



# Minutes

Combined Shareholders' Meeting of May 3, 2017

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## THANK YOU FOR YOUR PARTICIPATION!

The Combined Shareholders' Meeting, chaired by Benoît Potier, Chairman and Chief Executive Officer, in the presence of the members of the Board of Directors, was attended by **3,874 people**, on May 3, 2017, at the Palais des Congrès in Paris.

Shareholders, representing **49.9%** of voting rights, i.e., **131,121 shareholders present or represented, or having voted by post**, adopted all the proposed resolutions. A total of 193,132,074 votes were cast out of the 386,690,411 shares entitled to a voting right, one share being entitled to one vote.

**26,500 shareholders** voted or requested an admission card by Internet before the Meeting.

The duties of scrutineers were carried out by Amundi, represented by Mr Cédric Laverie, and BNP Paribas Investment Partners, represented by Mr Michaël Herskovich, the two members present at the Meeting having the largest number of votes and agreeing to act in this capacity.

For a replay of the Meeting broadcast, consult our Internet website [www.airliquide.com](http://www.airliquide.com).

**Benoît Potier**  
Chairman and Chief Executive Officer

For a complete Group presentation, consult our Internet website [www.airliquide.com](http://www.airliquide.com)















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# BOARD OF DIRECTORS AND EXECUTIVE MANAGEMENT

## BOARD OF DIRECTORS FOLLOWING THE SHAREHOLDERS' MEETING

 <b>Benoît POTIER</b> Chairman and Chief Executive Officer	 <b>Thierry PEUGEOT</b> Director	 <b>Karen KATEN</b> Independent Director	 <b>Jean-Paul AGON</b> Independent Director Lead Director
 <b>Sián HERBERT-JONES</b> Independent Director	 <b>Pierre DUFOUR</b> Director	 <b>Sin LENG LOW</b> Independent Director	 <b>Annette WINKLER</b> Independent Director
 <b>Geneviève BERGER</b> Independent Director	 <b>Brian GILVARY</b> Independent Director	 <b>Xavier HULLARD</b> Independent Director	 <b>Philippe DUBRULLE</b> Director representing the employees

*N.B.: Independent Director within the meaning of the Board of Directors' internal regulations. For information regarding independence criteria, please refer to the 2016 Reference Document.*

## STATUTORY AUDITORS

**ERNST & YOUNG et Autres**  
Represented by Jeanne Boillet

**PricewaterhouseCoopers Audit**  
Represented by Olivier Lotz

## CENTRAL WORKS COUNCIL DELEGATES

**Joël Pierret**  
**Patrick Recourt**

## EXECUTIVE MANAGEMENT AND EXECUTIVE COMMITTEE

<b>Benoît Potier</b> Chairman and Chief Executive Officer <sup>(a)</sup> Born in 1957 – French	<b>Guy Salzgeber</b> Senior Vice-President Executive Vice-President of the Frankfurt Hub Supervising Group Procurement Born in 1958 – French	<b>Pascal Vinet</b> Chief Executive Officer of Airgas Born in 1962 – French
<b>François Darchis</b> Senior Vice-President IDST (Innovation, Digital, Science & Technologies), Supervising Information Technologies, Industrial Merchant World Business Line Born in 1956 – French	<b>Fabienne Lecorvaisier</b> Chief Financial Officer Finance, Operations Control Born in 1962 – French	<b>François Jackow</b> Head of Healthcare activities, supervising the Dubai Hub and Customers Born in 1969 – French
<b>Jean-Marc de Royere</b> Senior Vice-President International, Governance, Corporate Social Responsibility Chairman of the Air Liquide Foundation Born in 1965 – French	<b>Kwong Weng Mok</b> Deputy Head of Asia Born in 1953 – Singaporean	<b>François Venet</b> Head of strategy, supervising the Large Industries business line and Engineering and Construction Born in 1962 – French
<b>Michael J. Graff</b> Senior Vice-President Executive Vice-President of the Houston Hub, Vice-Chairman of the Board of Airgas, supervising Electronic World Business Line, Safety and Industrial systems Born in 1955 – American	<b>François Abrial</b> Executive Vice-President of the Shanghai Hub Born in 1962 – French	

(a) Within the meaning of the French Commercial Code.



# VOTING RESULTS PER RESOLUTION

All the resolutions were approved.

		In favor		Abstention		Against	
ORDINARY SHAREHOLDERS' MEETING		SHARES	%	SHARES	%	SHARES	%
1	Approval of the Company financial statements for the year ended December 31, 2016	191,253,970	99.03%	947,752	0.49%	930,352	0.48%
2	Approval of the consolidated financial statements for the year ended December 31, 2016	191,042,785	98.92%	949,989	0.49%	1,139,300	0.59%
3	Appropriation of 2016 earnings and setting of the dividend	187,650,708	97.16%	996,295	0.52%	4,485,071	2.32%
4	Authorization granted to the Board of Directors for a period of 18 months to allow the Company to trade in its own shares	189,022,150	97.87%	852,702	0.44%	3,257,222	1.69%
5	Renewal of the term of office of Mr Thierry Peugeot as Director	180,280,425	93.35%	909,186	0.47%	11,942,463	6.18%
6	Appointment of Mr Xavier Huillard as Director	178,445,013	92.40%	856,165	0.44%	13,830,896	7.16%
7	Statutory Auditors' Special Report on agreements covered by articles L. 225-38 et seq. of the French Commercial Code	190,915,758	99.05%	892,765	0.46%	947,498	0.49%
8	Opinion on elements of remuneration due or allocated to Mr Benoît Potier for the year ended December 31, 2016	111,681,361	57.82%	918,780	0.48%	80,531,933	41.70%
9	Opinion on elements of remuneration due or allocated to Mr Pierre Dufour for the year ended December 31, 2016	130,041,159	67.33%	887,563	0.46%	62,203,352	32.21%
10	Approval of the remuneration policy for the Chairman and Chief Executive Officer	169,092,759	87.56%	912,819	0.47%	23,126,496	11.97%
11	Approval of the remuneration policy for the Senior Executive Vice President	150,898,690	78.13%	911,400	0.47%	41,321,984	21.40%
<b>EXTRAORDINARY SHAREHOLDERS' MEETING</b>							
12	Authorization granted to the Board of Directors for a period of 24 months to reduce the share capital by cancellation of treasury shares	190,213,539	98.49%	861,615	0.45%	2,056,920	1.06%
13	Delegation of authority granted to the Board of Directors for a period of 26 months in order to increase the share capital via the issuance of ordinary shares or marketable securities conferring entitlement, immediately and/or in the future, to the Company's share capital, with retention of preferential subscription rights for a maximum nominal amount of 530 million euros	185,307,921	95.95%	857,844	0.44%	6,966,309	3.61%
14	Authorization granted to the Board of Directors for a period of 26 months to increase the issuance amount of shares or marketable securities in the event of oversubscription	177,755,784	92.03%	878,710	0.46%	14,497,580	7.51%
15	Delegation of authority granted to the Board of Directors for a period of 26 months to perform share capital increases, with cancellation of preferential subscription rights, reserved for members of a company or group savings plan	189,418,576	98.08%	888,349	0.46%	2,825,149	1.46%
16	Delegation of authority granted to the Board of Directors for a period of 18 months to perform share capital increases, with cancellation of preferential subscription rights, reserved for a category of beneficiaries	180,595,186	93.50%	8,662,732	4.49%	3,874,156	2.01%
<b>ORDINARY SHAREHOLDERS' MEETING</b>							
17	Powers for formalities	192,101,422	99.47%	908,789	0.47%	121,863	0.06%



# 2016 FINANCIAL RESULTS AND HIGHLIGHTS

*"In this year of transition with the Airgas acquisition, Air Liquide reports solid financial performance for 2016 in a context of moderate global growth. The Group has entered a new phase of its development, with the publication of NEOS, its mid-term corporate program."*

**Fabienne Lecorvaisier**, Group Chief Financial Officer

2016 was a major transformational year for Air Liquide. The acquisition of Airgas on May 23, 2016 marks a major milestone in the Group's geographic expansion and the extension of its markets. The different acquisition process phases were completed in less than a year: the asset divestments

required by the U.S. Antitrust Authorities were finalized in September 2016; the Airgas purchase was refinanced in full during the year through euro and U.S. dollar bond issues and a share capital increase with retention of preferential subscription rights.

## 2016 GROUP KEY FIGURES

- **Revenue:** 18,135 million euros, up +14.6% <sup>(a)</sup>
- **Operating income recurring:** 3,024 million euros, up +5.9% <sup>(a)</sup>
- **Net profit:** 1,844 million euros, up +5.0%
- **Return On Capital Employed, after tax:** 7.8%
- **Earnings per share:** 5.11 euros, up +2.4%
- **Cash flow <sup>(b)</sup>:** 3.7 billion euros, up +31%

## PERFORMANCE HIGHLIGHTS

- Sustained activity levels in a context of moderate global growth
- Further increases in revenue, net profit and dividend per share
- Fresh productivity gains, supplemented by initial Airgas synergies
- A high level of investment
- A robust self-financing model
- A solid balance sheet
- Successful share capital increase

(a) Published figures compared with 2015 figures restated for IFRS 5 "Discontinued Operations" adjustments, regarding the Diving and Welding activities.

(b) Net cash flow from operating activities.

## REVENUE

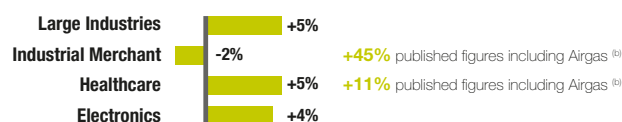
### Gas & Services

With the acquisition of Airgas, the Group is now firmly focused on its Gas & Services activities. The divestment of the Diving business was completed at the end of December 2016 and an agreement for the sale of Air Liquide Welding to Lincoln Electric was signed on April 27, 2017. Gas & Services revenue represented **96% of Group revenue** in 2016. The Industrial Merchant business line alone generated over 40% of Group sales.

- **Industrial Merchant** revenue surged +45% following the integration of Airgas, although comparable figures show a slight contraction of -2%, with contrasting results across countries and market segments. The energy, construction and metal manufacturing sectors reported a slight downturn, while the food, beverage and pharma sectors posted growth.
- **Electronics** revenue increased +4%, driven by continuing strong demand, particularly in the advanced materials segment.
- **Healthcare** revenue grew +11% including Airgas' contribution. Like-for-like growth is a solid +5%, spurred by high home healthcare demand and strong hygiene sales. Developing economies posted double-digit growth.

## BREAKDOWN BY BUSINESS LINE

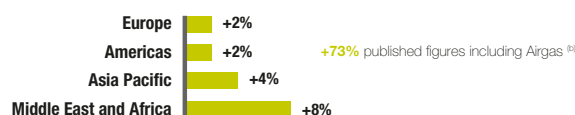
### 2016-2015 like-for-like growth <sup>(a)</sup>



- **Large Industries** increased +5%, reporting growth across all geographic regions. Revenue was boosted by strong demand for air gas and the ramp-up of production units, primarily in Germany, Poland, America and China. Growth also came from the two hydrogen production units brought online at the Yanbu site in the second quarter of 2015. The commissioning of an underground hydrogen cavern in the United States at the end of the year helped develop on-demand hydrogen sales, while improving reliability for customers.

## BREAKDOWN BY GEOGRAPHIC REGION

### 2016-2015 like-for-like growth <sup>(a)</sup>



(a) Excluding currency, energy and material scope impacts.

(b) Published figures compared with 2015, including Airgas sales from May 23, 2016 and negative currency and energy impacts.

## Engineering & Construction

The Engineering & Construction business line reported revenue of **474 million euros**, a slump of 38% attributable to the slowdown of major energy projects.

## Global Markets & Technologies

The Global Markets & Technologies business line posted revenue of **330 million euros**. This +14% increase was mainly driven by the space, maritime and biogas sectors.

Air Liquide brought seven biogas purification units online in Europe. The purification and recovery of biogas is a highly promising component of the circular economy which contributes to reducing greenhouse gases. Air Liquide won several contracts in the space sector worth a total of 100 million euros, for the supply of cryogenic equipment for the propulsion of the future European launcher, Ariane 6.



Biogas purification unit

## OPERATING PERFORMANCE AND THE BALANCE SHEET

**Productivity gains** totaled **315 million euros**, thanks to various efficiency programs. In addition, initial operating synergies with Airgas amounted to **45 million US dollars**. The operating margin rate was impacted by Air Liquide's new activity mix and remains strong at **16.7% of sales**, reflecting the consolidation of Airgas.

Group sales for the **first quarter of 2017** totaled 5.2 billion euros, up +38.5%, boosted by the consolidation of Airgas and favorable currency and energy effects.

Gas & Services sales rose +2.8% like-for-like, with a significant improvement in the Industrial Merchant business line and sold growth in Healthcare sales. The Global Markets & Technologies business line also remained dynamic. All geographic regions posted growth, and investment remained strong.

Group net **debt** increased to **15.4 billion euros** at the end of 2016, following the acquisition of Airgas for 11.6 billion euros, net of asset divestment flows. The average cost of net debt is, however, down on 2015 at **2.9%** and is relatively low given the average debt maturity of six years. The debt is mainly at fixed-rates.

The self-financing model remained robust once again this year. Net cash flow from operating activities totaled **3.7 billion euros** and was used to finance industrial investment and the dividend distribution.

Impacted by the consolidation of Airgas, the **Air Liquide balance sheet remains solid**.

## A FOCUSED INVESTMENT STRATEGY

The Group also continued its investment strategy focused on growth markets, deciding on **2.2 billion euros** of industrial and financial investment, excluding the acquisition of Airgas.

**In China**, Air Liquide signed two new contracts in Large Industries: a contract to supply oxygen in the energy sector and a contract to supply oxygen and nitrogen to a subsidiary of the Chinese group Sinopec, one of the largest integrated energy and chemical companies in the country.

**In the Americas**, the Group won a hydrogen production contract with Axion Energy, a leading refiner in Argentina. In Healthcare, the SEPPIC and Schülke subsidiaries decided to build a new production site in the United States. This unit is scheduled to be brought online in the first half of 2018 and will produce ingredients for the global cosmetics and pharmaceutical markets. The planned investment exceeds 60 million US dollars.

**In Europe**, in the Global Markets & Technologies business line, Air Liquide commissioned the first pure helium storage site in Germany, to better meet customer needs and guarantee reliable and predictable supply.

Finally, the Group also continued its **external growth strategy** with acquisitions in the Industrial Merchant and Healthcare business lines. The Group purchased, for example, **PDP Courriers**, a major player in temperature-controlled logistics for the pharmaceuticals industry.





*“With Airgas, we were daring, we went the distance and we brought the trophy home. Your Group will reap the rewards in the coming years.”* **Pierre Dufour**, Senior Executive Vice President

**The acquisition and integration of Airgas is a major milestone in the Group's history.**

## THE STORY OF AN ACQUISITION...

### Hermione

Air Liquide regularly analyzes movements in the gases industry sector and any opportunities that arise. For the Airgas acquisition, the story began in earnest in **June 2015** during a visit to Philadelphia to see the Hermione, an exact replica of the frigate sailed by General Lafayette during the American Revolutionary War. A visit to Airgas at this time, convinced us there was an opportunity to be seized by Air Liquide.

### The machine rolls into action

The story now stepped up a gear. A team was formed to assess Airgas' potential. In **October 2015**, the Board of Directors of Air Liquide green lit the submission of a bid. The conditions for success were quite straight-forward: to avoid the vicious spiral of bids and counter-bids it was necessary to hit the target and hit it fast, while ensuring the bid was received amicably to set a firm foundation for a successful integration.

The price conditions and the agreement of the Boards of both companies were obtained rapidly. The financial conditions of a bridge loan and the refinancing were finalized in record time. Due diligence procedures were launched immediately and completed within around two weeks. The legal teams got to work and a final agreement was approved and announced on **November 17, 2015**. The antitrust case was prepared in parallel and filed with the U.S. authorities one week later and discussions with the authorities were conducted diligently.

The Airgas acquisition was closed on **May 23, 2016**, less than 11 months after visiting the Hermione in the port of Philadelphia, replicating, some 235 years later, the accomplishment of Lafayette's expeditionary force.



### Integration

From early **January 2016**, the Airgas and Air Liquide teams were mobilized to plan the upcoming integration, with close to 200 employees from both companies working tirelessly. **By July**, the organizational structure was in place. **By September**, the divestments required by the U.S. authorities had been completed. **In early October**, the two management information systems were merged and we could begin to generate synergies, as shown by some 45 million US dollars of cost synergies realized ahead of schedule in 2016.

At the same time, during the summer months, the financial teams launched the debt issues and the share capital increase set-out in the refinancing plan. These operations were successfully completed in **October 2016**.

Thanks to the mobilization of the combined teams, the second stage of this adventure – the integration of Airgas – was successfully completed. **2017 is now a crucial year.** We expect aggregate synergies realized by the new Airgas to reach, from this year, two-thirds of the promised 300 million US dollars, including first growth synergies. All our employees are motivated to seize the opportunities that arise and generate the growth expected from this acquisition.

## AIRGAS IN BRIEF

### KEY FIGURES

- **Revenue of 6 billion US dollars** (after integration) making Air Liquide the **American leader** in the Industrial Merchant business line and medical gases
- **1 million** customers
- **18,000** employees
- **+12 million** cylinders
- **27,000** bulk storage units
- **6,000** trucks
- **+900** sales outlets
- **350** filling centers

### Customer-centric

One of Airgas' strengths is its ability to roll-out human and equipment assets centered on customers, with a structure built to serve final customers directly. Customers can therefore buy directly from Airgas all the products and services necessary for using the gases. Welding equipment, consumables, accessories and even in certain cases certification services for new welders are all available immediately at competitive prices, without customers needing to look elsewhere.



### A multi-channel approach

Each customer, whatever its size, can choose to be assisted by a sales representative, buy products directly from an Airgas store, call the telephone sales line or use the Airgas.com website. These channels all allow customers to do whatever they wish – browse products, submit an order, manage invoices and documentation, access technical expertise and much more – in a flexible and fluid manner. They can therefore find whatever they need at Airgas and access it in the manner that best suits them, rapidly and at a competitive price.

### Complementarity and synergies

To create even more value, Air Liquide offers Airgas its leading position in the production of cryogenic liquids and particularly argon. The Group also brings numerous applications and technologies that Airgas didn't have, such as small on-site production units and applicative solutions in the thermal processing, food and drink and water treatment sectors. These applications could be rolled-out across the entire Airgas network.

The growth synergies announced will be achieved by combining three major assets: **increasing the Airgas production capacity** using Air Liquide assets, **cross-selling Airgas offerings to Air Liquide customers** across North America, and **Airgas' unique e-commerce position**. These assets will also contribute to meeting the Group's ambitious **organic growth** objectives. In the United States, Airgas also offers Air Liquide an extraordinary platform for **digitization** and **understanding the small customer market**.

### CONCLUSION

"Today is the last time I will address you as Senior Executive Vice President. I would like to thank you for your unfailing support over the years, support that you continue to provide to the Group. Thank you."

P. Dufour





# STRATEGY AND OUTLOOK

## Air Liquide is transforming.

*“Air Liquide completed a key strategic move in 2016 and defined its direction and objectives for 2020. The Group must now implement this transformation. We are confident in our ability to succeed and to pursue profitable growth over the long-term.”* **Benoit Potier**, Chairman and Chief Executive Officer

Twelve months ago, the **Airgas** acquisition was not yet finalized. Today, the transaction has been **completed as planned**, from the closing of the deal to the share capital increase and integration of operations into our systems. In an uncertain global political and economic context, which paradoxically is brighter for Air Liquide, what is the Group's **strategy** for the coming years?

## GLOBAL ENVIRONMENT

### Deciphering the global environment

#### POLITICAL

- In one year, we have seen a series of major events involving global economies, the **Brexit** vote, the **U.S. election** and, in Europe, elections in the **Netherlands, France, and Germany** in the fall.

#### GEOPOLITICAL

- With the **migrant crisis** and its consequences in Europe and the war in **Syria**, the hotbeds of terror-related tension and insecurity have unfortunately not been stemmed, as evidenced by recent events in several cities around the world.
- In this **geopolitical** environment, extreme **prudence** is necessary when selecting investment.

#### ECONOMIC

While Europe celebrated the 60<sup>th</sup> anniversary of the Treaty of Rome, synonym of union, certain major economies **turned inwards**, questioning the balance of power in recent decades, particularly as regards global trade.

The **economic** environment was mixed in 2016.

- The **industrial production index** was **low** globally (+1.7%) and negative in the United States (-0.9%), impacting heavily on the Industrial Merchant business line in North America.
- The **price of crude oil** fluctuated significantly finishing on an upward trend at the year-end following an OPEC agreement. Low energy prices had a **negative** impact on both Engineering projects and Air Liquide markets in the energy and metal manufacturing sectors.
- **Currency** fluctuations also had a **negative** effect. While the U.S. dollar remained almost stable against the euro, the Argentinean peso, the South African rand and to a lesser degree the sterling pound impacted results, although this trend generally reversed in the fourth quarter.
- **Monetary policy** and **interest rates** remained accommodative, largely **benefiting** Air Liquide as it sought to finance the Airgas acquisition. Rates have since started to rise.
- Global **inflation** remained low at +2.9%, although a slight upturn in advanced economies is expected to be confirmed in 2017, **improving** price leverage.

The economic environment has **improved** since the beginning of 2017, as demonstrated by first quarter results.

### Risk management

In 2016, the Group integrated **Airgas** and the 2020 **NEOS program** into its risk analysis process and simplified its **mapping**, establishing a **more direct link** between the analysis and monitoring of risks. In the current external environment, the **protection of our employees and sites** remains a key priority. As is **data protection**, a major issue for companies using digital technology. In today's rapidly changing regulatory environment, the Group has also strengthened monitoring of **supplier qualification, internal control and compliance**. Certain risks specific to the Group's activities, such as **industrial risks**, are closely monitored by the Risk Committee.



## 2016 PERFORMANCE

### Financial performance

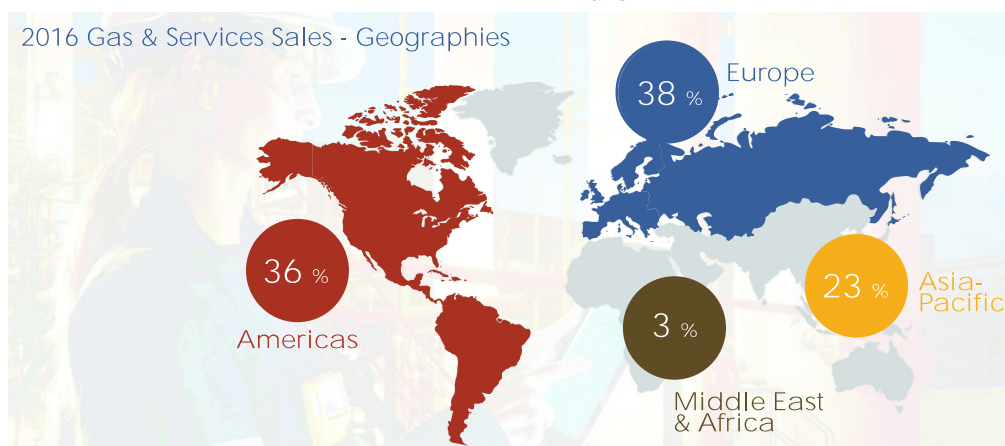
Air Liquide reported **solid** performance in 2016 – although **slightly** atypical as Airgas is only consolidated for 7.5 months of the year – with the **key balances** preserved. It reflects continued **investment, growth** in Gas & Services activities, generally stable **margins**, the increase in **earnings per share** after the share capital increase, strong growth in **cash flow**, tight control over **debt** and maintaining Air Liquide's **A credit rating**.

## Air Liquide's new profile

Air Liquide has grown in size, both geographically and in its key markets, and has strengthened its **leadership**.

- **67,000** employees, **80** countries and over **3 million** customers and patients served.
- 2016 revenue of **18 billion euros**.
- Balanced breakdown in Gas & Services revenue between **Europe** and the **Americas**.

- Strengthened presence in the **United States** (number one industrial gas market) with 1,100 sites.
- Group activity split that **matches** the structure of the industrial gas market, with notably 44% of Gas & Services sales now generated by the Industrial Merchant business line.
- 14% growth in **Global Markets & Technologies** revenue, with an increased backlog.
- Air Liquide in the top **10 market capitalizations** on the Paris stock market.



## Competition

Air Liquide's **competitors** have entered a **consolidation** phase. Air Products finally abandoned its proposed bid for **Yingde** in China, leading to a change in Yingde's majority shareholder, the announced **Linde-Praxair** merger is not yet finalized and the Japanese company, **TNS**, strengthened its position by purchasing the Airgas assets sold in the U.S. Air Liquide continues to monitor opportunities and changes in the industry.

## Group objectives

**Air Liquide is in good working order** with clear objectives for 2020 that are shared by the different countries. The Group aims to become the industry **leader**, measured not by size but by long-term **performance** and the ability to **transform** and **innovate**.

With full-year revenue in excess of **20 billion euros** since the consolidation of Airgas, Air Liquide has now reached a **global size** with a major **presence** in the main markets.

### BY 2020

#### FINANCIAL OBJECTIVES

- Revenue growth of **+6 to +8%\*** in average per year
- Efficiency gains **> 300 million euros** annually from 2017 and Airgas synergies **> 300 million US dollars**
- ROCE in excess of **10%** in 5 to 6 years
- Maintain "A" credit rating

*\*Including a scope effect of Airgas, contributing 2% per year.*

#### NON-FINANCIAL OBJECTIVES

- **A Sustainable Development program**, focused on environment and health improvement thanks to **Air Quality** and stronger **commitment** to stakeholders

## STRATEGY

### Historical background

#### 1980's

For decades, the strategic focus in Air Liquide's industry was firmly on **Production** and primarily the production of air gases and mixtures. This strategy was by necessity **local**, as the transportation of products was only economical over short distances. It combined the simultaneous production of **gas** and **liquid** to benefit from **competitive** product sourcing and sought to develop applications and uses to grow volumes.

**Innovation** then focused on the **efficiency** of separation and exchange technologies, the size of units, on-site production and the optimization of **logistics**, and **application equipments**.

#### 1990's

Then came a period of **expansion into new markets** and the **widening of the offering** to include hydrogen and synthesis gases, cogeneration and electronic specialty gases. The **healthcare** sector expanded to include home healthcare services, hygiene products and specialty ingredients.

Technological advances and the related knowhow came from internal developments, particularly in the engineering and construction sectors, or through acquisitions.

## 2000's

Finally, the Group launched its **geographical expansion** into developing countries and particularly China, Eastern Europe, Russia and the Middle East. Volumes grew significantly, with the construction of new production capacity and the replacement of older facilities.

## Today

The global race to **increase industrial capacity** has slowed in recent years, in line with lower growth in global demand in volume terms. The focus is now on **optimizing** capacity. **Geographic expansion** is achieved through **local densification** in the **industry** sector. It remains **global** in the **healthcare** sector, as healthcare systems in developing economies have yet to achieve the same level of maturity as advanced economies.

The **industry sector** is therefore moving progressively from **Producing More** to **Producing Better**. It is upscaling, reducing energy consumption, making better use of natural resources, recycling byproducts and reducing polluting emissions.

In the **healthcare** sector, medicine is adapting, becoming more sophisticated and individualized and integrating services, particularly at patient homes. This is reflected by the development of **basic services** in less advanced markets and a move towards **Living Better** in more advanced markets.

### Produce and Live Better in a more Sustainable world

- Assist the monitoring of chronic illnesses and new pathologies in the **healthcare** sector.
- Develop **customized molecules** in the **electronics** sector.
- Reduce energy consumption and emissions in **Large Industries** through the use of oxygen, hydrogen and CO<sub>2</sub>.
- Roll out offerings in new sectors such as **clean transport** or for **small customers**, in the **Industrial Merchant** business line, thanks to multi-channel distribution circuits and the simplification of transactions.

**Digital** plays a key role in these new markets, bringing the Company much closer to its customers, employees, shareholders and the world in general. Similarly, **innovation** plays a central role, **combining** science, technologies, customer experience and the incubation of new activities with the opportunities offered by digital developments.



Smart cylinder

Air Liquide is therefore implementing a **customer-centric Transformation strategy**, tailored to this new environment and founded on **digital** technology and **innovation**. It forms the heart of the 2020 **NEOS** program.

## Innovation

### CONCRETE EXAMPLES

- In **Industrial Merchant**, high temperature oxycombustion helps improve the competitiveness of customers and reduces the environmental impact of the glass melting process (HEATOX) by reducing CO<sub>2</sub> and NOx emissions.
- In **Large Industries**, the "Connect" project optimizes the remote management of operations at 22 sites in France. Equipped with predictive maintenance digital tools, "Connect" was certified a **"technological showcase"** by the French Industry of the Future Alliance.
- In **Electronics**, Air Liquide supplies **customized advanced molecules** for etching and deposits to the semi-conductor and screens markets, posting annual growth of +20%. These include the ZyALD molecule developed by Air Liquide from the ALOHA™ range, which can be used to create more performing memories.
- **Healthcare** continues to develop new **digital** solutions for patients and doctors via an extranet for prescribers. It has also launched a **cardio pulmonary ventilator** for emergency services, designed in partnership with the Annecy-Genevois Hospital in France.
- At **Group** level, Air Liquide strengthened its partnerships with ITER and Ariane 6 in 2016 and continued to develop its markets in the fields of biogas, hydrogen-energy and multi-energy clean transportation stations.

Air Liquide and Toyota were behind the launch of the **Hydrogen Council** at the beginning of 2017, alongside 12 other leading industrial companies including **Total, Alstom and Engie** in France. The aim is to accelerate **the development of hydrogen as a global energy source**.

- Air Liquide continues to invest in its **innovation centers** in China and France (Paris-Saclay) and plans to open a new center in Japan in the near future.

### AN OPEN ECOSYSTEM

At Air Liquide, innovation takes place within an open **ecosystem** and is based on numerous partnerships with customers, start-ups, SMEs, universities and research institutions around the world.

**i-Lab**, Air Liquide's innovation laboratory, is at the forefront. It led to the creation of a second laboratory to develop digital solutions for the Group's businesses, named the fab-Lab or "**La Factory**", also located in the east of Paris.

The **Scientific Research** teams focus on "essential small molecules", the scientific territory of the Group at the origin of **Life, Matter** and **Energy**. A scientific competition was organized on the challenges facing the planet. Three projects from Switzerland, Japan and France were selected from among **130 submissions** and work has begun at the successful universities.

Finally, the **ALIAD** venture capital entity took minority stakes in **four new start-ups**, including Polyshape and Solidia.

## Digital

**Digitization teams** were set up in 2016. With connected devices, mega-data and artificial intelligence, we can easily imagine all the potential applications in the Group's businesses. Air Liquide has over **210,000 connected devices** and is constantly reading **450,000 measurements** across **400 production sites**. 1 billion data items are collected each day.

The **digital transformation strategy** known as the **ACE** (Assets, Customers, Ecosystem), offers both a mean of **improving the customer experience** and a source of **efficiency gains**. By integrating digital technology, Air Liquide will considerably improve the management of its **assets** and its interaction with **customers** and **patients** and will be supported by the **start-up ecosystem** to move faster.

## ASSETS

Tomorrow, the new generation of systems currently being rolled out will ensure that all **bottles** are **connected** either continuously or intermittently. By 2020, the Group aims to have installed **telemetry meters** in the majority of its **storage areas** for the real-time measurement of customer consumption.

In **Industrial Merchant**, digital solutions will enable production scheduling, logistics and the Group's security to be optimized, through the remote management of **12,000 trucks**, **60,000 storage units** and **24 million cylinders** on customer premises.

## CUSTOMERS

When **interacting with customers**, the Digital transformation teams work closely with the Airgas teams, who have considerable experience in **online transactions**. Each month, more than **600,000** unique **visitors** connect to the Airgas.com website to make purchases, verify their order status and obtain product information. This site has **100,000 new users each year**. Air Liquide plans to capitalize on Airgas' formidable experience which will benefit the rest of the Group.



Airgas store

## ECOSYSTEM

Air Liquide joined **Techstars Paris**, which connects program major partner groups with start-ups, gaining **preferential access** to the best start-ups in the fields of artificial intelligence, data, the Internet of things, cyber-security and smart mobility.

## ORGANIZATIONAL STRUCTURE AND SUSTAINABLE DEVELOPMENT

To secure all the expected benefits, Air Liquide's strategy is also founded on a **network** structure of **Hubs** and **country clusters**. This structure was implemented last year in response to the current problem of achieving greater **proximity** with operations and customers and better **responsiveness**. **Simple and efficient**, it is perfectly adapted to the reality on the ground.

Beyond the vision of **Produce Better** and **Live Better**, both of which contribute to a **more sustainable world**, the Group has placed **responsibility** and performance at the heart of its ambition. It aims to improve the environment and health through **air quality** and to maintain an active **dialogue** with stakeholders.

### Improving air quality: four priorities

1. Contribute to **cleaner industries**
2. Contribute to **cleaner transportation**
3. Reduce **Air Liquide's environmental footprint**
4. Strengthen the **responsible purchasing policy**, particularly through low-carbon energy

Air Liquide implements actions and projects together with **stakeholders** in a bid to encourage dialogue. The **Air Liquide Foundation** makes a substantial contribution in partnership with leading Research Institutions, working with the most disadvantaged communities.

## CHANGES IN SHARE CAPITAL

For the first time in **30 years**, the Group performed a **share capital increase** with retention of preferential subscription rights, associating its shareholders with this new stage in the Company's development. It was the largest issue on the Paris stock market in 2016 and the highest fund raising subscribed by individual shareholders since 2006. Ultimately, **3.3 billion euros** were raised with a high overall subscription rate of **191%**.

**Individual shareholders currently hold around 33%** of the share capital, down slightly due to oversubscription by institutional investors to the share capital increase. The **number of individual shareholders** has however increased **by more than 10,000** since 2015 to **410,000**. The share price tracked the **CAC 40** performance in 2016, exceeding it after the share capital increase in the fourth quarter of 2016.

The Board of Directors decided to propose a **one-for-ten free share attribution** to be performed in the **second-half of 2017**, demonstrating once again the Group's commitment to the principle of regular free share attributions.

## CONCLUSION

At the dawn of a **new chapter** in Air Liquide's history, let's thank the **teams** for their amazing commitment and high quality work and the **shareholders** for their continued loyal support of the Group. Together we made the Airgas acquisition possible: an ambitious project placing Air Liquide in pole position for the coming years.





# GOVERNANCE & REMUNERATION

*"410,000 strong, you have placed your trust in Air Liquide and it is extremely important for us to continue the Group's journey together."* **Benoit Potier**, Chairman and Chief Executive Officer

## BOARD COMPOSITION



X. Huillard

The Shareholders' Meeting renewed the term of office as Director of **Thierry Peugeot** and approved the appointment of **Xavier Huillard**, for periods of four years. A French citizen and Chairman and CEO of Vinci since 2010, Xavier Huillard will bring to the Board his experience as the CEO of a major multinational company.

The Board of Directors comprises **12 members** with a range of profiles, including **five women** and **six directors of foreign nationality**.

The term of office of **Thierry Desmarest**, a Board member since 1999 and **Lead Director** since 2014, expired in 2017. The Board warmly thanked him for his contribution to the development of Air Liquide and his loyalty to the Group. **Jean-Paul Agon** was appointed Lead Director.

## WORK OF THE BOARD AND THE COMMITTEES

### Work of the Board

The Board met six times in 2016 with an attendance rate of 97%, when it focused particularly on finalizing the **Airgas** acquisition and its financing. The Board also considered the mid-term strategy, including the new **NEOS** corporate program, **innovation** and **technological development** in the Group's different businesses and the Group's **Corporate Social Responsibility**, deciding the creation of an Environment and Society Committee, chaired by Pierre Dufour.

### Work of the Committees

- **The Audit and Accounts Committee** regularly reviews the Group's accounts and financing policy. In 2016, it examined, for the first time, the Group's accounts including Airgas. It reviewed the financing policy and debt management related to the acquisition financing. It monitored general control assignments and the roll-out of the risk management approach.
- **The Appointments and Governance Committee** considers the composition of the Board and its Committees. In 2016, it led the recruitment process for a new Director with the assistance of an external consultant. Following the departure of Thierry Desmarest, it proposed a new Lead Director and changes to the composition of the Committees. The Committee also examined the change in the management team following Pierre Dufour's decision to retire, bringing to an end his duties as Senior Executive Vice President. He nonetheless remains a Director of the Company. On behalf of all employees, Benoit Potier thanked Pierre Dufour for his 20-year commitment to the Group and his decisive contribution to Air Liquide's growth.

### New composition of the Committees

**Audit Committee:** Siân Herbert-Jones (Chairwoman), Sin-Leng Low, Thierry Peugeot, Brian Gilvary

**Appointments and Governance Committee:** Jean-Paul Agon (Chairman), Annette Winkler, Karen Katen

**Remuneration Committee:** Jean-Paul Agon (Chairman), Xavier Huillard, Annette Winkler

**Environment and Society Committee:** Pierre Dufour (Chairman), Geneviève Berger, Philippe Dubrulle

- **The Remuneration Committee** examines the Executive Officers' remuneration policy.



Board meeting

## EXECUTIVE REMUNERATION

### Executive Officers

2016 executive corporate officer remuneration can be analyzed as follows:

- **an increase in the fixed component**, unchanged for a number of years. Benoit Potier was awarded fixed compensation of 1.175 million euros and Pierre Dufour fixed compensation of 675,000 euros, representing an annual rise of +1.7% and +1.9% respectively since the last increase;
- **a significant decrease in the variable component of -24%** for the two executives, attributable to the two financial criteria. Actual results failed to meet the ambitious objectives set at the beginning of the year based on global industrial growth forecasts which were subsequently revised downwards;

Therefore, while the Group reported robust operating results, total fixed and variable remuneration awarded to Benoit Potier and Pierre Dufour for 2016 was -11.4% and -10.8% lower than in 2015, respectively. Over the period 2008-2016, Benoit Potier's annual remuneration decreased -0.4% on average per year and Pierre Dufour's annual remuneration increased +0.9% per year.

- **stable option and performance share remuneration.** The Board of Directors granted Benoit Potier options and performance shares representing a total of 1.9 million euros under the annual plan, representing an average annual increase of +0.62% since 2008. Pierre Dufour did not receive an annual grant in the year before his departure, as is customary in the Group. Exceptionally, a specific performance share grant was decided following the acquisition of Airgas, an extraordinary and transforming transaction for the Group. Benoit Potier and Pierre Dufour received performance shares valued at 1.5 million euros and 747,000 euros, respectively. It was decided, for Benoit Potier, to supplement the Airgas Plan performance conditions with an additional condition concerning the realization of synergies;
- no change to **deferred remuneration components.**

### Changes of the remuneration policy in 2017

The Board considered it was necessary to adapt Benoit Potier's remuneration policy to the Group's new context following the acquisition of Airgas, to ensure the successful integration of Airgas and to drive the long-term strategy of the new group which has increased in size by nearly 30%. This policy must remain competitive and incentivizing and meet the interests of all stakeholders. Three measures were decided:

1. **a target remuneration objective for 2018/2019**, to be attained in stages, subject to good performance and the successful integration of Airgas and the realization of synergies;
2. **a new short-term remuneration structure**, with a variable component representing 75% of total target remuneration and a fixed component of 25%:
  - the variable component is now expressed as a target remuneration and capped at 167% of the fixed component,
  - quantitative criteria are extended to include revenue growth in line with the objectives of the corporate program and qualitative objectives are simplified,
  - the weight of quantitative criteria is strengthened compared with qualitative criteria;
3. **simplification of long-term remuneration components:**
  - grants to Executive Officers are now assessed in value terms each year (and not with respect to volume) to be more easily understandable,
  - performance conditions are simplified and comprise, in addition to growth in recurring earnings per share, a Total Shareholder Return objective now based, for the relative portion, on a single index: CAC 40 TSR index, reinvested dividends.

The Shareholders' Meeting issued a favorable opinion on the Executive Officers' 2016 remuneration components under the two specific resolutions. It is also approved the principles and criteria for determining executive corporate officers' remuneration applicable from 2017, pursuant to the new Sapin law.

### Employees

The profit and capital sharing policy covering all Group employees is being pursued through several measures:

- **grants of options and performance shares**, a motivation and loyalty factor for a growing number of employees. In 2016, 1,981 employees received grants under these programs, including 39% for the first-time in five years, reflecting the Group's desire to widen the beneficiary population;
- **incentive and profit-sharing agreements**, covering 95% of employees working in France. In 2016, L'Air Liquide S.A. employees received an average of 5,500 euros under these agreements;
- **share capital increases reserved for employees.** In March 2016, a share capital increase reserved for employees was offered at a preferential price and subscribed by 32% of employees across 74 countries. These transactions receive strong support and increase employee motivation and their sense of belonging to the Group.

### Shareholders

Air Liquide conducts an active shareholder policy based on **long-term investment growth**, with the regular payment of dividends, free share attributions and loyalty bonuses. As of December 31, 2016, over a quarter of Air Liquide shares are entitled to a loyalty bonus. The Shareholders' Meeting approved the payment of a dividend of 2.60 euros per share and 2.86 euros for shares entitled to the loyalty bonus. Over the last 20 years, the dividend reinvested has grown by an average of 9.5% per year. The Airgas acquisition financing was sized to enable the continued distribution of around half of net profits.

Loyal to its shareholder strategy, the Board also decided to propose a **one-for-ten** free share attribution to be performed in the second half of 2017. These decisions are an integral part of Air Liquide's policy to reward and grow shareholder portfolios over the long term. Accordingly, for a 100 euros investment in Air Liquide shares in 1996, the pre-tax Total Shareholder Return is **10.9%** per year for a registered shareholder compared to 7.8% for an investment in the CAC 40.





# DEBATE WITH SHAREHOLDERS

Topic	Questions no.
<b>Share capital and Share ownership</b>	
Institutional share ownership	15-1
Free shares	16-1, 16-2
Board of Directors	4-2, 6-1
Scrip dividends	5-1
Attendance fee	16-3
Benoît Potier's assets	7-2
Executive Officers' remuneration	8-1
Fractional rights	2-1
<b>Businesses and Strategy</b>	
Airgas	1-1, 11-1
Cellnovo	10-1
Hydrogen	9-1, 14-1, 17-1
Acquisitions	1-2, 1-3
Industrial Merchant	13-1
Engineering	13-2
Connected devices	17-2
Oman	6-4
Start-ups (SpeachMe, Sigfox)	3-1, 6-3
<b>Finance</b>	
Debt	6-2
ROCE	4-1
<b>Environment</b>	
Competition	12
Donald Trump	7-1
French elections	7-3
Data protection	18-1

## PRE-SUBMITTED WRITTEN QUESTIONS

The Board of Directors' answers to questions proposed prior to the Shareholders' Meeting were published before the debate with shareholders on the Company's website, [www.airliquide.com](http://www.airliquide.com), Shareholders/Agenda/Annual General Meeting.

This option provided by law allows more time to be devoted to discussion with shareholders present at the Meeting.

A summary of the questions asked and the Board's replies was provided by Benoît Potier at the start of the debate:

- 3 questions on share capital and share ownership;
- 1 question on governance;
- 3 questions on Air Liquide's activities.

All of these questions and answers are available on the Internet site.



## QUESTIONS AT THE MEETING

### Question no. 1

#### ACQUISITIONS

##### 1-1 Are you satisfied with the Airgas acquisition?

**Benoît Potier:** The opportunities offered by this acquisition exceed our expectations. Not only will Airgas support our U.S. development but its know-how, particularly in e-commerce and digital technology, are a major advantage. We have found motivated and competent teams in the Industrial Merchant business lines. Everything went well. We are very satisfied with this acquisition so far.

##### 1-2 Was LVL Médical sold?

**Benoît Potier:** LVL Médical, one of the home healthcare leaders in France, has not been sold and is now included in the Healthcare activity of the Air Liquide Group.

##### 1-3 Do SEPPIC and Schülke, two subsidiaries in the cosmetics industry, work with L'Oréal?

**Benoît Potier:** SEPPIC is the Air Liquide subsidiary that makes specialty ingredients used in cosmetics. It has grown significantly in a booming sector. L'Oréal, like other groups, is a SEPPIC customer. Schülke is a German hygiene specialist that has also grown substantially but whose customers are essentially in healthcare, whether hospital or elsewhere. Their involvement in cosmetics may eventually lead to the sale of products to a global leader like L'Oréal.

I would remind you that the share of revenue that our various subsidiaries generate with companies represented by our Directors complies with the recommended principles as part of a good corporate governance.

### Question no. 2

#### FRACTIONAL RIGHTS

**2-1 When one new share is freely granted for ten shares held, shareholders holding a number of shares that is not a multiple of 10 will be granted 1 to 9 "fractional rights" taxable as of the first euro under ordinary French law. It is therefore in their interest to purchase 1 to 9 additional shares to avoid this taxation. Last year you indicated that the fractional rights resulting from free share attributions could not be offset against capital losses. Has this rule been abandoned?**

**Benoît Potier:** There has been no change regarding the fungibility of fractional rights and capital losses.

**Question no. 3**

**START-UPS**

**3-1 You have broadly outlined your U.S. Airgas project and acquisition by tracing the historical French venture in America. Do you plan to include smaller companies in this venture?**

**Benoît Potier:** Air Liquide will increasingly work with a wide range of start-ups in France and Europe, particularly in the digital sector. The Group may effectively assist these start-ups in the U.S. as part of U.S.-made applications for Airgas. And conversely, Air Liquide could accompany new U.S. companies in Europe.

Our Group encourages cross-fertilization with small companies. You were able to hear the point of view of one of the SpeechMe managers. This new start-up has developed a knowledge sharing platform at 22 Air Liquide industrial sites in France. It is one of the five start-ups we are already working with and which shared our stand at the Consumer Electronics Show in Las Vegas, a showcase for our open innovation approach.



**Question no. 4**

**ROCE – COMPOSITION OF THE BOARD**

**4-1 When do you think you will reach a Return On Capital Employed that is close to or above 10%?**

**Benoît Potier:** The ROCE, or Return On Capital Employed, has fallen from 10.3% to 7.8% due to the Airgas acquisition. The challenge in the coming years will be to create sufficient growth and specifically to manage our investments so that they generate cash-flow after investment, in order to gradually reduce the weight of capital employed throughout the Group. Our NEOS corporate program seeks to attain a Return On Capital Employed of over 10% in five to six years' time.

**4-2 I see there are many engineers on the Board of Directors. Don't you think it would be wise to welcome different and complementary profiles?**

**Benoît Potier:** Not all of our Directors suffer from the engineer "syndrome," although it has served us rather well up till now. So, I still believe in an engineer's qualities. That being so, in a changing world, particularly

with digital technology, Air Liquide is implementing a customer-centric transformation strategy. Obviously, the Board of Directors must include people who understand society and its changes.

**Question no. 5**

**SCRIP DIVIDEND**

**5-1 Would it be possible to pay dividends in shares or cash like other companies?**

**Benoît Potier:** We have often discussed this question. In the past, the Group had offered the possibility of receiving a scrip dividend so that shareholders could boost their portfolios. This policy was changed to free share attributions, although the two transactions are not equivalent. Given the policy to maintain or increase the dividend, the attribution of free shares provides the shareholder with a greater dividend the following year.

Because of the cost of debt in recent years, the Group turned to the markets for more favorable financing conditions. We wished to offer shareholders a major capital increase as part of the Airgas acquisition. We prefer to offer our shareholders the possibility of growing their portfolios in this way during major transactions.

**Question no. 6**

**BOARD OF DIRECTORS – DEBT – SIGFOX – OMAN**

**6-1 Insofar as you are developing artificial intelligence in your business lines, would it be possible to accept a robot on your Board of Directors, as is the case in Hong Kong?**

**Benoît Potier:** We were just talking about the presence of engineers on the Board, now we're looking at robots. I don't know where we'll be in a few years; but I hope we're still living and able to dialogue with you! I'm joking of course. But behind your question, I see one concerning our use of artificial intelligence.

It is clear that initially we will apply it to the data we collect to extract all its value. But in the future, we would certainly consider the use of artificial intelligence if it can provide Board members with new insight and help them come up with original concepts.

**6-2 What gearing ratio do you expect at the end of 2017?**

**Benoît Potier:** The net debt-to-equity ratio is already below the 90% target set for the end of 2017. At the current rate of debt reduction, it should reach around 85% by the year-end.

**6-3 Do you still hold a stake in Sigfox?**

**Benoît Potier:** Sigfox is a highly successful French company in the Internet of Things. It is a leading installer of small low-frequency antennas that pick up Internet of things bandwidth. We have a stake in Sigfox and recently it has been our wish to extend this partnership to use their technologies the world over. Air Liquide has numerous applications in the Internet of Things.



**6-4 Does the long-term supply of nitrogen with an oil group in Oman signal new opportunities for both this sector and this corner of the world?**

**Benoît Potier:** This involves a contract for 500 tons a day and an investment of several tens of millions of euros to provide petrochemicals, polyethylene and polypropylene. We already had a foothold in this industrial basin, which is a strategic site, located in the Strait of Ormuz at the entrance to the Indian Ocean. We are proud to have signed this contract. It is one more example of Air Liquide's development in an industrial basin, as is our practice around the world.

**Question no. 7**

**DONALD TRUMP – BENOÎT POTIER'S ASSETS – FRENCH ELECTIONS**

**7-1 What impacts will the Donald Trump presidency have on the development of Air Liquide and Airgas in the U.S. and globally?**

**Benoît Potier:** Like everyone, you watched the inauguration and declarations of the new U.S. President. We can already say that the infrastructure investment programs that have been announced will be highly beneficial for Airgas. The same is true of the energy sector: in 2016 I cited the price of energy as negative factor. The resumption of surveying in the U.S. would be excellent news for Air Liquide and Airgas.

And of course there is tax reform. A lot has been said but nothing is decided for the moment. We are monitoring this very closely. There could be some very positive short-term impacts and long-term impacts that are less so. At this stage, we can simply say that if the corporate tax rate drops in the U.S., the Group will obviously benefit.

**7-2 Could you declare your assets publicly?**

**Benoît Potier:** As you know, I have a substantial investment in Air Liquide shares, which represent the most significant portion of my assets and I reinforce my position each year. This portfolio is in the public domain since it can be consulted in the reference document. I currently hold 263,023 shares.

**7-3 What would be the potential consequences of a Marine Le Pen French election win for Air Liquide?**

**Benoît Potier:** Independently of any political aspect, the programs are what they are. A Europe or Euro exit would obviously be dramatic for France in my opinion and would not favor economic development. We need Europe and we must make it strong on a par with the U.S., China and other major continents.

**Question no. 8**

**REMUNERATION & SUSTAINABLE DEVELOPMENT**

**8-1 You recalled the Group's ambitions in terms of sustainable development and responsibility to stakeholders. However, they are not reflected in the variable portion of the Chairman's remuneration. How do you explain this discrepancy?**

**Benoît Potier:** The qualitative criteria of the variable remuneration paid to Executive Officers has included sustainable development as a whole for several years. Our number one objective each year is the safety of people and assets, which we measure with accident rates, the severity of accidents and their frequency. Following this Meeting, we will create an Environment and Society Committee, which will specifically monitor and anticipate sustainable development questions. We'll be able to consult this Committee and have it consider the other criteria, in addition to safety, that could be included in this qualitative portion in the future.

**Jean-Paul Agon:** In fact, the creation of this Environment and Society Committee will clarify the sustainable development objectives and ambitions, even though Air Liquide's record in this regard is remarkable and exemplary. This Committee will define precise quality objectives, which will be increasingly integrated into the variable portion of Executive Officer remuneration, as is the case in many companies. This reflects the Board's sense of history and determination.

**Question no. 9**

**HYDROGEN**

**9-1 How do you see hydrogen development in the transportation sector and particularly the automobile sector. The electric car has progressed significantly, with battery capacity increasing and the existence of electricity distribution networks. Do you see hydrogen being restricted to a niche market?**

**Benoît Potier:** I would recall the highlight of the start of this year: the creation of the Hydrogen Council, a consortium of 13 global enterprises who have come together to develop the hydrogen sector as an energy driver. The targeted market is not solely the car market, but rather transportation in general. I would like to cite the example of Alstom, which is now designing a hydrogen electric train for German regions where there are no electrified rail lines, and where trains currently run on diesel. This is a project that turns a profit, and one example of many.

We initiated this group with Toyota. It is a global, private and multi-sector consortium whose individual sector technologies are already tested, although the desired effects of scale or critical mass have yet to be achieved. Together, we have a significant impact to forge public-private partnerships. The same holds true for infrastructures that require a collective investment.

The German government, which is a stakeholder in a group of six companies, has pledged to invest in 400 charging stations throughout Germany. A consortium is being set up in Japan to invest in nearly 200 charging stations by 2020. In Europe, other countries such as Denmark and the UK have shown an interest. France has not yet reached this stage, although it has made some efforts. California is also interested, with some 100 stations planned in three to four years.

This sector is growing and simply needs to reach critical mass. There is competition from other sectors, with electric battery technology advancing fast. Calculations nevertheless demonstrate that hydrogen

investment and operating costs do not exceed electric battery costs. Hydrogen has some interesting features that the electric battery does not, namely autonomy, since you can travel 800 kilometers on a full tank, filling time, and in general, flexibility. A hydrogen tank weighs about 150 kilos, compared to an electric car battery that weighs between 350 and 550 kilos. These are some of the features that make us believe in the future of hydrogen and are why we are pursuing this course.

**Question no. 10**

**CELLNOVO**

**10-1 What is Air Liquide's strategy towards Cellnovo, a biotech company specializing in insulin pumps?**

**Benoît Potier:** For a diabetic, calculating the dose of insulin to inject is a difficult and very demanding act. We believe that the life of a diabetic patient can be greatly improved.

Cellnovo is a small company with which we are currently working to promote the use of insulin patch pumps and make life easier for diabetics. Thanks to its connection to an on-line data collection and management digital platform, the system developed by Cellnovo contributes to improving a diabetic's quality of life on a daily basis by facilitating the day-to-day monitoring of diabetes. Our strategy with Cellnovo is to cooperate in the development of the equipment and service, and to then offer this digital and connected solution to diabetic patients.

The treatment of diabetes is a major focus for the Group's growth. Our Healthcare activity generates significant revenue in the areas of diabetes, respiratory insufficiency, sleep apnea, or other diseases such as Parkinson's.

**Question no. 11**

**AIRGAS**

**11-1 What was the impact of the Airgas operation on jobs?**

**Benoît Potier:** The acquisition and integration of Airgas has had no negative impact on Airgas jobs to date. The impact was greater on Air Liquide's Industrial Merchant teams in the U.S. since we had to transfer these operations from Houston to Philadelphia, which led to a few departures on the Air Liquide side.

**Question no. 12**

**COMPETITION – AIR LIQUIDE RANKING**

**12-1 Who are Air Liquide's main competitors following the integration of Airgas? How does Air Liquide rank globally among its competitors?**

**Benoît Potier:** We are quite clearly number one. In second spot is Linde, whose gas segment – excluding engineering – represents about 2/3 of our own. In third and fourth place are the U.S. companies Praxair and Air Products. We are about twice the size of Praxair and practically three times that of Air Products, which recently sold some of its major activities in the electronics and high-performance materials sectors.

In terms of competitiveness, we are at the forefront. Historically, Praxair and Air Liquide were the two best companies for performance consistency, reporting regular growth, if one refers to the figures. The performance of

Linde and Air Products was more variable. The latter has recently returned to contention regarding profitability, but it remains a relatively small company. This ranking could obviously change if the industrial gas sector continues to consolidate.



**Question no. 13**

**INDUSTRIAL MERCHANT – ENGINEERING**

**13-1 With the acquisition of Airgas, Industrial Merchant significantly overtakes Large Industries, resulting in fewer major long-term contracts. Can you provide some assurance on this point?**

**Benoît Potier:** The current breakdown of our activities mirrors the structure of the global market, and so our positioning to capture this market is optimal. On the other hand, there are fewer major long-term contracts with 15-year terms, since the share of Large Industries is smaller. But Industrial Merchant is an activity where we have contracts running from one to ten years.

We have in fact a blend of contracts. A portion of Airgas sales comes from day-to-day activities, comprising in-store sales of hard goods. This concerns economic environment in the U.S., where Industrial Merchant growth has been historically strong. Over ten and twenty-year timespans, the U.S. production index is rarely negative. We observe four-to-five year cycles of robust growth followed by a slightly difficult year and then a return to growth. The U.S. industrial production index was negative in 2016 but was off to a relatively good start in early 2017. We have to remain cautious, but from what we see today, 2017 looks positive compared to last year. We hope that it's that start of a new cycle in the U.S. and therefore, that it will herald success for Air Liquide and Airgas. This access to the U.S. market represents a formidable opportunity for Air Liquide.

**13-2 Engineering, which has always been the Group's flagship, declined 38% this year. How do you explain this drop?**

**Benoît Potier:** Our Engineering activity did indeed decline in 2016. But it wasn't only Air Liquide, but the engineering market as a whole. At the root of this was the energy crisis. We are now resizing the scope, structure, and market of our Engineering activity to preserve our expertise for the future, regardless of the environment. We are examining and implementing this strategic direction.



**Question no. 14**

**HYDROGEN**

**14-1 Hydrogen has many qualities, but its major defect lies in the fact that it is produced by reforming natural gas releasing CO<sub>2</sub>. Since natural gas prices will apparently stay low for 10 years, do you think electrolysis will again be competitive, particularly if used intermittently with renewable energies, which are also intermittent in off-peak periods when electricity is worthless?**

**Benoît Potier:** Indeed, most of our hydrogen is currently produced using reforming technology, which is to say the heating of natural gas using a catalyst and water to crack the molecule, which produces hydrogen but also CO<sub>2</sub>.

We also know how to make hydrogen using water electrolysis, but to accomplish this more electrical energy is required upstream. One could imagine a future in which surplus electricity could be used to produce hydrogen. This could occur during windy or very sunny periods or when nuclear plants have a surplus capacity – It could then be stored in a huge storage cavern in the U.S. connected to our pipeline network as is presently the case. In the future, this model could serve as an alternative.

In the absence of any surplus electricity, we could ideally continue to use biogas, at least partly, since it is recycled. This translates into a circular economy, and a lower CO<sub>2</sub> output for the planet.

We wish to develop a global approach that would ultimately lead to a fairly significant reduction in the greenhouse gas footprint of hydrogen, to turn it into a clean energy vector. Our results are encouraging. I would also point out our 65 biogas distribution points in Europe and that we are the leading European distributor of natural gas for vehicles, or BioNGV, following an acquisition and the development of Air Liquide technologies.

**Question no. 15**

**INSTITUTIONAL SHARE OWNERSHIP**

**15-1 Is the capital exposure of institutional investors a risk for employees?**

**Benoît Potier:** I've never believed that a shareholder represented a risk. As a company, we need shareholders. At Air Liquide, the balance between individual and institutional shareholders is rather unique. Our Group has always developed with a strong individual shareholder base: your presence and loyalty show this to be true. We have 410,000 individual shareholders, currently holding 33% of Air Liquide's capital. Our goal is still to increase this percentage. The individual shareholder allows the Company to have a long-term vision, as do a certain number of institutional shareholders that have been with us for a long time. So I don't believe institutional shareholders represent a risk for employees. It's up to us to deliver steady performances and ensure that shareholders are satisfied so as to retain them over the long term. Shareholders whose motivation is the long-term serve the interest of the Company and therefore the interest of employees.

**Question no. 16**

**FREE SHARES – ATTENDANCE FEE**

**16-1 When can we expect free share distribution?**

**Benoît Potier:** The distribution will take place in the second half of the year but we haven't determined the date yet. A change in the regulations covering these transactions, combined with the start-up of the T2S European securities settlement platform have created a new Paris stock exchange ecosystem. That has never been tested for a free share distribution with a loyalty bonus, for the number of shareholders to be processed by our Company. We need to test this system before launching the distribution.

**16-2 Do you plan to resume free share distributions in even-numbered years?**

**Benoît Potier:** This year is odd-numbered. I don't think you're suggesting that we wait until 2020. Free shares are part of our regular shareholder distribution policy.

**16-3 When will the attendance fee be 20 or even 50 euros?**

**Benoît Potier:** You make this subtle allusion every year. In its wisdom, the Board will refer the question to the robot... (cf. 6-1).

**Question no. 17**

**HYDROGEN – CONNECTED DEVICES**

**17-1 Regarding the use of hydrogen in transport, do you include waterway transport?**

**Benoît Potier:** We include all transport modes, including waterways. Our approach is broad and covers all transport modes that return to a fixed point after completing their route: ships, trains, buses or sanitation trucks for example. This is the case for a certain number of professional transport modes. We could also mention aircraft, since certain studies are underway to determine whether we could use hydrogen to produce electricity on board.

**17-2 Are the social objects that you have created, such as your companies, smart? How do they reproduce?**

**Benoît Potier:** The social and connected device question that interests us is the impact of digital technology on the job market. This is an issue that Air Liquide is taking very seriously and a real challenge for the future. We'll have the occasion to return to this issue, because I believe companies will have to seriously consider the impact of digital technology on jobs.

It's interesting, because our "Connect" project is transforming jobs in our plants by removing repetitive tasks and giving operators a new and more meaningful role. This transformation is crucial to the changes that will take place over the next ten years, and connected devices will have a major impact.

**Question no. 18**

**DATA PROTECTION**

**18-1 Is the data protection strategy the same in Europe and the U.S.?**

**Benoît Potier:** Air Liquide works on a daily basis with its own data, as well as its customer, patient, shareholder and employee data. This is a key issue and we are dedicated to protecting our data, in a manner that is consistent throughout the world.

Our Safe by Design approach privileges data security in our internal and external strategic thinking by including it from the design stage of our solutions to their roll-out and use. This is an example of industrial security that also includes external professionals (intrusion tests with hackers for example) in our internal strategic process.

We also closely monitor changes in regulations over time.



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