improved logistical performance indicators (e.g. customer service satisfaction rate), achieving 2011 goals and strengthening the relationship of trust between ALW and its customers.

ENVIRONMENT

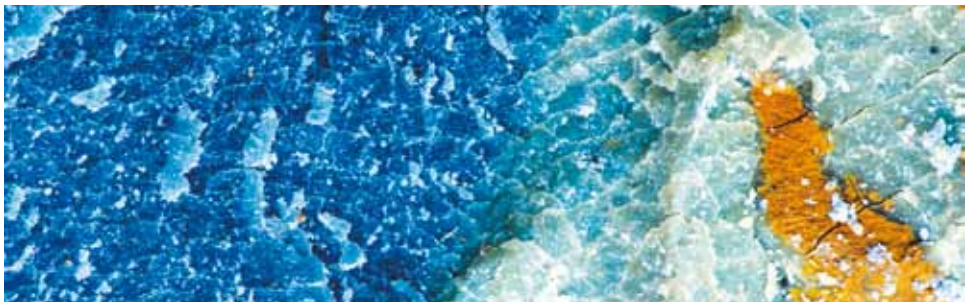
Hydrogen production and environmental protection

In May 2011, Air Liquide inaugurated a new world-class hydrogen production unit (steam methane reformer - SMR), one of the largest in its category to date. The unit is the result of a long-term contract to supply hydrogen to Neste Oil's biodiesel facility in the Rotterdam/Antwerp basin.

To meet the needs of Neste Oil's facility as well as additional needs of other customers, the SMR has a production capacity of 130,000 Nm^3 per hour – a 30% increase in Air Liquide's hydrogen production capacity in Europe's largest chemical and petrochemical basin. Across the Atlantic, the unit has been replicated with Air Liquide's Gulf Coast SMR, which went on line at the end of 2011.
The unit's design favors cost reduction through optimal energy efficiency, making it a hallmark of Air Liquide's environmental efforts.

CONQUERING MARKETS

A first for Air Liquide in Ukraine



In June 2011, Air Liquide signed a long-term contract to supply industrial gases to Yenakiieve Steel, a subsidiary of Metinvest – not only Ukraine's steel industry leader, but also one of the world's leading iron ore producers. This is the first time that a major Ukrainian steel producer has outsourced its industrial gas needs.

Partnering with an established local player is an important first step for Air Liquide in Ukraine, perfectly in line with the Group's ambition to support the growth of developing economies. Ukraine's industrial gas business offers immense potential to the Group: it boasts a vibrant metallurgy sector and has some of the largest iron ore reserves in the world.

Through this contract, Air Liquide will be able to supply gases to Yenakiieve Steel in southeastern Ukraine, as well as to other industrial groups in the country. The Group is investing approximately €100 million to design, build and operate a state-of-the-art air separation unit in the country based on operational standards in environmental and safety performance. Planned for commissioning in mid-2014, the unit will have a production capacity of 1,700 metric tons per day of oxygen, nitrogen and argon. Air Liquide has everything lined up for an excellent start in this emerging Eastern European economy!

And tomorrow?

In Western Europe's advanced economies, Air Liquide intends to strengthen its position by developing its expertise in the environment and healthcare. In the environment and energy fields, where Europe intends to set the global standard, the rise of photovoltaics, wind power and hydrogen applications (such as fuel cells and hydrocarbon refining) promise rich future possibilities for Air Liquide.
In Healthcare, the Group aims to ensure the medico-technical management at home of a growing number of patients, whose needs are increasing due to longer lifespans and the increase in chronic illnesses.

The appeal of the East

With the highest growth rate in Europe, developing economies in Eastern Europe offer major opportunities for Air Liquide. A number of industries, such as metals, automobile and naval construction, are developing rapidly and require large quantities of industrial gases. In the coming years, Air Liquide will build its presence by signing long-term gas supply contracts with major local companies, and reinforce its capacity to supply these key markets with innovative industrial gas solutions.

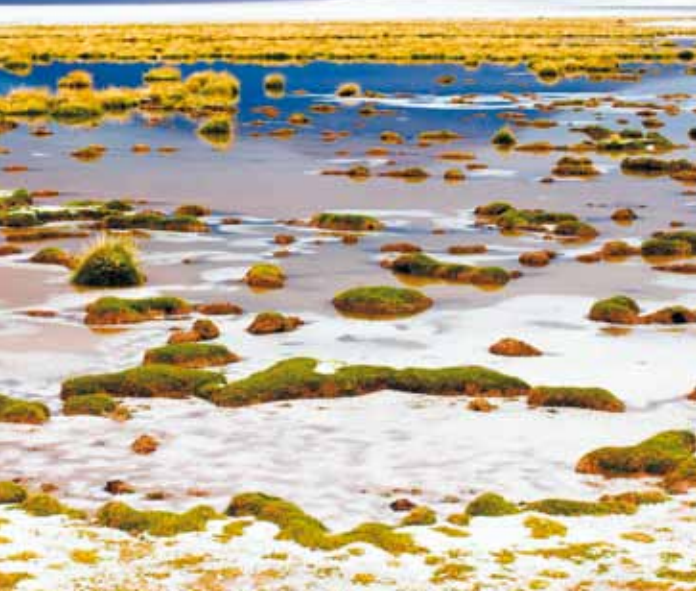
Ukraine, Poland, and Turkey provide strong development potential for the Group, as well as Russia where Air Liquide continues to bolster relationships forged in 2005 with Severstal, the country's largest steel company.

Opportunities abound for the Group in Turkey, where the Group is present since 2010. Buoyed by these projects, the Group has held up well against the economic crisis that the "Old Continent" is facing.

The economic potential of developing economies, coupled with a strong focus on innovation, provides robust growth prospects for Air Liquide in Europe. Despite the economic slowdown that has hit the West, Air Liquide can rely on its solid assets and experience to expand its activities and contribute to the region's development.

Around the Americas zone

Following the recent global economic crisis, the Americas have been on a faster path to recovery than many other regions in the world. This is particularly true of emerging Latin American economies, where growth averaged 3.5% to 4.5% last year, and in the United States, where industrial production increased more than 4%.
Industrial gases in the Americas is a €16 billion market, one-third of the global total. Air Liquide is fully capitalizing on opportunities in the region, with €2 billion invested since 2006. These investments are paying off: in 2011, revenue totaled €2.859 billion, 9% growth over the previous year.



KEY FIGURES

€2.859
billion
in 2011 revenue

21%
of Group workforce

AMERICAS GAS AND SERVICES REVENUE

Industrial Merchant — 47%

Large Industries — 35%

Healthcare — 10%

Electronics — 8%

EXPERIENCE

The Americas: a century of opportunities

Air Liquide celebrated its 100-year anniversary in the Americas in 2011, commemorating its first steps in Canada. It was in 1911 that Air Liquide first crossed the Atlantic to open an oxygen production unit in Montreal. Five years later, it expanded to the United States, and in 1938, the Group made its first venture into Latin America with its acquisition of La Oxígena S.A. in Argentina. Since then, the Group has come a long way, expanding throughout the US and across the dynamic South and Central American markets. Air Liquide continues to build on this 100-year legacy today, and recent successes have given it plenty of opportunities to continue to develop.

Key acquisitions in North America

A great deal of Air Liquide's development in the region has occurred over the last 25 years. Today, all four of the Group's World Business Lines (WBLs) are present in the Americas: Large Industries, Industrial Merchant, Electronics and Healthcare. Some notable acquisitions in the United States include Big Three Industries in 1986; MG Industries in 2004, which also included the acquired company's assets in South America and Trinidad; Scott Specialty Gases, Inc. in 2007; and Edwards CMD in 2008. The Group has also expanded its hydrogen pipeline substantially over the past six years, enabling Air Liquide to supply more product to its customers in California and Texas.

In Delaware, Air Liquide inaugurated a world-class research and development center in 2007.

Making strides throughout the Americas

The past several years have seen a major surge of activity in Mexico as well as South and Central America. While the Group celebrated its 20th anniversary in Chile last year, it made its first entry into Mexico. The Large Industries business line became an anchor supplier for leading steel producer Altos Hornos de Mexico, S.A.B. de C.V. (AHMSA), investing €70 million to build an air separation unit in Monclova, Coahuila. The unit will also enable the Group to supply gases to the region's Industrial Merchant sector.

Air Liquide has also made great strides in Brazil, South America's economic powerhouse. In 2007, the Group achieved a major commercial success in the country's steel market, becoming a supplier for ThyssenKrupp CSA Companhia Siderúrgica. Then, in 2010, Air Liquide invested €22 million toward growth and refurbishment of its capacities in Brazil's thriving Capuava industrial basin.

Big numbers

The Group's investments reflect its rapidly accelerating activities in the Americas. Since 2006, €2 billion have been invested in the region, and annual CAPEX has quadrupled from €100 million in 2001-2003 to €400 million from 2007-2011. The Americas workforce has doubled in the past five years to more than 8,000 employees. In 2011, revenue totaled €2.859 billion, growing 9% over the previous year. The Electronics business line boomed from 2010 to 2011, driven by consumer demand for semiconductor products.

Whether advanced or developing, the countries that make up the Americas zone provide great potential for continued progress for Air Liquide in the coming years.

VIEWPOINT / AMY MYERS JAFFE,
Wallace S. Wilson Fellow in Energy Studies and Energy Forum Director at the Baker Institute (bakerinstitute.org) and Associate Director of the Rice University Energy Program.

You stated in a recent *Foreign Policy* article that the Americas will become the world's energy capital. How do you see this taking place?

Two parallel trends will lead to that situation. First, the region is relatively free of instability, which is not currently the case in many countries in the Middle East, for example. Historically, regardless of its length, political instability tends to slow down oil development projects. Secondly, the Americas have recently witnessed extraction technology breakthroughs in shale formations. Whereas five years ago, none of the US natural gas came from shale formations, they account for 20% of production today, with projections of up to 50% in the next 20 years. The United States, Canada, Mexico, and more recently Argentina have shown great commercial potential in shale formations. Add to that offshore deepwater opportunities, especially in the coastal waters of the United States and Brazil. We are already seeing investment shifting to the Americas, where perceived risk is lower.

What kinds of risk do exist in the American market?

I see environmental and infrastructure challenges: water safety, air quality, local community roads, new pipeline construction and so on. But in my opinion, these are merely technological challenges that can be surmounted. Companies can play a large part in finding sustainable solutions. We see some corporations providing their own road crews, or even funding local government to provide necessary services. In the Americas, companies have the opportunity to find innovative solutions to regional challenges.

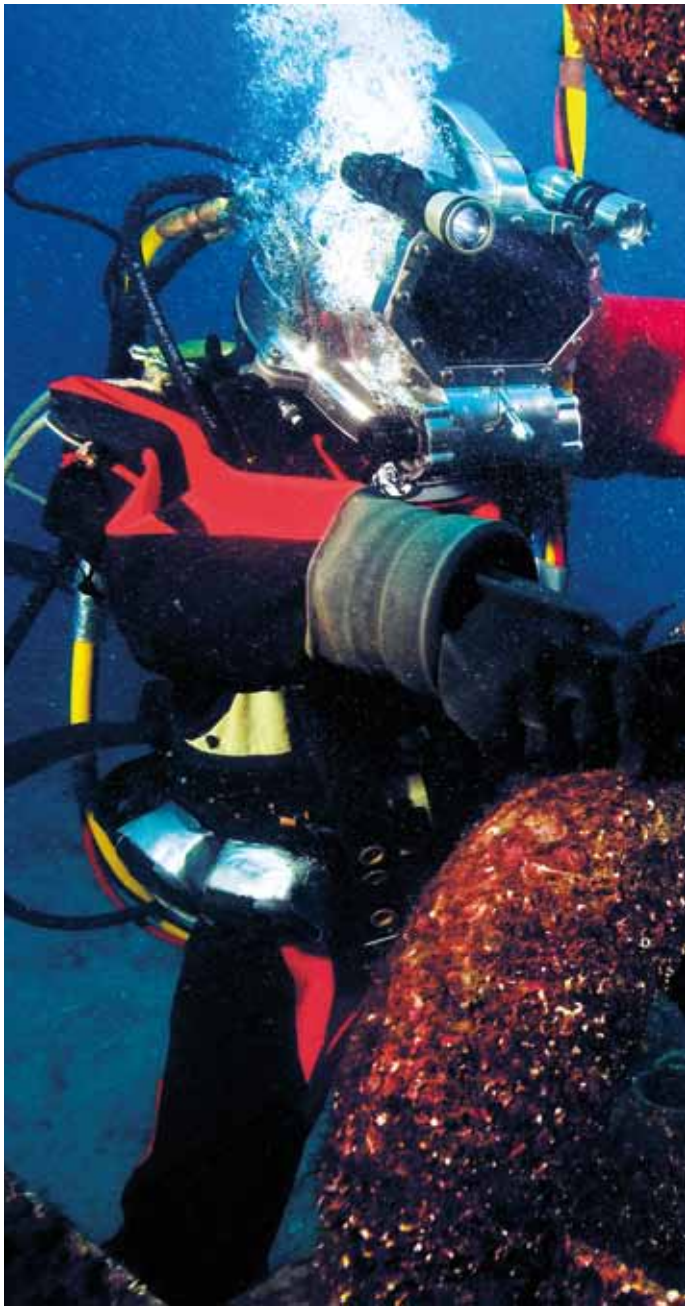
How will the industry have to adapt following the 2010 oil drilling accident in the Gulf of Mexico?

This incident and other accidents have made the public wary of the energy industry. This is magnified by social media, which can quickly give a local event visibility on an international level. All of this is going to change the industry's approach to regulation. We need to avoid fear-based regulations that needlessly prevent the industry from making the most of technology. Rather than fighting regulation wherever possible, companies need to engage policymakers in coming up with rules that are in line with current technology.

CONQUERING MARKETS

Aqua Lung acquires Gorski

Well known for its cutting-edge technology, Aqua Lung International added another star product to its range of professional and military diving equipment: the Gorski Helmet. The Air Liquide subsidiary acquired the rights to manufacture and market the "G-2000SS" in February 2011. The world-class helmet is the brainchild of Les Gorski, renowned figure in the world of commercial diving. Since the acquisition, Mr. Gorski has served as global Commercial Diving Program Manager for Aqua Lung. The Aqua Lung team aims to leverage his expertise in its ongoing collaboration with Air Liquide Offshore. The two teams are developing a full gas and equipment offering to expand into the offshore platform and civil engineering markets. They attended the Underwater Intervention commercial diving show in January 2012, where their combined booth offered a one-stop solution to customer needs. The Gorski acquisition enriches Aqua Lung's core business while facilitating expansion into new markets.



HIGH-TECH

Deep regional roots lead to blooming business in Brazil

Air Liquide's growing presence across a broad range of industrial and healthcare sectors in Brazil has been predicated by a number of long-term relationships with customers there. As one example, for over 30 years, Air Liquide has been working with Brazilian company Oxiteno, Latin America's largest ethylene oxide producer. With the region's dynamic development, the relationship continues to flourish: Air Liquide recently invested $30 million to build a new air separation unit (ASU) in Brazil's Capuava industrial basin.

The ASU was completed in 24 months, on schedule and following Group safety regulations. It represents Air Liquide's commitment to reliability and safety, as well its support of Oxiteno's growth, which has been fueled by the booming industrial sector in Brazil and the rest of South America. Oxiteno is part of the Ultra Group, which has been driving Brazil's development since the 1950s.

The Capuava industrial basin is ideally located in close proximity to bustling São Paulo, one of the largest cities in the Americas zone. The ASU can serve both the basin's chemical facilities and the growing local merchant market. With a production capacity of 650 metric tons per day, the unit was designed to meet growing demand for bulk gases in the region and support the 40% expansion of Oxiteno's production capacity. Its construction continues Air Liquide's decades-long relationship with Oxiteno, deepening the Group's involvement in this promising region.

HEALTH

A breath of fresh air for Healthcare in Brazil

Brazil has both a free public healthcare system and a private system financed through insurance companies. The public system is partially decentralized, with each of the country's 26 states along with the Federal District supposed to allocate 12% of their budget to healthcare. The private system is developing very quickly, with private institutions offering high-quality care, but with accompanying higher costs than the public system. Air Liquide has seen its business grow rapidly in Brazil over the last several years. The Group responds both to the needs of the private and public sectors, and to individual patients, as well.

Growth stimulated by strong demand

Air Liquide is poised for increased success in Brazil's medical gas and home healthcare markets. Demand is growing for the management at home of patients with chronic respiratory diseases: sleep apnea, oxygen therapy and home-based ventilation alone represent a market of over 200 million Brazilian reals. Responding to rapidly increasing home healthcare needs for sleep apnea patients, Air Liquide has acquired – over the last few years – companies specializing in the treatment of sleep apnea as well as those specializing in home respiratory care.

Patients and employees: the human factor

Providing quality healthcare at home requires a qualified and dedicated workforce. Recruitment will be a challenge in the years to come, as Air Liquide expects to greatly develop the business to meet its objectives.

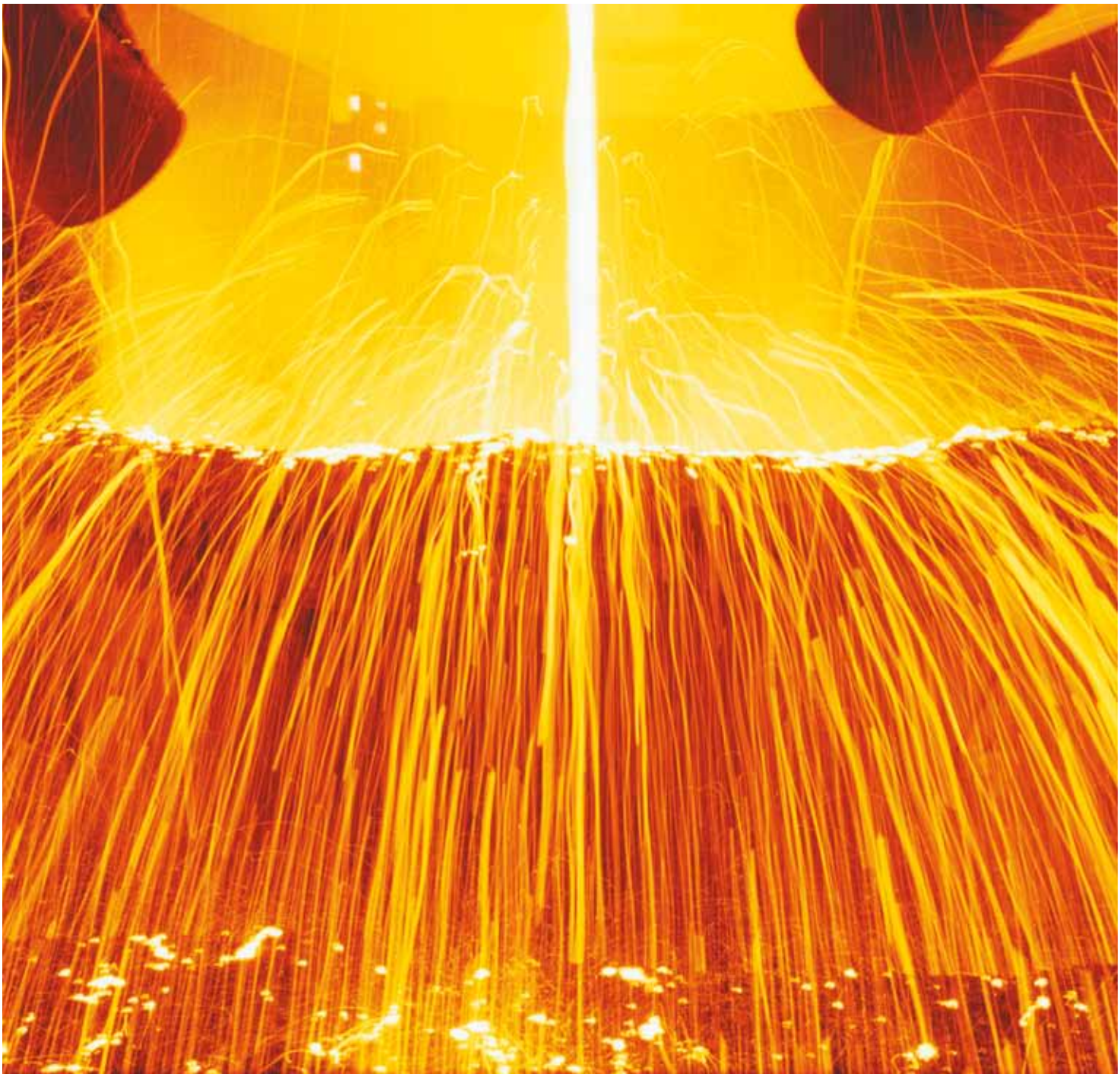
CONQUERING MARKETS

Mexico: solid as steel

In January 2011, new subsidiary Air Liquide Mexico signed a long-term contract to supply gases to one of the country's largest steel producers, marking its entry into the Mexican industrial gas market. Among the top 15 gas markets in the world, Mexico presents exciting growth prospects for Air Liquide. By partnering with Altos Hornos de Mexico, S.A.B. de C.V. (AHMSA), Air Liquide Mexico is off to an excellent start.

To furnish AHMSA's industrial gas needs, Air Liquide Mexico is investing over €70 million to build and operate a new air separation unit (ASU) in Monclova, Coahuila, Mexico. The ASU will have a daily oxygen production capacity of 1,550 metric tons, boosting AHMSA's current and future operations. The unit will also supply liquid oxygen, nitrogen and argon to the region's Industrial Merchant customers.

The major investment is more than worthwhile. Not only is Mexico one of the fastest-developing economies in the world, but it also boasts an abundant supply of natural resources. The country's proximity to the United States and favorable trade conditions between the two countries (via the North American Free Trade Agreement) create a good environment for an increase in demand for goods and services. Air Liquide Mexico's partnership with AHMSA is reflective of its commitment to the region's economy.



EFFICIENCY

The Supplier Relationship Management Platform: a one-stop shop for supplier management

Last year in North America, Air Liquide piloted a cutting-edge online supplier relationship management platform. Currently accessible via the Group's intranet, this platform provides procurement teams around the world with the information and metrics required to effectively manage suppliers, all from one convenient location. Its capabilities support management processes, including the identification, qualification and evaluation of critical suppliers. The platform offers users a global view of a given supplier, from the goods and services provided to Air Liquide to the contract structure and their progress against key performance indicators. After a year of testing in the United States and Asia Pacific, this platform is being deployed Group-wide.

HIGH-TECH

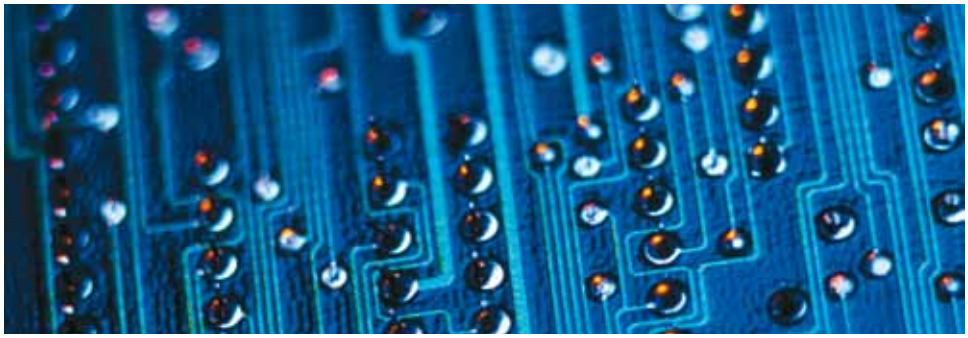
Electronics conducts big business in US

Benefiting from a strong US semiconductor market and solid alignment with the market leaders, Air Liquide Electronics US (ALEUS) signed new contracts with REC and Texas Instruments for additional onsite high-purity nitrogen, hydrogen and electronics specialty gases. The subsidiary is leveraging its solid infrastructure to supply Texas Instruments' new RFAB semiconductor manufacturing facility with ultra-pure carrier gases and a wide variety of other products and services.

ALEUS was also chosen by GlobalFoundries – a long-time partner in Europe and Asia – to provide carrier and specialty gases as well as onsite services at its new Fab 8, a state-of-the-art manufacturing facility in upstate New York. To service Fab 8, Air Liquide has commissioned a large multi-product onsite unit with a second unit to be commissioned in 2012.

Strong gas and chemical distribution equipment sales to several projects inside and outside the US also helped propel the E&I division (AES) to a record year in revenue.

ALOHA™ business has tripled over the last three years, thanks in large part to supply agreements to two of the world's top three largest semiconductor manufacturer. The ALOHA™ product line features a range of tailored molecules known as "advanced precursors". Manufacturers require such precursors to deposit thin films in advanced microelectronics devices. In order to maintain a leading position in this market, Air Liquide R&D works constantly to anticipate the microchip industry's rapidly evolving needs. This commitment to innovation led to notable commercial successes for the ALOHA™ product line's ZyALD™ and ToRuS™ precursors.



ENERGY

Walmart and Coca-Cola say yes to eco-friendly hydrogen energy

In 2011, the Group's hydrogen energy application made headway with two major corporations in the Americas. Air Liquide Industrial U.S. LP signed a contract to supply the hydrogen and distribution station to fuel a fleet of 37 forklifts for Coca-Cola. Fuel cell forklifts of this kind emit little to no greenhouse gases and will reduce Coca-Cola's annual energy consumption by 1.6 million kilowatt-hours.

Walmart Canada has also signed on for the environmental and cost benefits of hydrogen energy. After a successful contract signing in 2010, Air Liquide was awarded a second contract to supply a hydrogen distribution station to power fuel cell forklift trucks at a distribution center in Ontario. The fleet of 140 forklifts will be the largest deployment of fuel cell forklift trucks in Canada. The hydrogen that Air Liquide will supply is produced using 98% hydroelectric power.

And tomorrow?

The Americas make up around one-third of the global industrial gas market, and the United States is the single largest gas market in the world. In the region, the US and Canada make up 78% of this €16 billion market, with the rest comprising developing economies in Central and South America. Growth prospects are promising across the board. Through the end of the ALMA 2015 program, the gas market has a projected growth rate of 6% per year in the region's advanced economies and 7-8% per year in its developing economies.

Setting strong goals

In the medium term, market growth in the Americas zone will be driven by increasing demand in the energy and environmental sectors, infrastructure investments in Latin America, stronger purchasing power in developing economies, and rising demand for healthcare.

The Group will strive to leverage its size to expand across the region. It also aims to address customers' evolving needs by applying its technical expertise, providing new applications, and making large industrial investments. In this way, Air Liquide plans to grow faster than its competitors in every major market served through 2015.

Continuing to capitalize in North America

Demand for industrial gases is expected to rise in North America to support growth in industries ranging from oil well services to chemicals, which continue to benefit from low, stable natural gas pricing. This will enable Air Liquide to sell at full capacity along its pipeline distribution network while building new units to support pipeline and industrial market growth.

The Group is looking to achieve accelerated growth through targeted acquisitions, site takeovers, and rapid deployment of new applications in the Electronics and Industrial Merchant businesses.

Full speed ahead in developing economies

Most Industrial Merchant market segments stand to benefit from increased purchasing power in the region's developing economies. To take full advantage of this growth potential, Air Liquide plans to expand its presence in Brazil and Mexico and throughout Latin America.

Industrial Merchant and Large Industries alike can capitalize on oil exploration in Brazil's Pre-Salt basin, which should see the construction of new platforms, refineries and shipyards, creating investment opportunities for Air Liquide in hydrogen for new refineries, as well as traditional growth opportunities for oxygen and nitrogen.

A growing population and longer life expectancy will drive healthcare demand in South America. The development of our Healthcare business will continue, thanks to operations in new regions, the deployment of new offers, and new acquisitions, particularly in the home healthcare sector.

Given the endless opportunities throughout the Americas, Air Liquide has some very busy – and fruitful – years ahead.

Around the Asia-Pacific zone

2011 is remembered as the year of the natural disasters in Japan, as well as in Australia, New Zealand and Thailand. These disasters not only resulted in tragic human loss, but also put a damper on regional growth. Under these circumstances, Air Liquide demonstrated its responsiveness and its value in terms of safety and customer service, emerging stronger from this difficult period.

The Group's Asia-Pacific revenue increased by more than 12% in 2011, reaching €3.083 billion. Performance varied among advanced economies, in which sales remain stable, and developing economies, which posted a 24% growth rate. The Group also invested heavily in the zone, committing €718 million to projects over the year. In this resilient region, Air Liquide is well positioned to contribute further to Asia-Pacific's growth.

KEY FIGURES

€3.083
billion
in 2011 revenue

22%
of Group workforce

ASIA-PACIFIC GAS AND SERVICES REVENUE

Industrial Merchant — 38%

Large Industries — 31%

Electronics — 26%

Healthcare — 5%

EXPERIENCE

Air Liquide: over 100 years in Asia-Pacific

Present in the Asia-Pacific zone for over 100 years, Air Liquide has witnessed and participated in the stunning industrial growth of this region, which hosts some of the major global companies in many industries. The Group is proud to have played a role in Asia's industrialization from the start, having worked alongside nations and local industry players.

Air Liquide first entered Japan in 1907 when a shipyard in Osaka installed a Georges Claude oxygen generator, the first of its kind in the country. In Singapore, the Group founded Far East Oxygen in 1911 as a trading base for shipyards and manufacturing companies. In China, an Air Liquide gas facility was established in Shanghai in 1916. The Group left in 1948 during the Chinese civil war, only to return in 1990 when the country opened its doors to the world. As for the rest of the Asia-Pacific region, Air Liquide has operated in Australia for more than 50 years, and in the last 30 years, Air Liquide has expanded into Southeast Asia, Taiwan, Korea and India.

All of Air Liquide's World Business Lines (WBLs) currently operate in the region. Industrial Merchant serves a diverse group of industries, such as welding, glassmaking, food and beverage, and shipyards. Large Industries primarily supports the steel, coal conversion, oil refinery and chemicals industries across the major industrializing countries. Electronics serves largely the semiconductor, flat-panel display and photovoltaics industries. The Electronics WBL's work is focused mainly on Japan, Korea, Taiwan, China and Singapore, where the majority of these industries' manufacturing takes place. Meanwhile, the Healthcare WBL serves hospitals throughout the zone and is expanding its home healthcare offer in Australia, China and Korea.

With a long record of contributing to Asian economic transformation, Air Liquide continues to make history by seizing unique opportunities in this exciting region. Air Liquide's strategy for sustainable growth within the Asia-Pacific zone (as with other zones) involves establishing a base in industrial basins where the highest growth is present. Thanks to its extensive Asia-Pacific experience, the Group understands the region well, enabling Air Liquide to continue to grow and play a major role throughout.

VIEWPOINT / LOW WING KEONG,
Secretary General of the Asia Industrial Gases Association (AIGA) with over 30 years' experience in the industrial gas and chemical sector in Singapore and China.

How does AIGA work to develop safety standards in Asia?
AIGA bases most of its safety standards on those used in Europe and the United States, adapting these practices to the Asian environment. When there is a difference between local and international standards, we usually recommend that the more rigorous of the two take priority. AIGA is also active in the International Harmonization Council, which promotes global standards for the industry.

What challenges do you face in getting companies to implement AIGA standards?
Asia is a very diverse continent, comprising both advanced and developing economies. AIGA works with national gas associations in each country where we operate to heighten safety awareness, from the production stage through to customer sales. Most multinational gas providers already follow strong safety best practices, so we especially try to reach out to small and medium enterprises (SMEs). It takes time to dispel long-held beliefs and develop a uniform safety culture.

Are there particular situations where human error comes into play?
Yes, transportation is a notable area of concern. Dangerous road conditions and long distances between facilities can impose additional risks for delivery personnel. AIGA has also set its focus on three other key areas that can be impacted by human error: cylinders, electronics specialty gases, and medical gases. We are working with major regional players to improve processes across the board.

What do industrial gas companies looking to do business in Asia need to know about safety?
Companies interested in Asia typically have higher safety standards than local SMEs. Of course, they cannot immediately change the local situation, but they can certainly work actively with local authorities and SMEs to gradually improve safety standards. The challenge for these large companies is to stay competitive while convincing customers and partners that safety is crucial to long-term success.

CONQUERING MARKETS

Generating success in Southeast Asia

Air Liquide will be adding a new air separation unit on Singapore's Jurong Island, often referred to as the regional petrochemical hub, in a bid to boost its multi-million dollar industrial gas infrastructure on the island. The new unit will support Singapore CCD, a joint venture between Taiwan's Chang Chun and Dairen Chemical, and will be connected to Air Liquide's pipeline network, increasing the Group's local production capacity by 20% when commissioned in 2013. In Indonesia, Air Liquide has signed long-term agreements with subsidiaries of the Gunong Steel Group (GSG), to supply gaseous oxygen, nitrogen and argon to GSG's new steel facilities in Cikarang Barat, West Java. GSG is expanding its facilities through blast furnace technology to become a fully integrated producer of steel products.

Air Liquide also registered great success in its new "all in one" offer for the offshore oil and gas market. The Group is supplying heliox to deep-sea diving support vessels, as well as compressed and liquefied gases for offshore drilling development and production along Southeast Asian, Australian and Indian coastlines. Air Liquide responds with speed and flexibility to customers' needs in terms of diving, welding and oilwell services, adhering to the most stringent safety standards for offshore equipment assets. Thanks to such standards and advances, the Group is its customers' preferred supplier.

ENVIRONMENT

Groundbreaking projects in China

Air Liquide is building an air separation unit (ASU) in China that will be the country's largest ever. The ASU, expected to be commissioned in the first half of 2013, is part of a contract with Sinopec (China Petroleum & Chemical Corporation) to supply oxygen and nitrogen to MPCC, Sinopec's Maoming branch, for its coal-to-hydrogen project and existing refinery in Guangdong province. The new ASU will have a capacity of 3,000 metric tons of oxygen per day. MPCC's refinery expansion is one of Sinopec's largest projects, and will enable the Maoming branch to produce cleaner fuels and meet higher environmental standards.

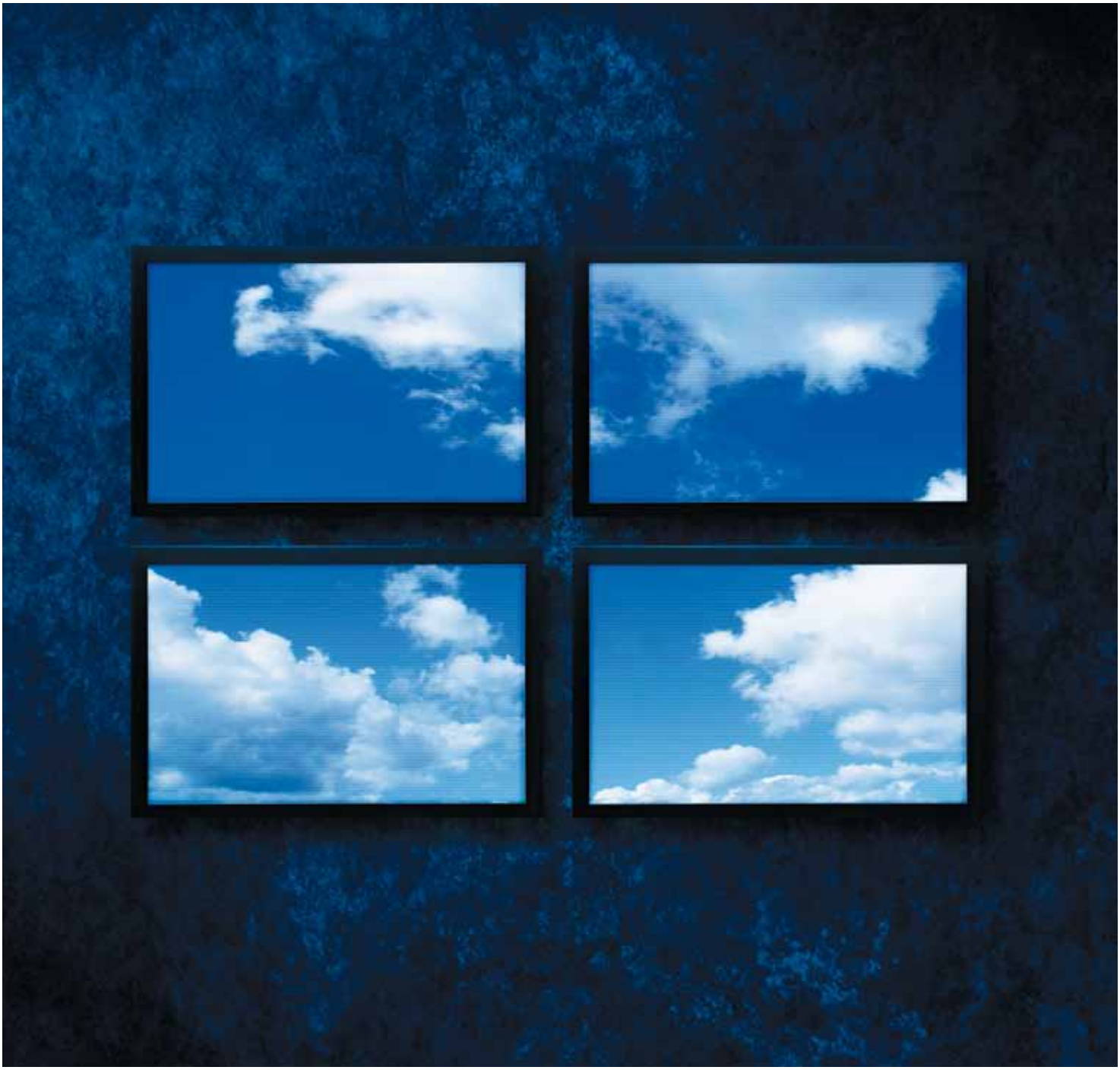
Air Liquide also signed a contract with the Shenhua Ningxia Coal Industry Group (SNCG) to build a 500,000 metric ton per year methanol-to-propylene facility in China. In addition, Air Liquide signed several contracts using Engineering and Construction's Lurgi technology to build production units in China. For Qinghai Salt Lake Group, Air Liquide is building a Rectisol facility as well as a methanol unit. A mega methanol facility will be built for Sinopec / China Coal. Air Liquide is also building Rectisol units for Baofeng Group, Sinopec Maoming, Sinopec Nanjing, and Yanchang Group.

HEALTHCARE

Developing home healthcare business in South Korea

In 2011, the Healthcare (HC) business line pursued its development within the Asia-Pacific zone by acquiring the long-term home oxygen therapy business of Air Products in South Korea. With this new acquisition, Air Liquide's home healthcare business within South Korea is strengthened by new employees who serve patients in two areas: long-term oxygen therapy and respiratory ventilation. In this thriving nation of 48 million people, Air Liquide is taking care of 2,000 patients at home.

The Air Products long-term home oxygen therapy business acquisition comes on the heels of both acquisitions of a 70% stake in Medions Homecare, the South Korean leader in home respiratory ventilation, and of a 70% stake in Snore Australia, a major player in sleep diagnostics. Each of these acquisitions was made in 2010. These investments constitute an important part of the Group's strategic goal of ensuring medico-technical management at home of 1 million patients globally by 2015.



HIGH-TECH

Asian growth propels demand for flat-panel displays

Demand for large flat-screen televisions in China has tripled over the last three years, already accounting for over 20% of the global market. However, less than 5% of flat-panel displays are manufactured today in China. New manufacturing units are in the pipeline, with Air Liquide supplying gases and services to new Gen6 fabs currently being ramped up, as well as two new Gen8 fabs starting up in the country.

At the same time, the tremendous global demand for smartphones and tablets in the last two years, driven by the success of Apple and Samsung products, has led to the development of new advanced flat-panel display technologies (such as AMOLED screens, MEMS displays and crystal LED displays) and related manufacturing projects. In 2011, Air Liquide Electronics was successful in securing long-term supply agreements for new advanced facilities in Japan, Singapore, and Taiwan.

TALENT

Burgeoning Asian expertise

A record 16 experts from Asia-Pacific were appointed to the 2011 Technical Career Ladder (TCL) program. The TCL program is a highly selective technical leadership career path, designed to formally recognize researchers, engineers, technicians and experts. The experts' skills are then made visible to the whole Group, where they play a key role in leveraging, transferring and disseminating knowledge.
The strong representation from Asia-Pacific in 2011 indicates a growing pool of technical expertise across the region.

FOOD

Innovation improves productivity, quality

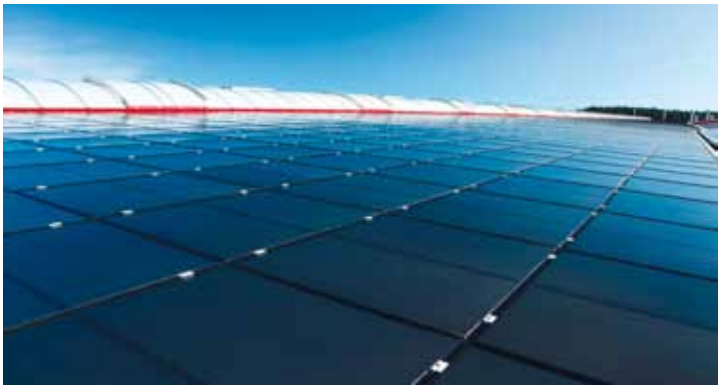
Air Liquide's patented liquid nitrogen bottom injection system was selected by the largest producer of processed meats in the Philippines to ensure fast and efficient cooling during the mixing process. The implementation of this process enables the producer to further improve its productivity and product quality during the forming stage for its products. The bottom injection system has been designed for maximum safety and is fully compliant with international food hygiene requirements.

ENERGY

Supporting green opportunities

The Group takes careful measures to run its business responsibly in all countries where it operates. To this end, it applies its expertise to advance environmental preservation.

For example, in the field of glassmaking for the photovoltaics industry, Air Liquide signed a long-term agreement with IRICO Electronics, a subsidiary of the IRICO Group, to supply oxygen to its new glass unit located in the Hefei Xinzhan Comprehensive Experiment Zone (Anhui province, China). Under the terms of the agreement, Air Liquide will invest in an air separation unit (ASU) with a capacity of 770 metric tons of oxygen per day in the same industrial zone. The ASU, which should be commissioned at the end of 2012, will also produce gaseous nitrogen, liquid oxygen, nitrogen and argon for the dynamic local industrial market.



ENVIRONMENT

For cleaner water...

In India, access to quality drinking water is a major issue, often complicated by certain industrial activities. For example, paper manufacture requires significant amounts of water and creates organic pollution. However, contrary to chemical pollution, organic pollution can be treated biologically by using bacteria. When the bacteria are "fed" with pure oxygen, they work more effectively, in turn increasing the effectiveness of the water treatment. In 2011, Air Liquide's Industrial Merchant business line signed a contract with local paper maker Shree Shyam. Using its ASPAL™ solution, Air Liquide provides oxygen for water treatment. Thanks to the development of new oxygen injection equipment costing half as much as the previous equipment of its kind, ASPAL™ is now a much more cost-effective solution. Six ASPAL™ units have already been ordered to develop water treatment activities in China.

... and air

In another domain, oxy-combustion technology replaces air with pure oxygen in industrial burners. This optimizes the melting process for metals, with more effective combustion that reduces harmful emissions such as nitrogen oxides. Since 2011, metallurgist Met Trade and glassmaker Piramal are among the Indian industrial companies that opt for these procedures, facilitating a sustainable future with Air Liquide.

ENERGY

Strengthening leadership in Asian photovoltaics sector

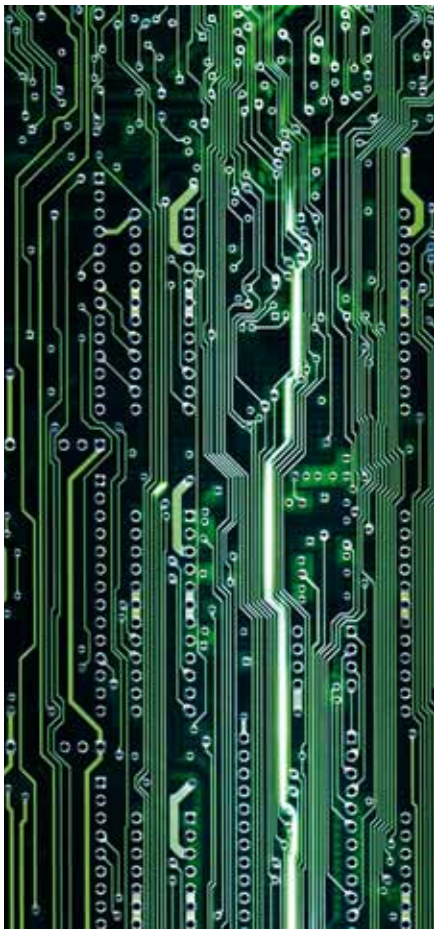
Solar photovoltaic (PV) panel technologies help meet increasing global demands for electrical power while reducing dependence on fossil fuels: they could generate as much as 5% of the world's electricity by 2020, providing sustainable, clean energy to millions of people.

In 2011, Air Liquide strengthened its commitment to this green technology and its presence as gas supplier of choice for leading Asian solar cell manufacturers, winning major new contracts in China, Japan and Taiwan. Air Liquide sales to the China electronics sector in particular (flat panels, semiconductors and PV) grew more than 15%, reaching well over €100 million, thanks to these new PV supply agreements, as well as the ramp-up of flat panel fabs in the country.

China currently produces over 50% of all solar panels made from crystalline-Si (c-Si) technology. And, with Air Liquide now supplying six of the top seven manufacturers in the country, as production increases to meet demanding global energy targets, its success locally is set to grow.

HIGH-TECH

Growing success for the ALIX™ product range



At the May 2011 NEPCON conference in Shanghai, Air Liquide received an Innovation Award in the Environment category for its ALIX™ Inertwave offer. Awarding the distinction was EM Asia, a reference publication on the electronics market in Asia.

Air Liquide has developed the ALIX™ product range for the electronic components assembly industry. The range offers packaged solutions that include equipment, gas supply and assistance for assembly and storage in controlled-atmosphere environments. ALIX™ Inertwave HT allows for lead-free wave soldering; it does so by avoiding oxidation issues related to high soldering temperatures required by the alloys used. It also improves connection quality.

Developed by the Industrial Merchant business line, the ALIX™ range includes an innovative solution for storing components in a nitrogen atmosphere and offers optimized reflow soldering. These solutions were prompted by the 2005 environmental legislation forbidding the use of lead solder in Europe, which has since been applied in other countries. In 2011, these solutions also spread to Japan and Taiwan.

CONQUERING MARKETS

Big opportunities for Large Industries in China

XIA TIANMING,
Vice-President Large Industries (LI) Business Development, speaks about exciting prospects in China.

"China is industrializing and urbanizing at an incredibly fast pace, and its industrial gas users now see the value in an over-the-fence business model. This provides the LI sector with abundant opportunities. Against stiff competition, we need to persuade existing and potential customers that Air Liquide can best service their needs.

In 2011, LI saw both new supply quantities and investment commitments hit historic highs in China. I credit our teamwork and outstanding service offer as reasons for our strong performance, and we look to build on this success. Opportunities are out there from both traditional and new applications, green-field and take-over sites, and coastal and inland areas. LI aims to maintain our position as a technological leader and to develop pipelines to further optimize distribution at key industrial basins throughout the nation."

HEALTH

SEPPIC, contributing greatly to animal health

Five years ago, the entire Chinese porcine farming industry was hit by a wave of severe viral epizootics (foot and mouth disease, porcine reproductive and respiratory syndrome) that caused the deaths of 30% of China's pig population. This remains one of the largest animal mortality rates ever attributed to epizootics. Air Liquide put to use subsidiary SEPPIC's expertise in immunology and vaccine adjuvants to contribute to eradicating porcine viral diseases. Through its Chinese production facility in Qing Pu (near Shanghai), open since 2007, SEPPIC played a forward-thinking role, supporting local authorities in their efforts to overcome this great challenge to public health. This success has played a part in the growth in sales of veterinary vaccine adjuvants in the region. In turn, it helps increase the reputation of Air Liquide throughout Asia, an especially strategic zone for the Group.

And tomorrow?

Developing economies will provide tremendous opportunities for Air Liquide, which is why they have been named one of the Group's five growth drivers. With this in mind, Asia-Pacific is one of the most vital regions, where Air Liquide will take full advantage of the opportunities to come.

Currently, the largest business line in Asia-Pacific is Industrial Merchant (IM), but the fastest-growing is Large Industries (LI). Already accounting for a third of the Group's regional business portfolio, it is set to grow at a faster pace as the region industrializes. Electronics (comprising 25% of business in the region) is a pervasive but cyclical sector with two-thirds of the Group's Electronics revenues in Asia-Pacific. Emphasis will be placed on Healthcare as the Group intensifies its services to the medical sector. Maintaining its growth momentum and the drive for economies of scale and higher efficiency, the Group will continue to invest.

Beyond bringing additional capacities online, Air Liquide aims to further leverage ALTEC, its international network of sector-oriented experts, to support zone customers in optimizing their industrial processes and development. The Group's standardized industrial solutions, such as FLOXFILL™, are in line with this idea. With this full range of integrated filling units, Air Liquide aims to conquer new markets, notably in China, Japan and Korea. Locally developed innovations will require new applications that can be implemented in close proximity to customers.

On the high-tech front, Air Liquide looks to extend its offer to manufacturers of light-emitting diodes (LED). In Japan, the Group is exploring gas liquefaction to produce liquids at cheaper costs. R&D collaborations with China's top universities are also bearing fruit. Finally, a new R&D satellite at Korea's Yonsei University has been established, creating greater proximity to its semiconductor customers and strengthening teams conducting research in electronics and on the ALOHA™ range in R&D centers in the US, France and Japan.

Environmental concerns in industrial areas and mega-cities will increase in the Asia-Pacific zone. The growing need for cleaner air and water will accelerate the growth for environmentally clean applications in basic industries, municipalities and transportation. In this context, hydrogen applications should play a bigger role in protecting the environment. In Singapore, the new hydrogen facility on Jurong Island will help Air Liquide contribute to cleaner fuels. There is also a growing interest in developing hydrogen fuel cells for vehicles in Japan.
Closely linked to the environment and the region's demographics are concerns over sanitary conditions, which further drive healthcare needs.

The Group's ability to deliver operational excellence depends largely on the talent and daily commitment of its people. Air Liquide values its human talent and will continue to develop the skill sets of its people to stay on top of the latest technologies. Leveraging its ability to bring together local and international talents and its remarkable investment program, Air Liquide is confident that it can grow its presence and contribute to the further growth of the Asia-Pacific zone.

Around the Middle East – Africa zone

The Middle East and Africa embody diversity in all meanings of the word. From the deserts of Algeria to the jungles of Congo, and from the skyscrapers of Dubai to the agglomerations of South Africa, Air Liquide operates in 29 countries across the region, each with a multitude of languages and cultures.
As such, the Africa – Middle East zone presents tremendous opportunities and challenges for the Group.

KEY FIGURES

€312
million
in 2011 revenue

5%
of Group workforce

EXPERIENCE

A long history of growth

Air Liquide first established a presence in the region when it set up shop in the former French colony of Algeria in 1912, quickly expanding through the Maghreb to Tunisia (1914) and Morocco (1918). The Group expanded gradually, gaining a foothold in several countries across the region, from Lebanon (1928) to South Africa (1948), and throughout Western and Central Africa in the 1960s. Recently, Air Liquide has grown more rapidly, taking strong positions in high-potential developing economies such as Qatar (2004), Oman (2005), Kuwait (2006), Saudi Arabia and the United Arab Emirates (2008). The Group is now active in 29 countries in the Africa - Middle East zone.

Air Liquide's success in the region to date is the result of building a strong reputation and commissioning infrastructure that now help serve the economic development of economies in the region. The Group has benefited from the trust of its customers through long-term contracts. Its success is clearly visible: only 10 years ago, Air Liquide was virtually non-existent in the Middle East, and annual revenue in Africa was €90 million. Today, the Group's revenue in Africa and the Middle East has more than tripled to over €300 million, and the region counts more than 2,600 employees.

Developing quickly in the region, Large Industries primarily serves companies in the oil, natural gas and mining industries. Of the €2.6 billion that the Group expects to invest in the zone by 2015, €2 billion are earmarked for Large Industries projects.

Half of these investments are in "mega-projects", defined as projects with over €200 million in investment. One such mega-project is a €350 million hydrogen production project in the Yanbu industrial basin of Saudi Arabia. This project for customer Saudi Aramco is currently the largest that the Group has ever undertaken in its history.

Another very ambitious Large Industries project was the construction of a YangO_2 air separation unit (one of the Groups new Standard Plants) for Oryx Energy Projects and Services in Qatar. The project was finished ahead of time time and within a strict budget, and had a perfect safety record.

In South Africa, Air Liquide supplies all oxygen production facilities for energy and chemical company Sasol, totaling more than 40,000 metric tons per day of capacity. The Group's most recent unit, commissioned in May 2011, is the largest in the world.

The Industrial Merchant business line currently sees the most business in the zone. Asia's attraction to Africa's natural resources and the fast-growing population of the continent create huge opportunities for Air Liquide in the mining and carbonated beverage industries. Healthcare and Electronics are undergoing strong development in the zone too. Healthcare projects most often involve the supply of oxygen to hospitals, especially in Morocco, Tunisia, and South Africa, where home healthcare activity is also strong.

Though Air Liquide has made great progress in the region in recent years, there are some significant challenges still ahead. To accompany its development, Air Liquide must recruit and train qualified members of the workforce, bearing in mind each country's specific labor laws. The Group is thus investing in programs to attract, develop and retain local talent. Political instability also remains an important factor that the Group must take into account when planning development actions, with certain projects possibly being impacted as a result of political changes in certain countries. Despite these challenges, the Middle East – Africa zone remains an exciting area for Air Liquide growth in the years to come.

VIEWPOINT / VALENTINE RUGWABIZA,
One of four Deputy Directors-General of the World Trade Organization (www.wto.org) and former Ambassador of Rwanda to the United Nations (www.un.org).

How has trade in Africa evolved in the last several years?

There have been some major changes in Sub-Saharan Africa over the last decade. The region has diversified from its traditional trading partners: Europe and the United States. China has become the number one trading partner for many countries, such as Angola and Sudan. The region's economic champions include Ghana, Angola and Ethiopia. While oil and minerals still account for most of the exports, some less resource-rich East African countries are doing well with agribusiness, and we're seeing growth in tourism, telecommunications and financial services across the zone.

What are some of the Africa – Middle East zone's biggest challenges?

Sub-Saharan African economies have been very resilient following the crisis that hit in 2008, nearly recovering their pre-crisis export levels by the end of 2011. Trade in the Middle East is not as diverse and is largely commodity-led. Political challenges are particularly predominant in that region with the Arab Spring. Countries such as Egypt, Libya and Yemen will need to stabilize politically to recover previous levels of foreign direct investment. Morocco is a bright spot in the region, as it boasts a relatively diversified economy and skilled population.

What are the benefits of doing business in the region?

There are plenty! Sub-Saharan Africa has a fast-growing population and consumer group. Over 70% of its population is under 25 years old, so businesses can expect an active workforce and lasting growth prospects over the long term. The region is also home to the largest untapped land and mineral reserves in the world. At the same time, the political and economic framework has changed. Many countries have put in place very prudent macroeconomic and fiscal policies over the past few years.

To benefit from what this region has to offer, businesses should note that intermediate goods have become paramount. In this region, too, the most successful multi-nationals are those that are most competitive in managing their supply chains.

CONQUERING MARKETS

Big projects in South Africa

Air Liquide signed a contract with Evraz Highveld to build a new air separation unit at its steel mill in Gauteng province, South Africa. The nation is a focus point for the Group's growth in the region, and this first Group project in Gauteng province will boost Air Liquide's position in this economically and industrially significant area. The YangO_2 unit will have a production capacity of 770 metric tons per day. Designed to optimize its own electricity consumption, the unit will support the country's plan to reduce pressure on existing electrical power plants.

Air Liquide is heavily investing in South Africa to consolidate its position. In early 2011, the Group commissioned its second oxygen and nitrogen production unit in KwaZulu-Natal province, home to the port of Durban and its large industrial activity. In May 2011, the Group commissioned Africa's largest argon production unit in Secunda, Mpumalanga province.

CONQUERING MARKETS

Strong presence across the entire region

Air Liquide is currently the fastest-growing industrial gas company in sub-Saharan Africa. Present in over 20 countries, it employs over 1,700 people in the region. The Group's growth stems from its strategy of expanding into new territories while simultaneously bolstering existing businesses. In Angola, Air Liquide recently acquired Halliburton's liquid nitrogen production unit. The Group is also reorganizing its activity and investing in new production capacities in Nigeria, a country whose economy could soon surpass that of South Africa. Air Liquide serves a wide array of customers throughout the region in industries such as oil and gas, mining, beverage and healthcare.

TALENTS

South Africa develops its teams

In 2011 in South Africa, Air Liquide put the emphasis on recruitment and career development, all the while engaging with a local charitable organization.

Recruiting promising young talents

A key challenge for South Africa is education, especially in training engineers and scientists. In 2011, Air Liquide's South African subsidiary responded to this need by launching Shosholoza, a program named for a famous South African song. The goal is to train employees to become managers within five years, and it notably targets employees hailing from populations that were underprivileged during apartheid. Recruits complete six-month rotations in different areas of the subsidiary's business in order to gain deep knowledge of the Group's activities. They then are offered a two-year position geared toward strengthening their skills. To identify future recruits, Air Liquide is partnering with Wits University of Johannesburg. Ten students from the university thus completed internships within the subsidiary in 2011, and three recruitments are being finalized.

Defining common career paths

Within the framework of its human resources (HR) policy in this country, Air Liquide has identified common career paths, laying out minimum recruitment criteria, necessary training and qualifications, and associated steps. This approach helps the HR department anticipate employee needs and training requirements. Employees have more visibility vis-à-vis their careers, as well as the requirements of positions for which they would like to apply.

Involved in the field

Air Liquide is also working alongside Amcare, a local charitable organization, which provides care to townships inhabitants near the subsidiary's main site in Alrode. Much of the care is related to the treatment of AIDS, a veritable plague in the country. Beyond financial contributions, employees are personally involved in the project. They have notably participated in the construction of buildings and the collection of objects that can be reused or resold by the organization.

And tomorrow?

Based on the scale of current investment, the Group is confident that it will continue to experience strong growth in Africa and the Middle East over both the near and long term. As the appetite of Asian economies for natural resources continues to grow, the Group is in a strong position to serve the African and Middle Eastern companies that will feed global demand.

According to ALMA 2015 strategic goals, Air Liquide plans to grow regional revenue from its current level of €300 million to near 1.8 billion by 2015. Achieving this 6x goal will mean doubling the Group's regional market share and as well as its regional workforce.

To reach these formidable goals, the Group must recruit top local talent and attract new workers. For this, the Group's human resources department has put in place a university recruitment program to show students that Air Liquide offers not just a job, but a career. Thanks to this campaign, the Group has boosted its image across African and Middle Eastern university campuses.

In the long term, the Group expects to see significant growth in the Middle East and Sub-Saharan Africa, the most resource-rich parts of the region. A number of recently signed contracts have already boded well for the Group's future in these areas. In Saudi Arabia, Air Liquide will provide dry ice to Saudi Catering, one of the region's major catering companies, notably to supply airlines. In Qatar, the Group will supply industrial gases to Qatar Solar Energy for a new photovoltaics project, while in Madagascar, it will support the massive multi-billion euro Ambatovy nickel production facility with oxygen and hydrogen.

Air Liquide is confident in its capacity to become the industry leader in Africa and the Middle East in relation to the scope of its ongoing projects. By continuing to commission backbone infrastructure projects within the region and leveraging its customers' trust, the Group is in a fine position to win new long-term contracts.

People: making the most of our talent

Employees often say that it's possible to have multiple careers at Air Liquide. Indeed, human resources (HR) are a main focus of the Group's long-term strategy. Excellence, diversity and people development are fundamental to the Group's performance.

KEY FIGURES

46,200
employees in 80 countries

82%
employees benefited from training in 2011

Air Liquide's philosophy is simple: all employees must have opportunities to progress, a quality work environment, and possibilities to learn throughout their career. The Group follows eight HR golden rules, which are applied across all of its activities and subsidiaries.

These principles are put into action as soon as an employee joins the Group. Through numerous partnerships and programs developed with schools around the world, the Group strives to attract and retain talented, motivated people. Air Liquide believes that employee diversity is a tremendous asset that contributes to the Group's dynamism, and promotes it through an open candidate selection process that takes into account local and international needs. All Air Liquide employees – new or experienced, technicians or managers – hold the keys to their own onboarding and professional development.

Continuous progress

Career development is a priority of the Group's HR strategy. Learning initiatives designed and deployed by Air Liquide University enable employees to receive training in line with their professional goals, helping them reach their greatest potential. Best practices are shared in a dynamic, international network. Mobility is an essential aspect of managing one's career path. Air Liquide employees have more and more opportunities to carry out international assignments or training, and many evolve in various geographical and professional environments throughout their careers.

Performance is both collective and individual. For Air Liquide to maintain its position as a world leader, the Group must encourage excellence among its employees, develop talent and stay true to its values and local commitments.

Searching for new talent

The goal of Air Liquide's graduate recruitment process is to identify young, talented individuals with high potential across the globe, and help them to develop throughout their career within the Group.

In the Americas zone, the ALLEX (Air Liquide Leading Excellence) program enables recent graduates to explore Air Liquide's numerous facets. For two years, new hires gain experience in different activities within the Group.

In developing economies, international students also have access to Group opportunities through scholarship programs. For example, ALIS (Air Liquide International Scholarship), in partnership with the French Foreign Ministry, proposes a year of study in a French *grande école* and a subsequent internship at Air Liquide. In 2010-2011, Air Liquide sponsored nine students in this program from diverse countries such as Saudi Arabia, Côte d'Ivoire, India, Madagascar, Morocco and Russia. Today, more countries have joined the program, including Turkey, Ghana and Cameroon. In 2012-2013, students will come from Tunisia, Niger, Senegal, Congo and Egypt.

Additionally, the COPERNIC program, in collaboration with the French College des Ingénieurs, is dedicated to young graduates from Central and Eastern Europe, a growing region for the Group. At the end of their studies young "Copernicans" intern for a semester. Upon successfully completing their internship, they are offered full-time positions. Air Liquide welcomed nine interns in 2011.

Air Liquide University at the forefront of e-learning

Since 2009, Air Liquide University has enabled employees from around the world to acquire and share the knowledge needed to sustain the Group's performance. Employees have access to training throughout their careers in four main areas: onboarding, management, business model appropriation, and specific professional or functional skills. The University also aims to develop the network of managers across different countries and business lines.

The growing popularity of e-learning has made it easy to access Group training, particularly for employees in more isolated geographical zones. In 2011 around 2,000 employees received training thanks to these innovative modules.

For example, the DISCOVER e-learning program for new hires brings even greater flexibility to the onboarding process. Each employee is free to discover the content at his or her pace. DISCOVER received the Grand Prize at France's E-Learning Excellence Awards, presented by the CEGOS Group, for the communication plan that accompanied its launch, its availability in nine languages, and its rapid execution.

TCL garners award

Air Liquide received a prize at the Trophée du Capital humain (Human Capital Trophy) awards launched by Michael Page International and *Le Monde*. The prestigious prize recognizes the Group's Technical Career Ladder (TCL), an innovative initiative focusing on career evolution and knowledge sharing. Launched in 2003, the TCL aims to identify and develop the technical experts within Air Liquide.
The TCL counts 1,500 very active members who can take advantage of opportunities such as networking, consulting and mentoring to move up the career ladder to a local, regional or international level. Experts are expected to allocate 20% of their time to TCL projects, assignments or consulting roles for the Group.

The prize is the highest honor for Group experts, an award that helps Air Liquide strengthen its industry-leading position on a daily basis.

Outstanding leadership in Asia

Mok Kwong Weng, Executive Committee member and Group Vice-President of Northeast Asia and Southeast Asia, garnered the Outstanding CEO (Overseas) award at the 2011 Singapore Business Awards in April. He was cited for his quality leadership and passion in spearheading Air Liquide's operations in Asia.

Originally from Singapore, Mok Kwong Weng joined the company in 1988, moving to Shanghai to relaunch Air Liquide's activities in China. He oversaw operations in the country until 1992 before working in France, Indonesia and Singapore, where he was also instrumental in building up the Group's operations.

He returned to China in 2003 to head up Air Liquide's Northeast Asian zone. In April 2009, Mok Kwong Weng became the first Asian to be appointed to the Air Liquide Group Executive Committee. Accepting his award, he acknowledged Air Liquide's "culture of encouraging intra-zone mobility and developing regional expertise and services" as crucial to his success.

Collaborating across continents

The construction of a syngas production unit in Caojing near Shanghai, China enabled the Group to demonstrate its ability to bring together the expertise of international teams to work collaboratively and efficiently on a large project.

The construction of the Chinese facility combines cryogenic technologies and procedures with the expertise of Lurgi, the German engineering firm acquired by the Group in 2007 and now an integral part of the Group's Engineering and Construction (E&C) division. The basic engineering was handled by both the E&C center in Champigny, France and FRTC, Air Liquide's R&D center in Frankfurt, Germany. The detail engineering was done by a Chinese institute under the supervision of the E&C teams in Shanghai, Frankfurt and New Delhi. The engineering centers in Champigny and Hangzhou, China collaborated on the cryogenics, as well as the manufacturing of the cold box.

At the end of 2011, the project was making steady progress. A team of experts from different E&C centers managed by the Shanghai center is currently supervising construction.

It's great to work with Air Liquide in the US!

Air Liquide in the United States was again recognized as an outstanding workplace in 2011. A year after being cited by the *Houston Chronicle* in its 2010 "Best Places to Work" local list, the Houston-based subsidiary scored highly enough to rank on the National Standard Top Workplace list. The annual survey is handled by Pennsylvania-based research firm WorkplaceDynamics, which reviews organizations in 25 metropolitan areas.

The research firm asks employees to weigh in on their workplaces, rating companies in such areas as advancement opportunities, salary and benefits packages, and how bosses communicate with and direct their teams. Air Liquide in the US earned especially high marks for its management's ability to communicate the Group's vision, and as a place to grow and develop one's career.

Safety: a Group cornerstone

Every industrial activity has its share of risk. To avert and best manage the risks tied to its operations, Air Liquide has outlined rules and procedures that are strengthened by a strong individual and collective culture of risk prevention. The goal is to minimize negative effects on its employees, partners, customers and, more generally, the environment, including the general public. Following an increase in the number of accidents in 2010, 2011 saw a more satisfactory performance.

Rules and a culture

With its broad international presence, Air Liquide operates in countries with significantly different cultures and work methods. Since 2005, the common Industrial Management System (IMS) has helped to ensure consistent safety rules. It gathers all operating procedures, technical standards and best practices designed to ensure personal safety, respect for the environment, and reliable operations. The risk management and safety culture shared by all employees help guarantee that these rules are properly applied throughout the world.

A responsible industrial leader, Air Liquide actively participates in trade groups and contributes to defining standards with regulators. Its long recognized commitment and skills were clearly demonstrated during the Fukushima accident in Japan: Air Liquide teams' prompt response and the exemplary collaboration between local offices and the Group were essential in managing the situation.

Back to basics

The reduction in the number of accidents in 2011 and their nature encouraged the Group to expand its training efforts in basic business risks and focus its management on the proper implementation of IMS training requirements. In 2012, a communications campaign for all employees comprising a dozen modules adapted to the Group's activities will be deployed and discussed during monthly safety meetings.

FOCUS

Objective: zero accidents

After a slight rise in 2010, the frequency rate of accidents leading to lost time for Group employees fell in 2011 to 1.7, matching the historically low level reached in 2009. The Group's stringent standards and support for its suppliers also yielded positive results among partner companies. By selectively choosing subcontractors and launching training initiatives, Air Liquide helped reduce the accident frequency rate in partner companies by 30% over two years – results that the safety teams monitor just as closely as internal indicators. These rigorous standards also apply to the choice of components used in the Group's activities, helping to guarantee employee and customer safety over the long term. A committee of Air Liquide experts is in charge of examining components furnished by external suppliers to make sure the parts meet the Group's safety recommendations.

Prompt response in Japan

On March 11, 2011, a magnitude 9.0 earthquake followed by a tsunami ravaged northeast Honshu, the largest island of the Japanese archipelago, and caused a major nuclear accident at the Fukushima power plant. With the support of the head office, the local Air Liquide subsidiary, Japan Air Gases (JAG), took immediate action to ensure the safety of its personnel and facilities as well as continue operations.

Japan is a country with well-known, intense seismic activity. Aware of this permanent risk, JAG outlined a comprehensive crisis management plan in 2003, later augmented in 2009 following the avian flu scare. Well prepared and trained, local teams were able to take effective measures for personnel safety as soon as the earthquake began. When the situation at the Fukushima power plant became critical, the catastrophe – until then only a natural disaster – took on radically greater proportions. It was a completely unprecedented experience for the Group, whose operations normally do not expose it to nuclear risk.

An immediate, adapted response

As soon as the gravity of the situation was made known, Group Executive Management immediately organized three separate but coordinated task force efforts to provide organizational and technical support to the JAG crisis management committee.

The first was responsible for personnel safety: moving the operating center to a less vulnerable area in order to continue operations, transporting employees possibly exposed to contamination, and ensuring medical inspection.

In addition, a second task force monitored the dispersion of the radioactive cloud based on local information. This team sent out a daily bulletin to help the JAG crisis management committee adapt the personnel and facility safety system according to the estimated level of contamination.

Finally, a third task force – assisted by experts from the IRSN (a French nuclear safety institute), the CEA (the French nuclear energy commission), and French nuclear energy company AREVA – defined restricted access zones. The task force outlined the necessary personal safety procedures and equipment for these zones, as well as the methods needed to take samples and measure the level of contamination of products and equipment.

Lastly, a local training session on radioactive contamination risk was organized by experts from the Claude-Delorme Research Center.

Exemplary mobilization

Several purchasing departments from Group subsidiaries were mobilized to locate safety materials and radioactivity measurement tools, which were becoming especially scarce on the market at the time.

In less than three weeks, this organization made it possible for JAG to manage the situation efficiently. Certainly one of the most complex in the Group's history, this major crisis helped display the efficiency and mobilization of local and international teams. Their prompt response, lauded by Japanese authorities, helped protect their employees and ensure the continued production of medical and industrial gases at a time when the country needed these products most. In the weeks following the earthquake, JAG performed 10,000 customer deliveries without once failing to fulfill its service obligations, despite the difficult transport and supply conditions.

Air Liquide is now using all this experience to continue improving its safety procedures on a global scale.

Air Liquide sights still set on safety

Air Liquide is a global Group that has put responsibility at the heart of its efforts, taking particular care to ensure that its operations do not endanger any of its employees or subcontractors.

In 2011, the Air Liquide Engineering and Construction (E&C) Division's efforts and vigilance were rewarded by excellent results on a number of construction projects.

For instance, Air Liquide teams recently finished building an air separation unit (ASU) in Louisiana (United States). The project, which totaled 255,375 hours of work, incurred no accidents or work stoppage.

In addition, three major construction sites each reached the symbolic mark of 1,000,000 hours with no accidents leading to work stoppage:

- The Gulf Coast Steam Methane Reformer, which supplies industrial companies on the coast of Texas
- The Jianbang Steel ASU construction site in China, which will supply oxygen and nitrogen to industrial companies in the region
- The construction site for the Caojing HyCO II carbon monoxide production unit in China

Finally, the Johannesburg E&C Center received the 2011 Safety Prize from Sasol, a major chemicals player in South Africa, for its commitment to safety, respect of standards, and workplace best practices. Sasol project worksites saw no accidents in 2011.

Safety: patients first!

Air Liquide is one of the first healthcare companies to have signed the "Helsinki Declaration for Patient Safety in Anesthesiology" during the 2011 Congress of the European Society of Anesthesiology, which took place in Amsterdam (Netherlands).

Initiated by the European Board of Anesthesiology and the European Society of Anesthesiology, this declaration was adopted by all European anesthesiology and intensive care societies as well as the World Health Organization.

Every year, some 230 million patients around the world receive anesthesia for a major surgery; some of them develop serious complications from the surgery.

The Helsinki Declaration aims to reduce these risks by underlining clinical best practices, the key role of anesthesiologists in delivering safe care, and the importance of strong collaboration between healthcare companies and the medical community.

Air Liquide, the world leader in medical gases notably used in anesthesia and intensive care, places the safety of patients and health professionals first. The quality and safety of the Group's gases, medical equipment, and related services (training health professionals to use medical gases, product traceability, notification systems to ensure continuous service, managing hospital cylinder stocks, etc.) illustrate Air Liquide's daily commitment to patient safety.

Projecting the Group into the future

Innovation is one of the founding values of Air Liquide, a constant presence in all of its activities. For the past century, innovation has been an integral part of the Group and its business culture. In today's world, where keeping up to date with technology is vital, innovation is more than ever a strategic driver for the Group – so that Air Liquide has made "expanding our offer through constant innovation" a focus of its ALMA 2015 program.

At the heart of developing new products and offers, innovation enables the Group to expand into new markets, evolve its business, and create new solutions for customers. By making innovation its top priority, Air Liquide stays true to its social commitments.

The innovation cycle: from idea to market

At the beginning of each innovation is an idea. Air Liquide supports each idea via a structured path with the goal of turning it into an operational innovation. Once the idea has taken shape, its market potential and technological feasibility are evaluated before its final development is mapped out. The solution is then deployed using a cost-effective industrialization process and a fully researched commercial launch study. Finally, it is adapted to address future market evolutions.

Air Liquide manages various ongoing programs concerned with everything from incremental innovations to breakthrough technologies. These programs are carried out by Group entities worldwide: Research and Development, Technologies of the Future, Engineering and Construction, Marketing (ALTEC) and operational activities.

Technological progress and sustainable growth

Four out of the Group's five growth drivers are technological in nature. In a world in which accessing oil resources is more and more costly, Air Liquide is helping transform the **Energy** sector by developing the most efficient and economical energy solutions for its customers.

A key player in the **Environment** sector, the Group is innovating with alternate energy sources such as hydrogen, one of the most promising strategies for preserving air quality.

At the forefront of progress in the **High-Tech** sector, Air Liquide is developing increasingly sophisticated manufacturing processes. For example, to demonstrate the usefulness of its photovoltaic cell production solutions, the Group has dedicated a pilot production line within one of its research centers.

Finally, as a major **Health** actor, Air Liquide develops medical gases (oxygen, xenon and helium) and related equipment used daily in medical facilities and patients' homes. While contributing to the Group's growth, these activities are all carefully developed to preserve the planet and social well-being.

KEY FIGURES

332
patents registered in 2011

4,000
employees working on technological innovation

Recognizing expertise

Without innovators, there is no innovation. With this in mind, Air Liquide created the Technical Career Ladder (TCL) program in 2003, recognizing technical and scientific expertise within the Group. The experts must dedicate 20% of their time to the development of talent and ideas for the Group. Since the creation of the TCL, 1,500 experts have joined the program, where they share expertise, knowledge and technical excellence. This unique program was rewarded with the Knowledge Sharing prize during the Trophée du Capital Humain (Human Capital Trophy) awards in 2011.

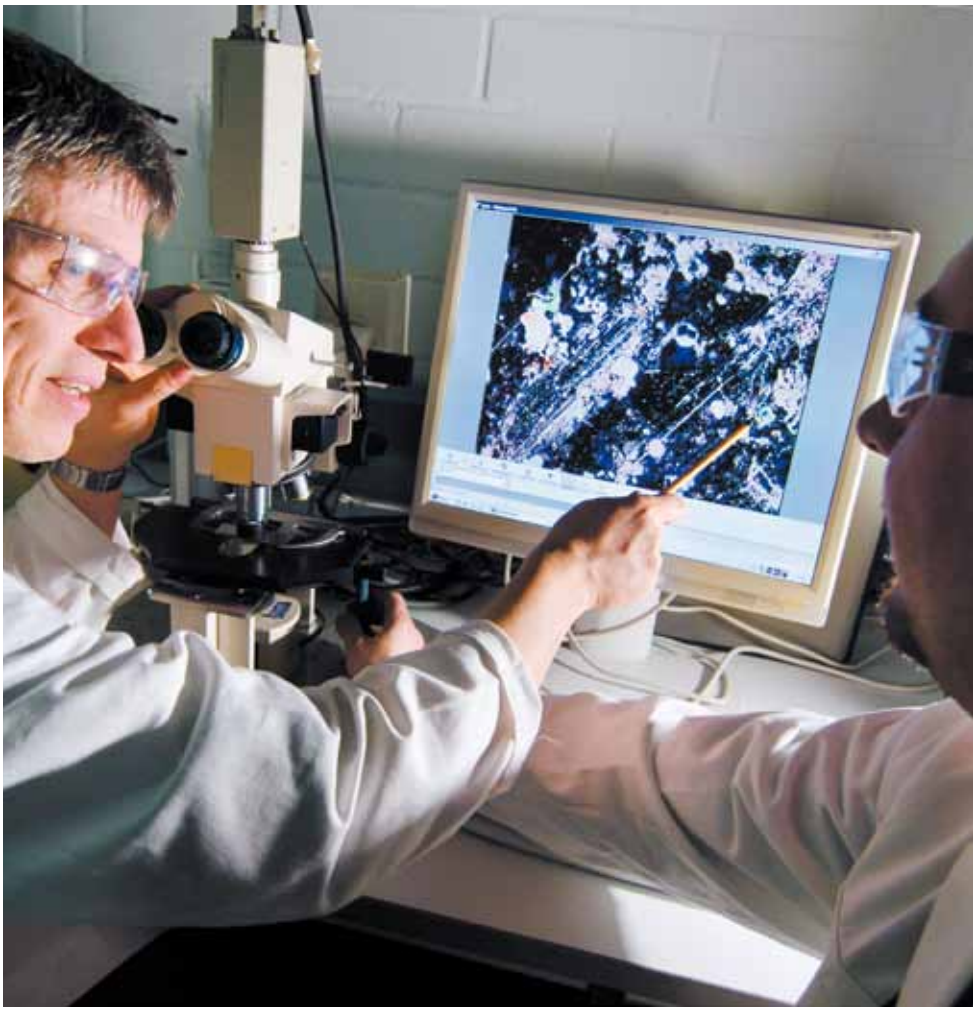
Exploring the field of possibilities

Air Liquide's Research and Development (R&D) teams work daily on a variety of projects, such as designing new procedures that are respectful of the environment, developing innovative technologies to improve energy efficiency, coming up with solutions to increase patients' comfort, and responding to the challenges of Moore's law. Serving all Group businesses, R&D's major goal is to improve the Group's competitiveness and contribute to its growth. To achieve this ambition, R&D has put in place a three-pronged strategy structured around performance, open innovation and anticipating trends.

To perform strongly, R&D relies on a reinforced governance approach that incorporates all stakeholders into the innovation cycle. Its researchers' expertise and their continuous drive for perfection enable the division to adapt to different market needs through innovation.

Another big challenge for R&D is to open itself to the worldwide innovation ecosystem. To do this, Air Liquide is building its presence in developing economies, specifically in Asia. The Group recently inaugurated a laboratory in Korea to gain proximity to its customers. As openness is synonymous with sharing, R&D collaborates actively with its partners, both internal (subsidiaries, through Open'air program) and external (start-ups, universities, scientific centers, industry leaders and financial organizations). These exchanges enable R&D to remain a recognized player in the world of innovation and maintain its research edge.

The last pillar of the Group's R&D strategy is projecting itself into the future beyond existing projects. In a world driven by social trends (new energy sources, healthcare, mobility, etc.), R&D must capture, analyze and map out new territories that may reveal interesting growth opportunities.



"Innovation for everyone!"

Innovation is a challenge facing many actors in society. For this reason, the Group's R&D has decided to tap into the worldwide innovation ecosystem. This open innovation approach enables the Group to gather and promote the ideas and talents of employees, customers, suppliers, industrial partners, universities, start-ups and others. This well of creative ideas contributes to a stronger technology portfolio, while opening doors to new markets. The openness gives Air Liquide a great potential for R&D acceleration.

KEY FIGURES

8
R&D centers on 3 continents

1,000
researchers representing 35 nationalities

over **60%**
of the R&D budget is dedicated to projects related to life, the environment and sustainable development

60%
of R&D projects are carried out in cooperation with public-private partners

VIEWPOINT / GAIA BALLERINI
Open'air program manager

Lending a hand to field innovation

What is Open'air?
Launched two years ago, Open'air is a program developed by R&D and the Industrial Merchant (IM) business line to recognize, promote and accelerate the development of innovations identified by Air Liquide employees in direct contact with customers. For six to 18 months, the projects receive financing and technical support. The program is already a tremendous success, with 59 applications for funding and 41 projects supported in 14 countries. By creating synergies, the Open'air program helps launch innovative solutions on the IM market, by stimulating medium-term growth.

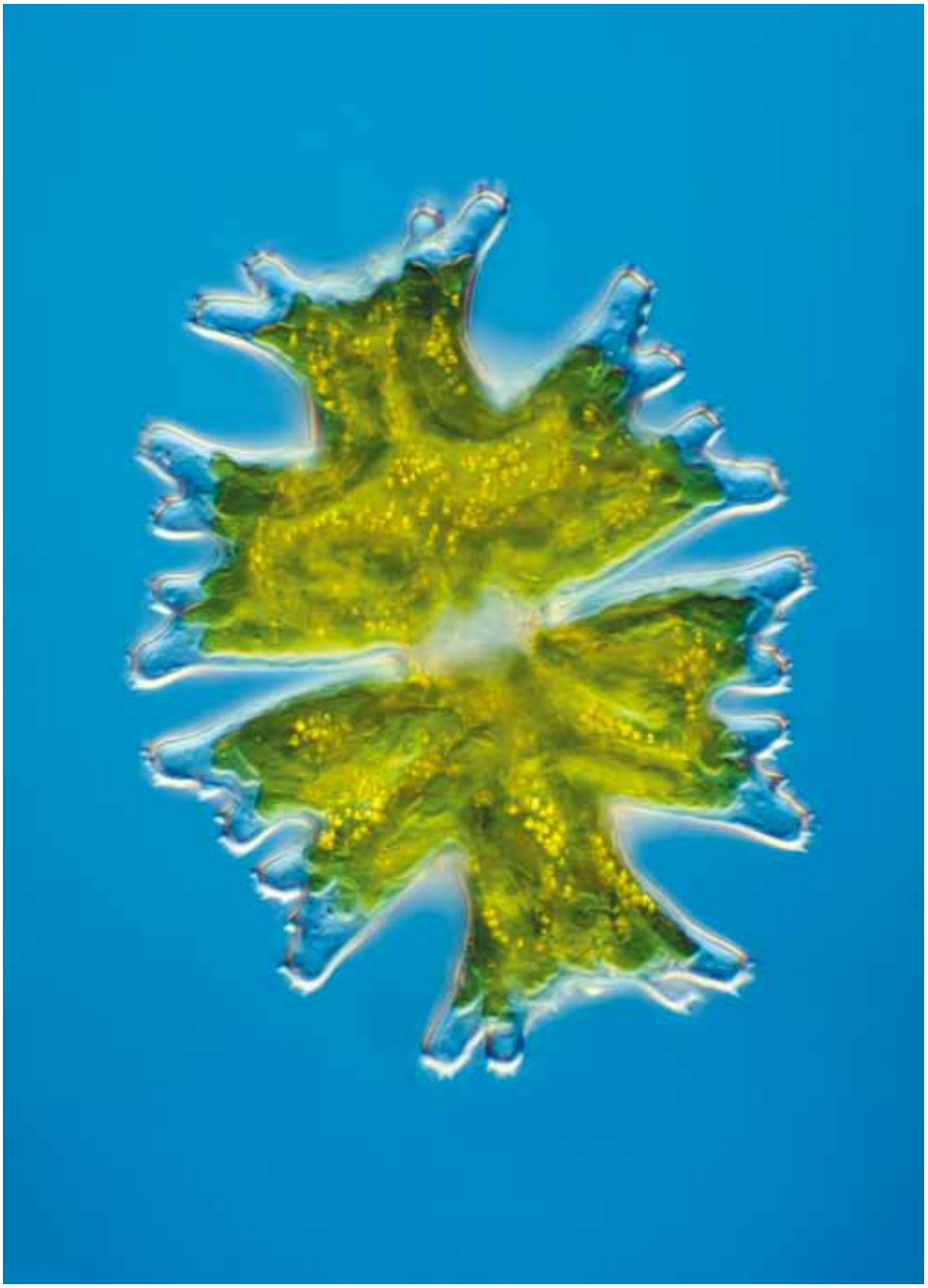
Is your approach bearing fruit?
Our objective is to encourage innovations in the field and help them spread to new geographical zones, transforming local initiatives into global success stories. ALIGAL™ CC is one project that shows great potential for expansion. This project involves a tunnel freezer for food. The freezer was initially developed for an American customer, and was installed by other companies in the United States in 2011. Additionally, ARCAL™ Mix, the mixing box for welding, was supported by Open'Air in six European countries before it was proposed to customers around the world.

More competitive solar energy

Air Liquide supplies all gases and advanced precursors necessary to produce photovoltaic panels (carrier gases, dopants and specialty gases, nitrogen, hydrogen, silane) to more than 150 customers, including eight of the top 10 world leaders. In 2011, Air Liquide also reinforced its market-leading position by investing in a pilot manufacturing line for photovoltaic cells. Located in the Claude-Delorme Research Center, south of Paris (France), this unit will enable research teams to test and optimize new concepts and materials adapted to each customer's needs. The unit's creation comes on the heels of the Group's acquisition of Silexium™ technology from the Canadian company Sixtron. The goal is to improve the performance of photovoltaic cells for customers while reducing production costs per watt.

The Michael J. Fox Foundation supports Air Liquide's research program

In 2011, Air Liquide received funding support from the Michael J. Fox foundation for a preclinical study on Parkinson's disease, a neurodegenerative disease affecting about 6 million people worldwide. The objective of the study is to determine if dyskinesia – abnormal involuntary movements that are side effects of the treatment of Parkinson's – could be diminished by xenon, a rare gas that is already used in anesthesia. The research started in September 2011 in partnership with the British Institute MOTAC Neuroscience Ltd.



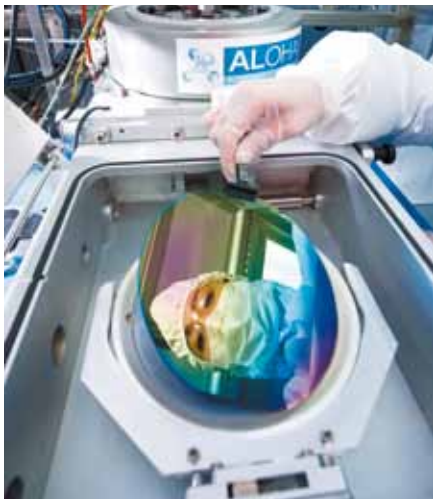
Biofuels: amazing algae

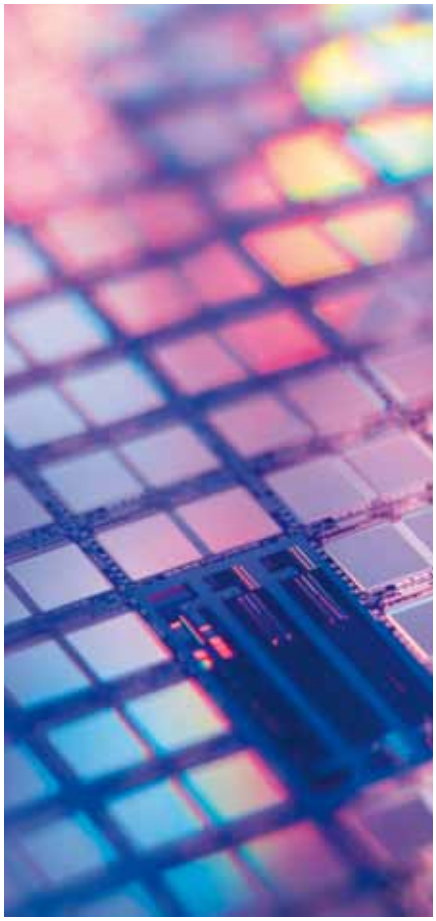
How do you produce next-generation bioenergy? The answer lies in Salinalgue, a project Air Liquide is partnering on. The project's goal is to grow microalgae to be used as biofuel (biodiesel and biomethane) and other bioproducts (food coloring, omega-3, proteins for aquaculture feeding, etc.). Microalgae are particularly interesting because they are an abundant renewable resource. Their growth is rapid and their yield by the hectare can be 10 times more than land-based plants, thanks to the external supply of CO_2.

In order to demonstrate the technical and commercial potential of this energy alternative, the Salinalgue project partners constructed a 0.1-hectare pilot unit in France in October 2011, to be followed by trials on several hectares. If the trials are conclusive, the industrial launch of microalgae could begin as early as 2015 in the salty waters of the south of France.

R&D settles into Korea

In 2011, Air Liquide opened a new R&D satellite center in Seoul, South Korea, focused on the semi conductor industry. This new location reinforces the international network of research centers and works closely with Electronics R&D teams in the United States, France and Japan. The objective of this new center is to support the Korean market's dynamic growth as well as research on innovative ALOHA™ molecules, which are essential to the semi-conductor industry.





Designing the world of tomorrow

Created in June 2010, the Technologies of the Future Division (DTF) has piloted breakthrough innovations for Air Liquide. The DTF encourages and supports the market launch of advanced technologies in industrial IT, hydrogen energy, cryogenics, space, aeronautics, decentralized energy, bioenergies, and oxycombustion – all while leveraging the Group's processes and knowledge. With teams spread across four continents, the DTF is a true of innovation drive for the Group, designing tomorrow's solutions.

The DTF carries out four main activities. First, it supervises the operations of Air Liquide Advanced Technologies (AL-AT) and Euro Cryospace (shared economic interest group with Astrium). The latter's technologies and expertise in advanced cryogenics and gas purification represent an opportunity for development at the forefront of scientific, space and aeronautic research.

The DTF also supports Air Liquide Hydrogen Energy (AL H2E) and Axane, subsidiaries dedicated to hydrogen energy and fuel cell applications. In line with the European Union's low-carbon objectives, these technologies have considerable development potential. In both advanced and developing economies, these energy sources could become key growth drivers for the mobility and transportation sectors, as well as the power supply for remote sites.

The DTF also develops industrial IT solutions through ISIS, whose activities are now gathered within the entity AL Services, and its subsidiaries Keops, Caliatys and Athelia.

Finally, through the Demonstrators Group, the DTF works with industrial partners to develop and test innovative technologies in life size scale. These technologies aim to help reduce industrial processes' impact on the environment and improve their energy efficiency. The Demonstrators Group supports the activities of Markets, R&D and Engineering and Construction. This team also actively monitors technologies and innovative developments in energy and the environment.

KEY FIGURES

Nearly
800
employees in the Technologies of the Future Division

10
companies to spread and market advanced technologies over 4 continents

Projects around the world

The Technologies of the Future Division (DTF) develops industrial projects related to the Group's strategic growth drivers through partnerships and new initiatives. The DTF operates nationally and internationally, with a large presence in developing economies. The market for cryogenics is a good demonstration of this internationalization. The DTF designed a line of helium refrigerators, HELIAL, which has conquered the global market. In 2011, four new start-ups and commissionings were made in Japan and China. In aeronautics, Air Liquide has a strong position on the global market thanks to the launch of its gas generation systems and respiratory equipment. 2011 was a particularly successful year, with record number of protective breathing equipment produced and the development of an oxygen generator for mobile emergency operations (disaster medicine, etc.).

Smart traceability

Athelia, a Spanish subsidiary of AL Services (which recently celebrated its 10th anniversary), launched a new tracking technology in 2011. Named "DJANGO Mobile", this solution was developed for Heineken and its subsidiary Refrival. It enables 650 technicians to manage the inspection and maintenance of the customer's draft beer facilities right from their smartphones. The result: a productivity increase of up to 10%.

Next stop: outer space

A partner in European space adventure for over 50 years, Air Liquide has developed a unique expertise in space cryogenics. As part of a new partnership in 2010 with Astrium, the Group designed the future cryogenic tank of the upper stage of Ariane 5 Midlife Evolution. Construction is set for 2013 in Bremen, Germany. Supplied with liquid hydrogen and liquid oxygen, this tank will enable the launcher to place multiple satellites into orbit by 2016.

Air Liquide also puts its technological expertise to use in a number of satellites observing the Earth and other planets. One such example is the Sample Analysis at Mars project, carried out by the robot Curiosity. Aiming to find proof of life on Mars through fossil discovery, it is scheduled to arrive on the Red Planet in August 2012.

Toward a cleaner energy future

Air Liquide is actively helping transform the energy sector by developing alternative energies. Already involved in developing fuel cell technology and hydrogen (H_2) distribution stations, the Group is now rolling out its Blue Hydrogen initiative. Air Liquide is resolutely working to progressively decarbonize its hydrogen production dedicated to energy applications. Between now and 2020, the Group is committed to producing at least 50% of the hydrogen necessary for these applications without producing CO_2. This objective will be met by combining renewable energies, water electrolysis, biogas reforming, and carbon capture and storage technologies for the CO_2 emitted by producing hydrogen from natural gas.

Another essential source of renewable energy is biogas, which is obtained from the fermentation of organic matter. In a first step toward creating a biogas subsidiary, a biomethane liquefactor was built in 2011. It will use biogas as fuel for transportation. In a country like France, biogas could soon cover 10% of national energy consumption.

France: the first exclusive tests of Fuel Cell Electric Vehicles (FCEVs)

On October 3-4, in cooperation with major automobile players (Honda, Hyundai, Intelligent Energy, Mercedes-Benz, Michelin, Opel, Peugeot, Renault and Toyota), Air Liquide organized the first demonstrations in France of 10 Fuel Cell Hydrogen Vehicles (FCEV) on the Marcoussis circuit, near Paris.
The goal of the event was to show that Fuel Cell Electric Vehicles (FCEVs) technology is already available, safe and effective.
The event enabled more than 200 attendees to share their perspectives on incorporating FCEV technology into France's sustainable mobility sector, as well as its contribution to the industry's competitiveness. For the occasion, Air Liquide installed a bi-pressure hydrogen refueling station that was used to fill up the vehicles.

Hydrogen is a particularly efficient energy for driving. FCEV vehicles reduce greenhouse gas emissions by 20% "from the well to the wheel" compared to fuel combustion vehicles over equal distances. Used with a fuel cell, as was the case with the test vehicles, hydrogen also enables efficiency gains over classic batteries that demand additional recharging time.
Air Liquide is strongly committed to developing technologies that will bring solutions to our society's major issues. Among them is hydrogen energy. The Group masters the entire industrial hydrogen chain, from production and storage, to distribution and applications. With its subsidiary Axane, created in 2001, Air Liquide designs, manufactures and sells fuel cells systems, whose manufacturing costs have been reduced by a factor of six in the last 10 years.

In the years to come, the challenge will be to develop a hydrogen refueling infrastructure, which does not exist yet in most European countries.

A strongly growing, long-term investment

A steadily expanding portfolio

Portfolio value as at December 31, 2011
Average annual growth[(a)]

For €100 invested...

Over 5 years: €144

Over 10 years: €270

Over 20 years: €888

If a registered shareholder decides to purchase Air Liquide shares every year with his or her dividends, earns the loyalty bonus, and collects free shares, his or her portfolio will see an average annual growth[(a)] of:

+7.6% over 5 years

+10.4% over 10 years

+11.5% over 20 years

(a) As at December 31, 2011, before tax.

A steady trend of long-term growth

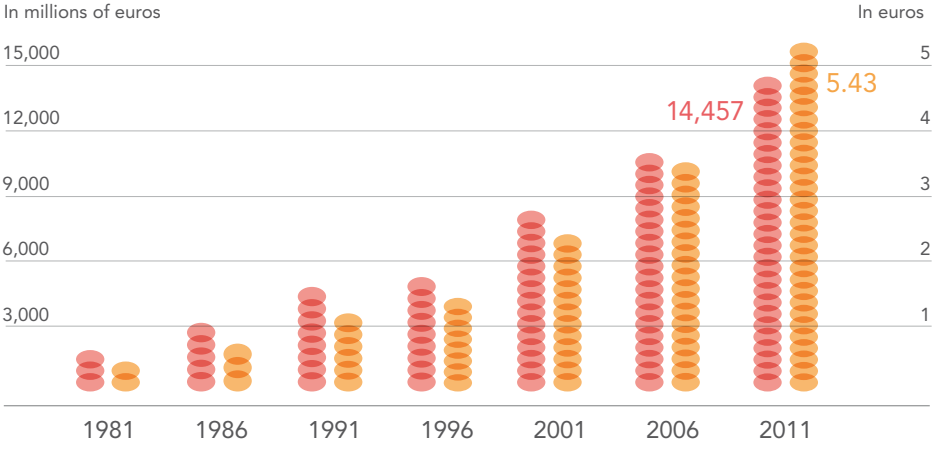
Revenue

+7% of average annual growth over 30 years

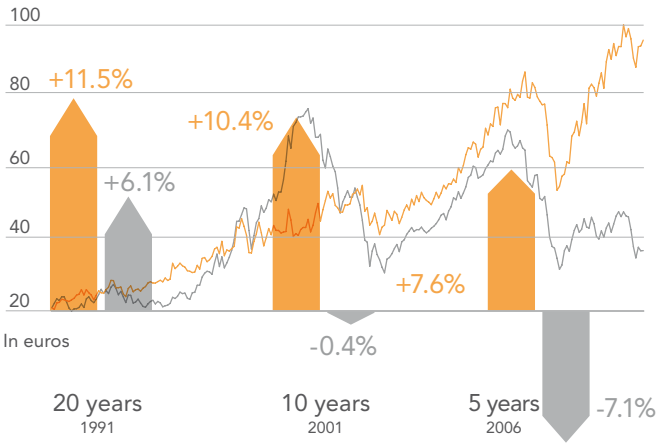
Adjusted net profit per share

+8.4% of average annual growth over 30 years

The regular, long-term growth of the Group's revenue and adjusted net profit per share confirms Air Liquide's economic model performance, fundamentals strength, and growth profitability.



Air Liquide outperforms the CAC 40



Air Liquide — Indexed CAC 40

Air Liquide in 2011: +1%

CAC 40 in 2011: -17%

In the context of highly volatile financial markets, the Air Liquide share continues to perform better than its reference index, the CAC 40. Over the past five years, the Air Liquide share has seen a growth rate of +7.6%, compared to –7.1% for the CAC 40. This solid result proves the strength of the Group's fundamentals and the steadiness of its performance.

Air Liquide share ownership as at December 31, 2011

37% individual shareholders

42% non-French institutional investors

21% French institutional investors

>0% treasury shares

Air Liquide share ownership as at December 31, 2011

410,000 individual shareholders

192,000 registered shareholders

including **78,000** direct registered shareholders

1.6% of capital is held by employees[a]

225 Average individual shareholder portfolio: 225 shares

€2.50 dividend distributed per share in 2012[b]

47.5% of Net profit Group share distributed as dividends

(a) Please see note (a) in the 2012 Shareholder's Guide.

(b) Proposed at the Annual General Meeting on May 9, 2012.

Air Liquide share price over 2011

Highest share price in euros	100.65
Lowest share price in euros	80.90
Year-end share price in euros	95.59
Market capitalization as at December 31 (in millions of euros)	27,130
Average number of shares traded per day (in thousands)	937

For more information on adjusted share prices over the last 10 years, visit the Shareholders section at: www.airliquide.com.

INTERVIEW / LAURENT DUBLANCHET
Director of Shareholder Services

How do you foster shareholder loyalty in a difficult economic environment?
Since its creation, Air Liquide has particularly paid close attention to individual shareholders, who now represent 37% of its capital. Having a balanced proportion of individual and institutional shareholders is another essential component of our Group's unique shareholding model. The confidence shown by the investor community in Air Liquide is especially based upon the Group's steady financial performance, transparent information, loyalty boost through high-level services, and incentives such as the loyalty bonus and free shares.

Why does Air Liquide keep attracting shareholders?
Air Liquide appeals to various kinds of individual shareholders: those looking to invest capital over the long term to build a life savings or transfer wealth to their children, and those who want to take part in the development of a global leader through their investment. They all share the same bond to the Group and the conviction that Air Liquide represents more than just a share: it brings confidence for the future. We recently had the chance to see this in action when purchase orders climbed at the peak of the summer 2011 stock market crisis.

What efforts are you taking to expand your shareholder base?
Now more than ever, we have to provide important information as well as meet with individual shareholders and people who want to invest but are concerned about the current state of the stock market and economy. These meetings are already organized in France and around Europe. We also launched an initiative to teach students about what we consider as the true role of the stock market and long-term investment. In this period of market insecurity, we think it's extremely important to underline the virtues of individual shareholding, which helps to finance companies and drives economic stability.

Simplifying your life as a shareholder

A team of 26 people, Air Liquide Shareholder Services is available to welcome you every day and provide information and services you need.

Greeting you

- The **Shareholders Lounge** is open from Monday to Friday, 9:00 AM to 6:00 PM.
- For the past year, it has hosted "**mini-exhibitions**" to help you discover Air Liquide's world through audiovisual materials.
- The **Annual General Meeting** is a unique event for receiving information and interacting with the Group and other shareholders. Through your vote, you can also get involved in the Group's governance.

Offering you tailored services

- Whatever the number of shares you hold and the shareholding option, Air Liquide is at your disposal. For registered shareholders (direct or intermediary), publications and information about Air Liquide are sent directly to the address of your choice.

Representing you

- The 12-member **Shareholders' Communication Committee** meets three times a year with the Chairman and CEO and in working groups on topics related to individual shareholders.

Keeping you informed

- Our advisors are available to provide information:
- by phone,
- by email,
- through our website.

- Air Liquide posts continuous updates in the Shareholders section at www.airliquide.com, our *interactions* newsletter is published three times a year with its **webzine** (the online version of *interactions*).
- Other documents also provide more information: the **print and web-enhanced versions of our Annual Report**, financial results publications, as well as the **Shareholders' Meeting Invitation and Minutes**.
- "MORE", **the Shareholder's Guide** contains comprehensive information about the Air Liquide share and share ownership.

Getting to know you

- Air Liquide looks forward to meeting its shareholders all around France – and now throughout Europe – at **meetings** and **theme-based conferences**.
- Air Liquide takes part every year in **Actionaria fair in Paris**.

To access the 2012 shareholder calendar, scan this code.

Welcome to our Shareholders Lounge

At Air Liquide, we receive our shareholders in a dedicated, friendly lounge located at the Group's head office in Paris. Everyone is welcome and can access information about the Group and its share, meet with advisors to discuss direct registered account management and perform buy or sell orders. **The Shareholders Lounge is open Monday to Friday from 9:00 AM to 6:00 PM, with or without an appointment.**

For the past year, the Shareholders Lounge has hosted some **mini-exhibitions** that introduce you through audiovisual materials to Air Liquide's businesses and technology, and to the Group's commitment to environmental issues. Following last year's hydrogen energy mini-exhibition, "**Deepsea Under the Pole**" takes you below the North Pole ice caps with Ghislain Bardout and his team mates. These breathtaking pictures of a stunning expedition will be **on display until May 2012**.

STEP FORWARD AND BE COUNTED

Become a registered shareholder

+10% on the dividend value received
+10% on the number of free shares allocated
Direct contact with the Air Liquide Shareholder Services

www.airliquide.com, Shareholders section

AIR LIQUIDE

At the heart of social commitment

Created in 2008, the Air Liquide Foundation demonstrates the Group's commitment as a socially responsible company. In line with its Responsibility and Sustainable development policy, the Foundation has defined three major missions based on Air Liquide's expertise and legitimacy considering its business and geographical presence: the Environment, Healthcare and Micro-Initiatives promoting local development.

Protecting the planet's air against global warming is a major societal concern. It encompasses issues such as greenhouse gases, deforestation and the melting polar ice cap. In partnership with research organizations, the Air Liquide Foundation is expanding and developing scientific understanding of the Earth's atmosphere and its interaction with ecosystems.
The Foundation is also involved in the field of chronic respiratory illnesses, which represent one of the leading causes of death in the world. Alongside institutes and university laboratories, the Foundation is involved in programs designed to improve **respiration** in the medical field as well as in exploration, space and undersea diving.
Finally, the Foundation supports numerous local efforts in countries where the Group operates. These diverse **micro-initiatives** aim to develop access to education and vocational training; to increase access to healthcare, energy and water; to support the creation of microenterprises; to improve comfort for the disabled…

Functioning efficiently

Chaired by Benoît Potier and composed of nine members from within and outside of the Group, the Foundation's Board of Directors determines its philanthropic orientation and reviews scientific research projects. The Board is aided in this task by the Project Selection Committee's eight members: seven employees representing different business areas (human resources, communication, sustainable development, operations, healthcare, R&D) and a representative from the Shareholders' Communication Committee. Four times a year, the Project Selection Committee reviews projects according to a rigorous process.

KEY FIGURES

100
projects supported since 2008

40
projects under consideration

50%
of projects submitted by Group employees

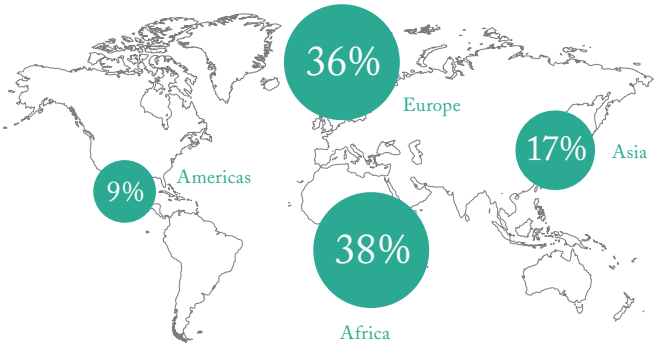
FOCUS / FRANÇOISE PETER
Member of the Shareholders' Communication Committee
Member of the Foundation's Project Selection Committee

"I think it's a necessity today for a company like Air Liquide to have a corporate foundation. Companies are no longer just entities that create profits; they must be engaged players. The Air Liquide Foundation gives Group employees the opportunity to get involved by sponsoring projects to support local communities, and scientific expeditions to help preserve the environment.

I think it's important that a shareholders' representative be part of the Foundation's governance process. Investing isn't just a matter of dividends. It's also for men and women who want to support responsible companies that are mindful of the environment and the need to conserve it for future generations.

As a member of the Project Selection Committee, I study projects and help choose them according to priority and geographical location. The decision is never easy because they are all potentially very rewarding.

I would especially like to share the projects of the Foundation with young people, who are, after all, the shareholders of tomorrow."

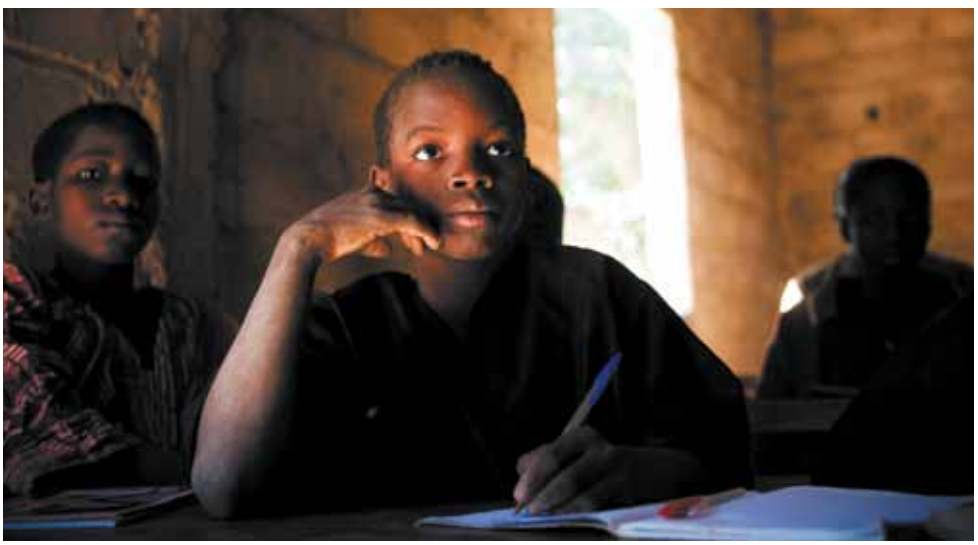


The Foundation is present **around the world in almost 40 territories**. Air Liquide employees are fully and personally involved in this effort, sponsoring projects and volunteering on site. It's the perfect commitment for responsible citizens.

MICRO-INITIATIVES

Supporting the education of rural Senegalese children

In 2002, Dr. Serigne Diop created the association Passeport pour l'avenir (Passport to the future). The association's objective is to help develop rural education and, more specifically, encourage young Senegalese to obtain scientific and technical training to become specialists, technicians and managers. The project has resulted in the construction of a middle school and high school in Sandiara, near Mbour, 80 kilometers south of Dakar.
Originally from Sandiara, Dr. Diop is now Director of R&D for a large industrial group in Africa. He observed that pursuing studies after primary school wasn't possible in Sandiara. To continue their education, young students had to go to large cities. Faced with difficult study and living conditions, they tended to drop out of school, swelling the ranks of the unemployed and those seeking to emigrate.
Since 2002, the construction of a middle school and high school in Sandiara has solved this problem. Today, the school's 20 classrooms welcome more than 2,000 students, 850 of which are girls. With the help of the Air Liquide Foundation, the association opened three new classes in 2010 for students in their last year of high school. In 2011, the Foundation financed construction of two new furnished classrooms with IT equipment.
This progress has been followed closely by Damien Koegler, General Manager of Air Liquide Senegal, and employees Rokhaya Ndoye and Farba Ndoye, who act as project sponsors. Impressed with the high quality standards, cost management and local support, they have not hesitated to renew their sponsorship. Also, since the launch of a technical career training workshop at the beginning of the 2011 school year, Mr. Koegler has given his approval to welcome students as interns at Air Liquide Senegal.



HEALTH

Parkinson's research: a long-term commitment

Today, one in eight people in Europe is afflicted with a neurological or psychiatric disease, with over 10 million people being diagnosed. This fact led to the creation of the Institut du Cerveau et de la Moëlle épinière (ICM – Brain and Spinal Marrow Institute). Located in the Pitié-Salpêtrière hospital in Paris, the institute accommodates more than 600 researchers, patients and doctors in 22,000 m^2 of laboratory space. Its mission is to improve the diagnosis, prevention and treatment of diseases affecting the central nervous system.
For the next two years, the Air Liquide Foundation has committed to support research on the neurodegenerative mechanism of Parkinson's disease as well as therapeutic targets for slowing its progress and correcting symptoms. More specifically, the Foundation is supporting the team of Professor Etienne Hirsch, neurobiologist and Deputy Director of the ICM Research Center. The team is focusing on the "cellular respiration" disorders responsible for the degeneration associated with Parkinson's disease.

This project is linked directly with the Foundation's health mandate, as cellular respiration depends directly on oxygen supply and thus pulmonary respiration.

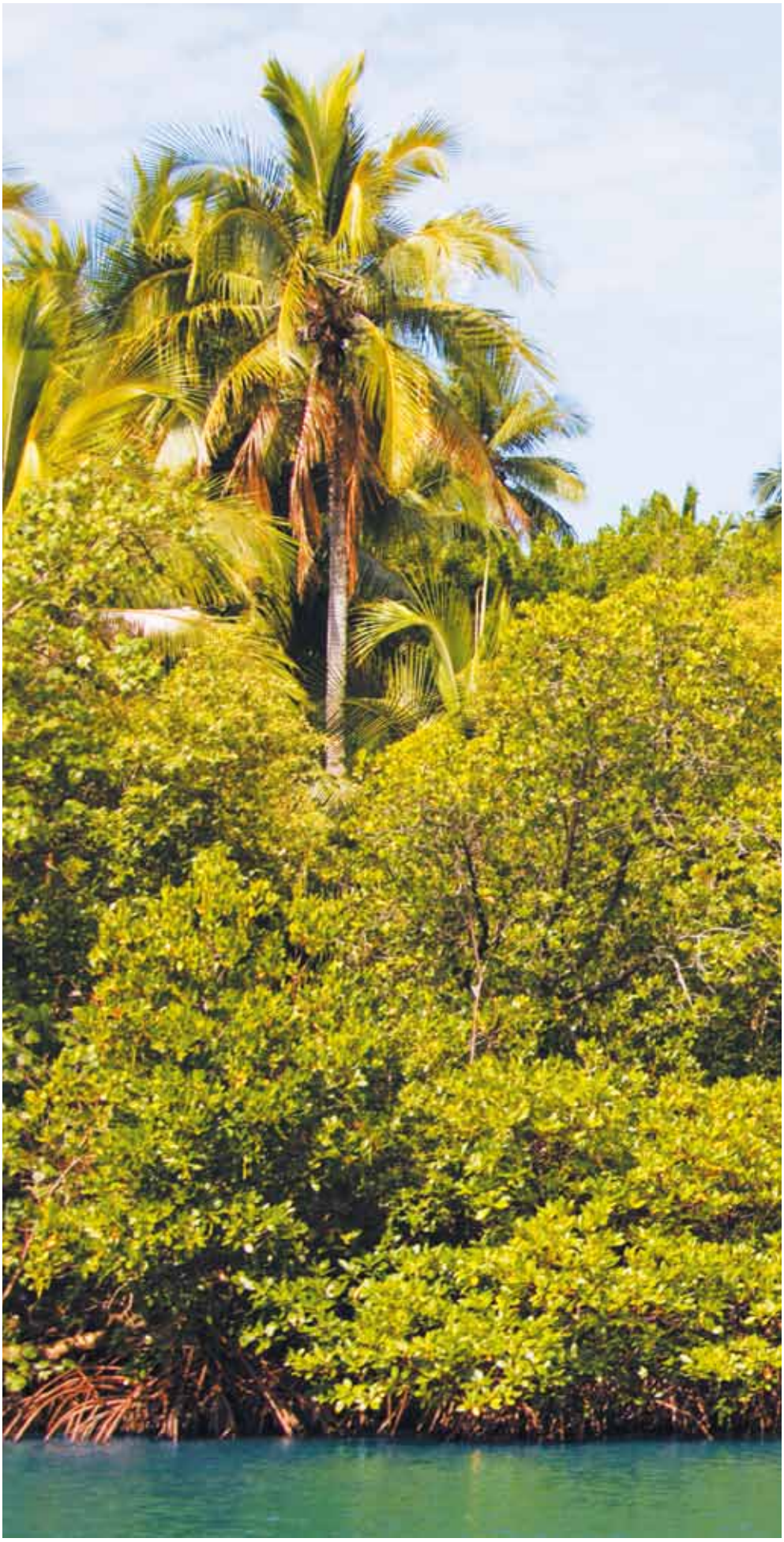
MICRO-INITIATIVES

Housing for victims of the Merapi eruption in Indonesia

On October 27, 2010, the Merapi volcano, considered one of the most dangerous in Indonesia, began erupting on the island of Java. The volcanic ash cloud rose up to 1.5 km above the crater. Pyroclastic flow and falling ash claimed more than 200 victims, destroyed 2,000 homes, and displaced 400,000 people. To help the displaced, the Indonesian NGO Dompet Dhuafa set up the Growing House project. Created in 1993 by journalists from *Republika Daily*, the association is involved throughout Indonesia. Employees of the newspaper traditionally donate 2.5% of their salary to finance projects aiding the poorest communities. Projects mainly focus on public health, emergency aid in humanitarian crises, and micro-entrepreneurship.

Through the first half of 2011, support from the Air Liquide Foundation helped Growing House build a dozen houses for displaced families. Each house measures 25 m^2 and includes a living room, bathroom, bedroom, kitchen and terrace.

For Dyah Kenconosari, Human Resources Manager for Air Liquide Indonesia and project sponsor, this commitment speaks to the Foundation's strong involvement with local communities. The families receiving the housing actively participate in construction alongside the NGO, which attaches great importance to work being done voluntarily and as part of the community. Sustainability is also a key component: thanks to the ingenious design of the houses, the inhabitants will have the possibility to expand their homes in the future.



ENVIRONMENT

The carbon cycle: a study of mangroves

The Air Liquide Foundation has committed to two years of support for research conducted by the Institut de Recherche pour le développement (IRD), a European research organization headquartered in Marseille (France). The research aims to better understand the carbon budget of the mangrove of La Foa, a village in New Caledonia.

A mangrove swamp is a coastal forest made up of mangrove trees that grow in coastal areas of the intertropical belt. New Caledonia boasts nearly 35,000 hectares of mangrove swamps. This ecosystem, rich in biodiversity, is currently endangered: an estimated 1-2% of mangroves in the world disappear each year. The role of the mangrove in the carbon cycle is fundamental because of its remarkable ability to transform the CO_2 present in the earth's atmosphere into organic matter. There are still gaps in our knowledge of this cycle, and the carbon budget of the entire mangal ecosystem (soil, plant life and water) is not precisely known. Currently, the ecosystem taken as a whole is a CO_2 sink, although some of its compartments (soil and water) can be sources of CO_2. It is necessary to quantify the CO_2 flows within mangroves in order to refine our understanding of this cycle.

The IRD's research will measure several points within this mangrove by analyzing the CO_2 flows from various compartments, including the water column, the soil and the canopy (the overhang of the mangrove).

The readings will then be used to acquire a global vision of the CO_2 flows of the mangrove ecosystem. Observatories set up to track the evolution of mangroves in response to global climate changes will incorporate these findings.

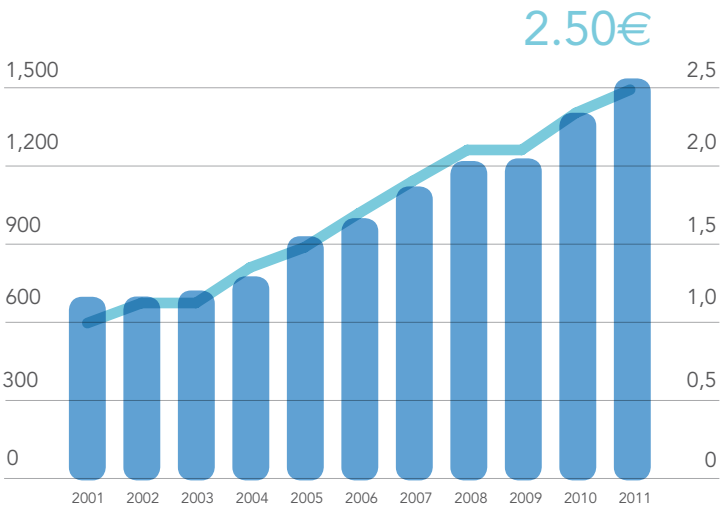
This partnership was recognized by the French Ministry of Ecology, which awarded the Air Liquide Foundation and the IRD the corporate philanthropy trophy for the environment and sustainable development (overseas category).

Key responsibility and sustainable development indicators

Air Liquide uses more than 170 indicators to measure the Group's performance in terms of corporate social responsibility and sustainable development. The following indicators follow on those listed in the 2010 Annual Report. For more information on Air Liquide's Corporate Social Responsibility and Sustainable Development indicators, notably the Key Responsibility Indicators developed in the Group's Responsibility approach in 2011, please **see the 2011 Corporate Social Responsibility and Sustainable Development Report in chapter 2 of the Air Liquide Reference Document.**

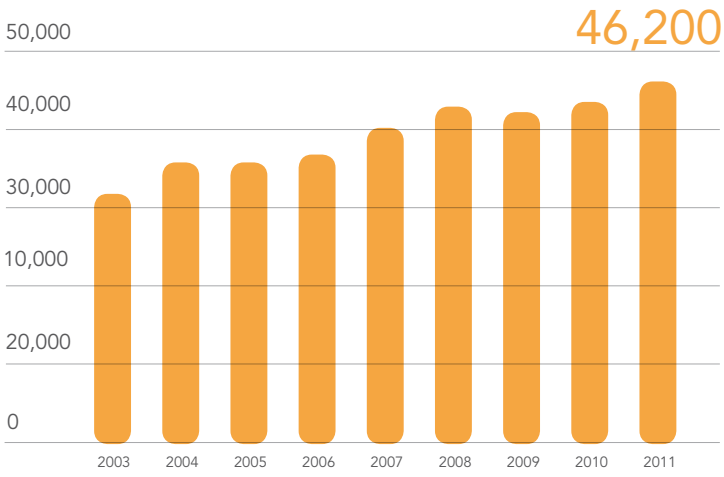
Net profit and dividend

During the last 10 years, **the return rate for an Air Liquide shareholder has been on average +10.4% per year**, with gross dividends reinvested in shares, attributions of free shares, and loyalty bonuses to registered shareholders. The Group's objective is to deliver long-term performance thanks to a steady increase of investment value, ensure respect and consideration in the relationship with shareholders.



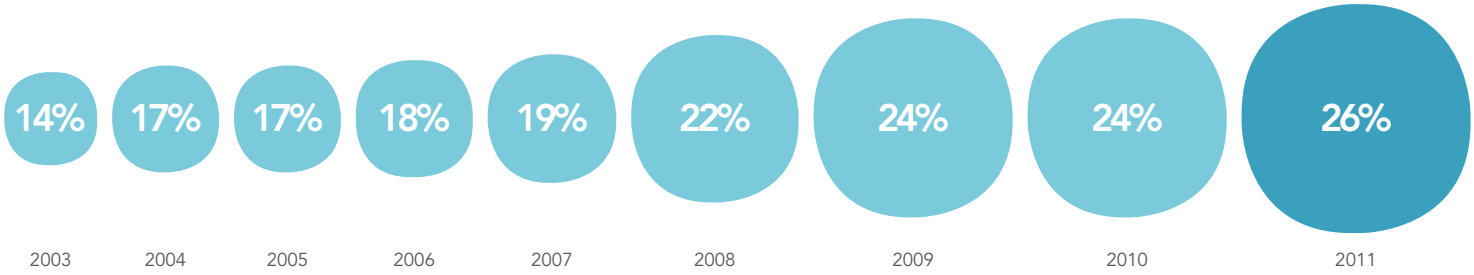
Evolution of employees

Located in 80 countries in the world, the Air Liquide Group continues to develop and acquire new skills. With 46,200 employees in 2011, compared to 31,900 in 2003, Air Liquide has displayed a **45% growth in its workforce over the last eight years**.



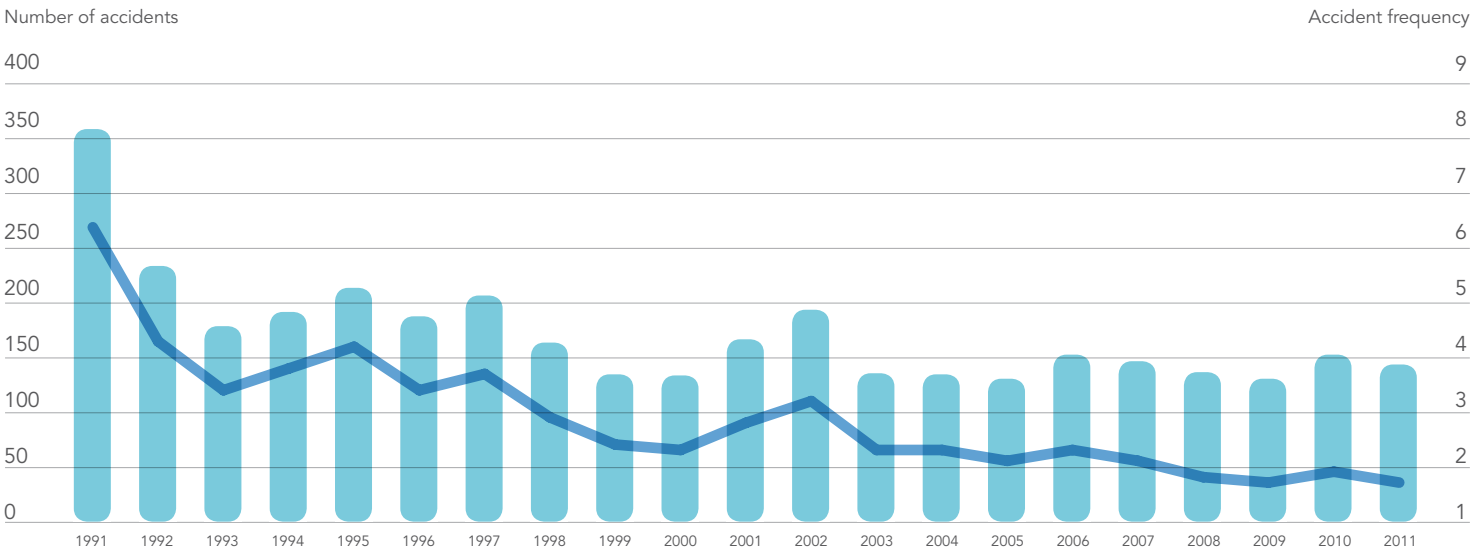
Percentage of women among Managers and Professionals

Diversity is one of the pillars of Air Liquide's Human Resources policy, which seeks a more equitable division of responsibilities between men and women. The percentage of women in Manager and Professional positions rose from 14% in 2003 to 26% in 2011, **an increase of over 80%** of this percentage. This 26% figure for women Managers and Professionals in the Group corresponds to the global percentage of women in the Group (26%) and illustrates the good representation of women in Air Liquide's management.



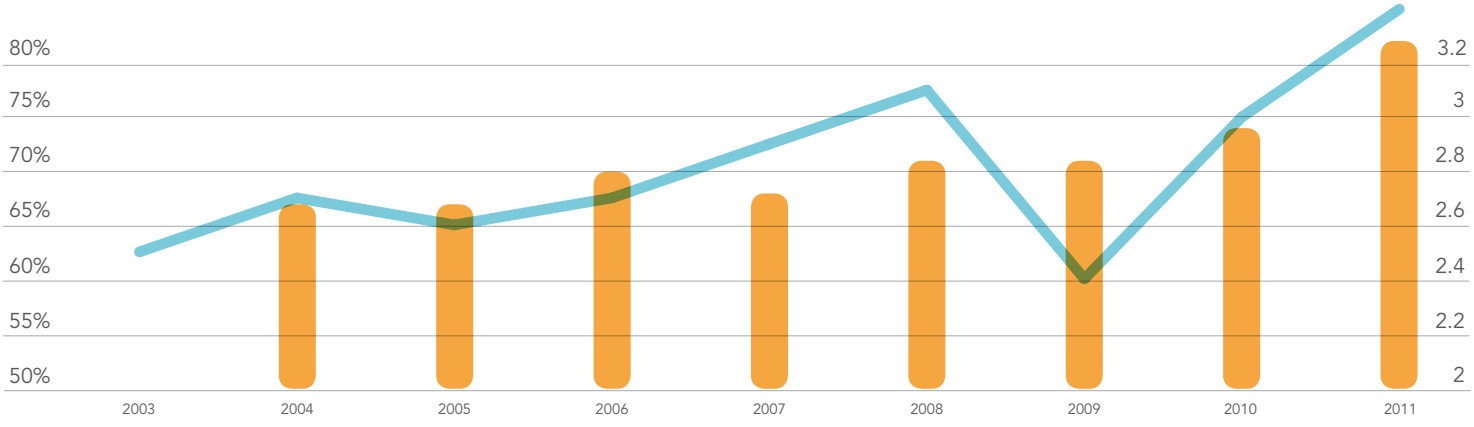
Number of lost time accidents and accident frequency of Group employees

Continuously and durably improving the health and safety in the workplace of its employees and subcontractors is one of Air Liquide's major challenges, with a "zero accident" target on each site, in each region, in each unit. **Over the last 20 years, the Group's accident frequency rate has been divided by more than 3** while the number of employees has increased by almost 60%. The objective of the Group is to continue to improve the safety of the Group's employees with a goal of reducing each year until 2015 the frequency rate of lost time accidents.



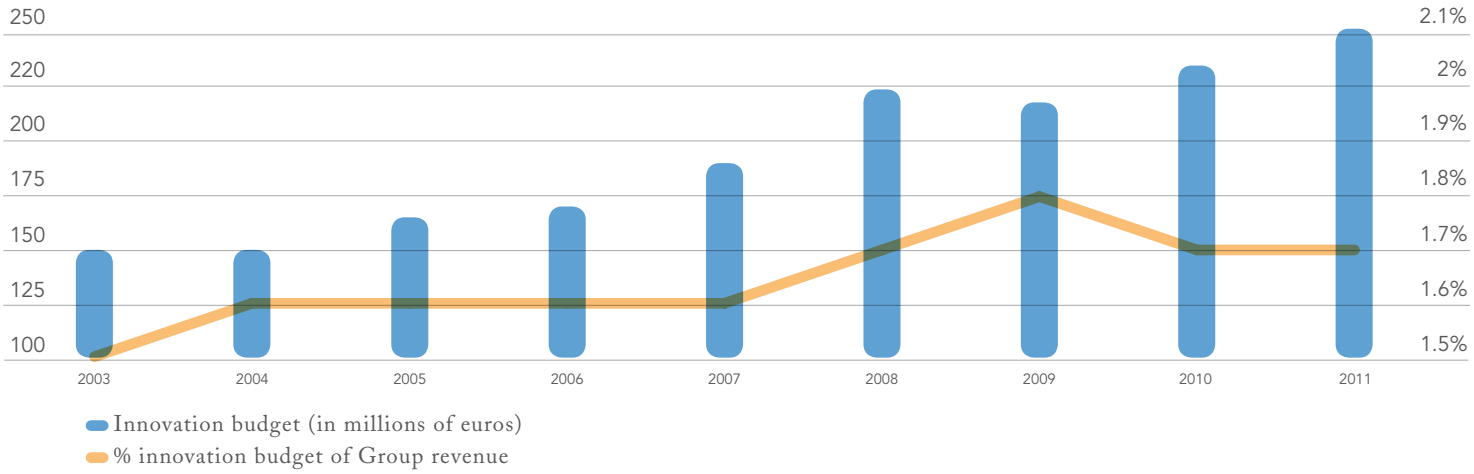
Training

Air Liquide is committed to training its employees on a regular basis. In 2011, 82% of the Group's employees had at least one training session during the year, compared to 74% in 2010. The average number of training days, per employee and per year reached more than 3 days in 2011. **Since its creation in 2009, the Air Liquide University has already trained nearly 7,000 Group employees**, notably through e-learning.



Percentage of the innovation budget vis-a-vis the Group's revenue

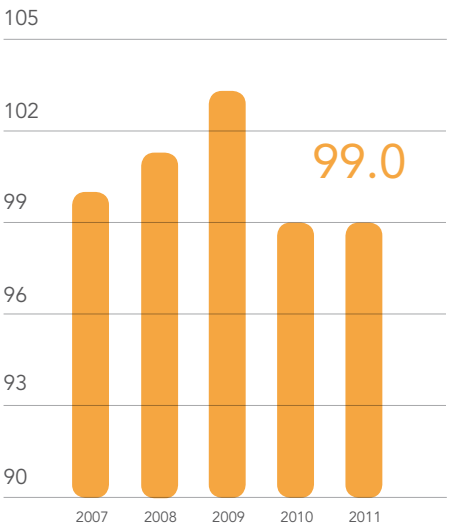
Innovation is an integral part of Air Liquide's culture. The Group is committed to innovating relentlessly in order to bring sustainable and cost-effective solutions to society, leveraging partnerships with customers, suppliers, academics and communities. **Over 60% of the Group's Research and Development budget is dedicated to works related to life, the environment and sustainable development**.



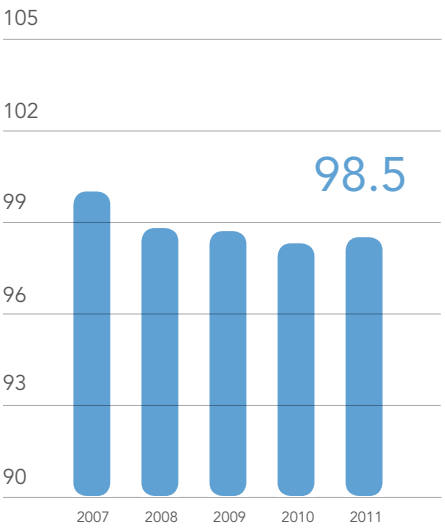
Energy efficiency of the Group's activities: air separation units, hydrogen units and gas deliveries

Air Liquide is committed to continuously improving the environmental footprint of the Group's operations, products, customers, suppliers and communities by improving by at least 2% from 2011 to 2015 the energy efficiency of each of its activities: air separation units, hydrogen units and product deliveries.
Between 2007 and 2011, energy efficiency improved 1% for air separation units – the best level ever reached since 1998 –, 1.5% for hydrogen units and 2.9% for liquefied gas deliveries in the Industrial Merchant activity.

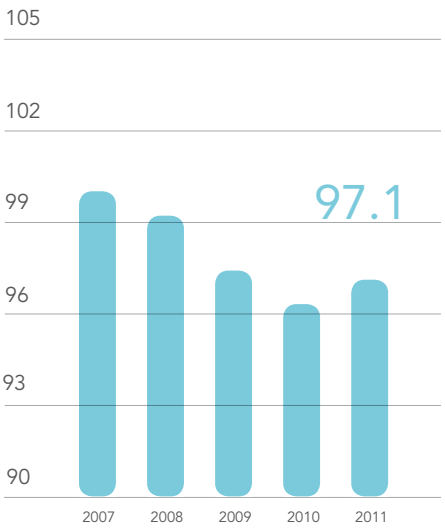
Evolution of energy consumption per m³ of gas produced, in air separation units
(Base 100 in 2007)



Evolution of energy consumption per m³ of gas produced, in hydrogen units
(Base 100 in 2007)



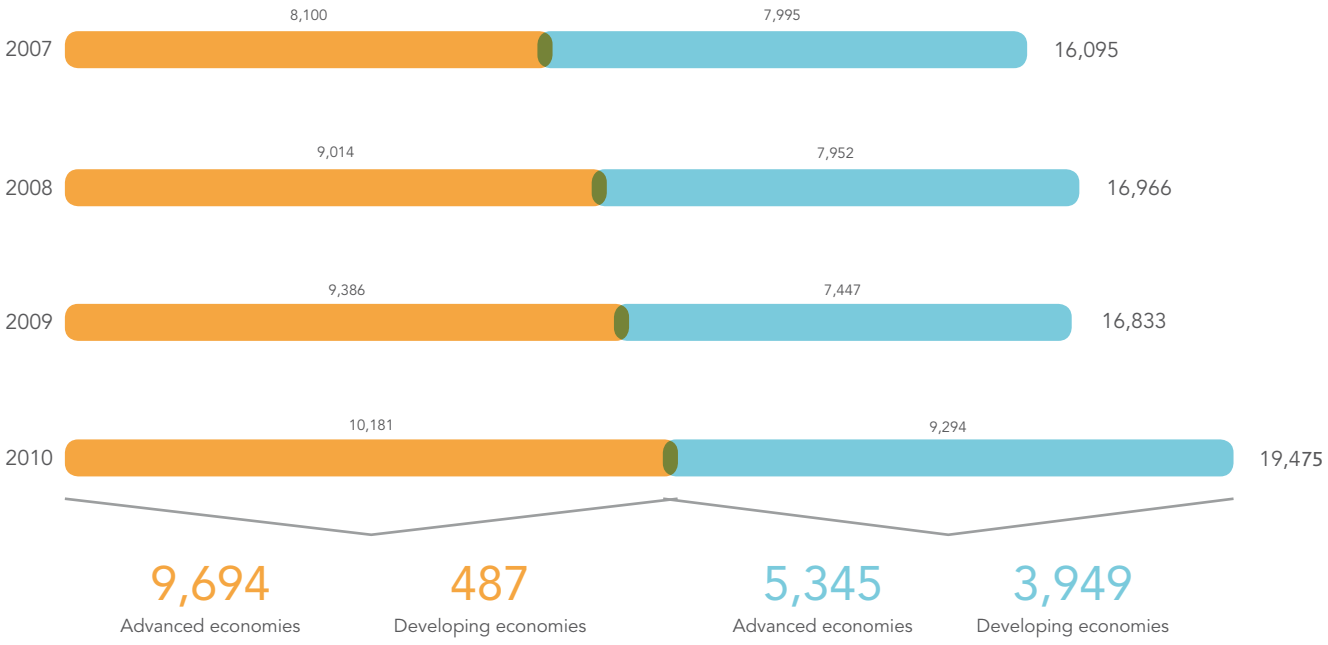
Evolution of the efficiency of liquefied gas delivered in the Industrial Merchant business line
(Base 100 in 2007)

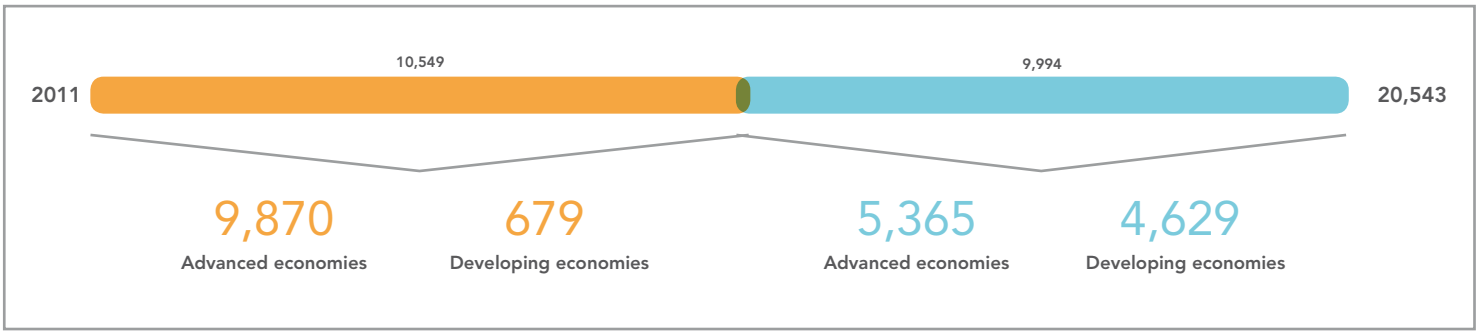


Air Liquide Greenhouse Gas emissions

The main trends in the Group's Greenhouse Gas emissions (GHG) are the following:

- **Volumes of air gas** products **rose considerably** compared to 2010. As a result, electrical energy consumption, which is mainly used in air separation units increased, as did related indirect CO_2 emissions, which are connected to it.
- **Thermal energy consumption and direct CO_2 emissions increased**, mainly due to a sustained rise in volumes in hydrogen production notably due to the startup of new units in Singapore and the Netherlands.





Direct GHG emissions (in thousands of tonnes of CO_2 eq.)
Indirect GHG emissions (in thousands of tonnes of CO_2)

Consolidated income statements (summarized)

For the year ended December 31

In millions of euros	2010	2011
Revenue	**13,488.0**	**14,456.9**
Purchases	(5,240.0)	(5,761.6)
Personnel expenses	(2,378.3)	(2,481.5)
Other income and expenses	(2,495.4)	(2,650.2)
Operating Income Recurring before depreciation and amortization	**3,374.3**	**3,563.6**
Depreciation and amortization expense	(1,122.1)	(1,154.9)
Operating Income Recurring	**2,252.2**	**2,408.7**
Other non-recurring operating income and expenses	2.0	27.8
Operating income	**2,254.2**	**2,436.5**
Net finance costs	(228.9)	(235.5)
Other financial income and expenses	(82.3)	(62.7)
Income taxes	(512.7)	(576.4)
Share of profit of associates	27.8	32.8
Profit for the period	**1,458.1**	**1,594.7**
Minority interests	54.5	59.8
Net Profit (Group share)	**1,403.6**	**1,534.9**
Basic earnings per share (in euros)	**4.99**	**5.43**
Diluted earnings per share (in euros)	**4.97**	**5.41**

Consolidated Balance Sheet (summarized)

For the year ended December 31

In millions of euros	2010	2011
ASSETS		
Goodwill	4,390.8	4,558.5
Intangible assets and property, plant and equipment	11,706.8	12,735.1
Other non-current assets [1]	973.0	963.3
TOTAL NON-CURRENT ASSETS	**17,070.6**	**18,256.9**
Inventories and work-in-progress	741.7	784.1
Trade receivables and other current assets	3,150.4	3,276.1
Cash and cash equivalents [1]	1,574.9	1,806.3
TOTAL CURRENT ASSETS	**5,467.0**	**5,866.5**
TOTAL ASSETS	**22,537.6**	**24,123.4**

In millions of euros	2010	2011
EQUITY AND LIABILITIES		
Shareholders' equity	**8,903.5**	**9,758.6**
Minority interests	**209.0**	**237.1**
TOTAL EQUITY	**9,112.5**	**9,995.7**
Provisions, employee benefit commitments & deferred tax liabilities	2,930.0	3,101.9
Non-current borrowings	5,680.8	5,662.5
Other non-current liabilities and non-current liability derivatives	336.1	316.5
NON-CURRENT LIABILITIES	**8,946.9**	**9,080.9**
Provisions and employee benefit commitments	216.4	190.6
Trade payables and other current liabilities	3,298.2	3,399.2
Current borrowings	963.6	1,457.0
TOTAL CURRENT LIABILITIES	**4,478.2**	**5,046.8**
TOTAL EQUITY AND LIABILITIES	**22,537.6**	**24,123.4**

Consolidated cash flow statement (summarized)

For the year ended December 31

In millions of euros	2010	2011
Operating activities		
Net profit (Group share)	**1,403.6**	**1,534.9**
Minority interests	**54.5**	**59.8**
Adjustments for:		
• Depreciation and amortization	1,122.1	1,154.9
• Changes in deferred taxes	130.2	99.6
• Increase in provisions	(34.2)	5.1
• Share of profit of associates (less dividends received)	(10.6)	(17.9)
• Profit/loss on disposal of assets	(4.7)	(108.3)
Cash flow from operating activities before changes in working capital	**2,660.9**	**2,728.1**
Changes in working capital	(154,9)	(192.8)
Other	(86,1)	(109.5)
Net cash from operating activities	**2,419.9**	**2,425.8**
Investing activities		
Purchases of property plant and equipment and intangible assets	(1,449.8)	(1,755.0)
Acquisition of subsidiaries and financial assets	(239.9)	(99.5)
Proceeds from sale of property, plant and equipment, intangible assets	43.0	180.9
Proceeds from sale of financial assets	0.8	1.3
Net cash flows used in investing activities	**(1,645.9)**	**(1,672.3)**
Financing activities		
Dividends paid		
• L'Air Liquide S.A.	(609.0)	(679.2)
• Minority interests	(37.8)	(42.2)
Proceeds from issues of share capital	110.3	51.5
Purchase of treasury shares	2.8	(93.8)
Increase (decrease) in borrowings	99.3	237.2
Transactions with minority shareholders	(92.5)	(3.3)
Net cash flows from (used in) financing activities	**(526.9)**	**(529.8)**
Effect of exchange rate changes and change in scope of consolidation	(90.8)	6.5
Net increase (decrease) in net cash and cash equivalents	**156.3**	**230.2**
CASH AND CASH EQUIVALENT AT THE BEGINNING OF THE PERIOD	**1,325.9**	**1,482.2**
CASH AND CASH EQUIVALENT AT THE END OF THE PERIOD	**1,482.2**	**1,712.4**

The analysis of net cash and cash equivalents at the end of the period is as follows:

In millions of euros	2010	2011
Cash and cash equivalent	1,523.1	1,761.1
Bank overdrafts (included in current borrowings)	(40.9)	(48.7)
Net cash and cash equivalent	**1, 482.2**	**1,712.4**

Net indebtedness calculation

In millions of euros	2010	2011
Non-current borrowings (long-term debt)	(5,680.8)	(5,662.5)
Current borrowings (short-term debt)	(921.2)	(1,373.5)
TOTAL GROSS INDEBTEDNESS	**(6,602.0)**	**(7,036.0)**
Cash and cash equivalent	**1,523.1**	**1,761.1**
Derivative instruments (assets) – fair value hedge of borrowings	39.6	26.8
TOTAL NET INDEBTEDNESS AT THE END OF THE PERIOD	**(5,039.3)**	**(5,248.1)**

Statement of changes in net indebtedness

In millions of euros	2010	2011
Net indebtedness at the beginning of the period	**(4,890.8)**	**(5,039.3)**
Net cash flows from operating activities	2,419.9	2,425.8
Net cash flows used in investing activities	(1,645.9)	(1,672.3)
Net cash flows used in financing activities excluding increase (decrease) in borrowings	(626.2)	(767.0)
Total net cash flow	**147.8**	**(13.5)**
Effect of exchange rate changes, opening net indebtedness of newly acquired companies and other	(296.3)	(195.3)
Change in net indebtedness	**(148.5)**	**(208.8)**
NET INDEBTEDNESS AT THE END OF THE PERIOD	**(5,039.3)**	**(5,248.1)**

L'AIR LIQUIDE S.A.
Company established for the study and application of processes developed by Georges Claude with issued capital of €1,561,436,464.50

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Reference Document (including the Sustainable Development Report)

Letter to shareholders

Shareholder's Guide

Learn more about the topics covered in this report through videos, animations, etc — **http://annualreport.airliquide.com**

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