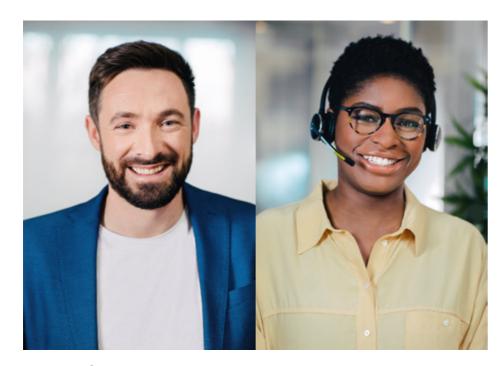
2021 SHAREHOLDER'S GUIDE



# On the cover:



**Quentin D.,**Air Liquide shareholder for seven years

Eliane B.,
Air Liquide Shareholder
Services advisor

# "We must always believe in the future, and more than ever invent it."

Benoît Potier, Chairman and Chief Executive Officer

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# Unprecedented. That is the first word that comes to my mind to describe 2020. The

pandemic that is still affecting us

today has profoundly changed our lives. It is in such challenging times that the full strength of a Group like ours reveals itself. Air Liquide's teams across the world have been working harder than ever to support our customers and patients, while being resolutely committed to the fight against Covid-19 alongside governments and healthcare workers. The teams have demonstrated their professionalism, both on site and remotely, and have done a remarkable job. I would like to underline my immense pride in the extent of this mobilization.

# Mobilization

This unprecedented year has, once again, confirmed the strength of our business model and of our strategy. The Group's performance against the background of this crisis was outstanding. In 2020, the Group generated revenue of more than €20 billion, which was almost stable on a comparable basis compared with 2019. Gas & Services sales, comprising 96% of Group revenue, held up well, as did Global Markets & Technologies which retained its momentum. Healthcare, which was at the front line during the pandemic notably with the supply of medical oxygen, and Electronics have grown significantly. Geographically, the situation was varied

# Performance

"Thanks to the mobilization of the teams, the Group was able to face with the health crisis and support our customers and patients."

with Europe faring well and a solid performance from the developing economies, particularly China, Eastern European and Latin American countries.

The results obtained highlight the Group's resilience in a crisis context. The operating margin improved sharply due both to structural efficiencies, which reached €441 million. and to exceptional cost control measures. Finally, 2020 saw a high level of investment decisions, which were maintained despite the context and reached €3.2 billion, representing a guarantee of the Group's future growth. This good performance means that in 2021 we can offer a dividend of 2.75 euros per share, which represents an increase of +1.9% compared with the previous fiscal year. In addition, the Board of Directors decided on a new attribution of one free share for every ten shares held. This attribution is planned for June 2022.

# Resilience, therefore, but also responsibility in terms of the

# Responsibility

challenges facing our

world and society. We believe that the future is a shared asset which can only be shaped through responsible growth. Faced with the climate emergency and changes in society, which have been accelerated by the crisis, it is time for action, more than ever, and companies must play their full part. Two years after Air Liquide announced the most ambitious Climate objectives in its sector, we therefore wanted to take our sustainable development commitments even further.

In 2021, these commitments take on a new dimension, with the implementation of a more ambitious strategy and the definition of new objectives. In practical terms, for our Group, that means committing to a low-carbon society and adopting a proactive policy to achieve carbon neutrality by 2050. That also means contributing to the transformation of healthcare by developing new value-based approaches to provide better support to our patients and better meet healthcare needs across the world.

We share this ambition with our employees, for whom we continuously strive to create a safer, more collaborative and more inclusive work environment capable of helping them fully achieve their potential. Finally, that means striving to be a benchmark corporate citizen, through our actions and our interactions with our stakeholders.

The Group has unique advantages which allows it to have a long-term vision of its performance. These assets are based, in particular, on the strength of its business model, the expertise of its teams, and the quality of its positions on markets of the future which pave the way to new growth opportunities.

Air Liquide is deeply committed to the climate and the energy transition and we fully believe in the major role that our decarbonization solutions - and in particular hydrogen will play in the development of a low-carbon society. Healthcare, which has reached a new level during the health crisis, also represents one of the focuses of our future growth. Finally, in a world where technological progress

# Outlook

is accelerating, in particular in the digital field, our expertise places us in

a perfect position in the race to future growth, for example to support the expansion of the electronics industry and that of high-tech sectors such as deep cryogenics, space, and quantum technology. We firmly believe that our technologies and our ability to innovate will make a difference in the transformation that is currently underway.



# During this period which remains

uncertain, we are facing the future with caution, but also with courage and

> confidence. Confidence in the opportunities before

us. Confidence, also, in our ability to seize them. Inventing the future has been our business for over

a century. I sincerely believe that, together, we can continue, to invent and build this future and, more than ever, to live it.

Air Liquide and its shareholders, it's a

This unprecedented year has challenged the proximity that unites us and to which

relationship that is more than a century old.

we are extremely attached. It has forced us to reinvent ourselves, to offer new ways of meeting, in particular for our Annual General Meeting, and

further develop our digital services. I would like to sincerely thank you for your loyalty, affirmed once again in 2020, and to welcome the 50,000 new shareholders who have joined us. You are now 470,000 individual shareholders holding 33% of the company's capital. Together, we share a positive vision of the future, a future where financial performance and responsibility are linked. Thanks to your support, we continue to pursue a longterm strategy and innovate to meet the new challenges facing our society.

# **Proximity**

"More than ever, we are committed to reinventing the proximity that is at the heart of our relationship with our shareholders."

# Stepping up when the world is under threat

**At the beginning of 2020,** from healthcare to the food industry, energy to electronics, several essential sectors are struggling in the wake of the health crisis.

Faced with this unprecedented challenge, our teams have mobilized to meet the needs of our customers and patients. Driven by our collaborative culture and our international scope, we have shared our skills and expertise in the field across continents. We have adapted our solutions to safely deliver to and support all of our customers, big and small, and our patients. Our teams' ability to step up, on a daily basis, at every stage of the crisis, has helped us make the difference.





Medical oxygen, respirators: with the pandemic, demand from hospitals has been unprecedented. The efforts of our teams and our industrial capabilities have allowed the Group to meet demand for the supply of essential medical gases and adapted equipment to ensure supply continuity.

•• Although this period has been challenging, what stands out the most for me is the solidarity, to help us produce 10,000 respirators in record time, at the French government's request.

Many Air Liquide employees, from all professional backgrounds, lent a helping hand on the assembly lines. And the same was true of our industrial partners' teams.

It was a big challenge, but the collective spirit generated an unbelievable, positive energy and desire to help hospitals and protect lives."

# LIONEL GENIX,

General Manager, Air Liquide Medical Systems, France, April 2020



When the health crisis was at its worst, many hospitals were overwhelmed. To help ease this pressure and free up beds, Air Liquide developed initiatives to support the return home of patients suffering from chronic illnesses or Covid-19. The Group ensured the continuum of care, thanks to healthcare monitoring measures adapted to each individual patient.

I am a technician specialized in perfusionnutrition-diabetes but, to meet the needs
created by the pandemic, I went back to doing
my initial job at Orkyn<sup>(1)</sup> to support the team
providing care to patients returning home.
Patients were naturally very worried about
the virus. Introducing and respecting strict
health protocols, accompanied by plenty
of explanations and support, helped alleviate
their apprehension. We were therefore able
to ensure a continuum of care. In this situation,
we are playing our full role of home healthcare
provider, allowing patients to continue
their treatment in a familiar and reassuring
environment."

SÉBASTIEN FRANCESE, Perfusion-Nutrition-Diabetes Technician, Orkyn<sup>(1)</sup>, France, July 2020





The food industry, pharma companies, the energy sector... The pandemic has affected gas supply, which is critical for these essential sectors to continue their operations. Our assets: our proximity to our customers, large and small, and our in-depth knowledge of their needs. At plants, our teams have adapted their supply chain to ensure the continuity of services and have refocused operations on the production of gas necessary for these sectors.

borders have become difficult to cross due to travel restrictions. With exceptional logistical and human resources, we organized the continuity of the delivery of our gases from the production sites in Saudi Arabia and the United Arab Emirates, in order to continue to serve our customers – notably hospitals, the food sector and water treatment industries."

# PASCAL SCHVESTER,

Vice President in charge of the Middle-East & India hub, Industrial Merchant activity and Healthcare, May 2020

The situation of teaching and working from home has widely imposed itself. At the same time, medical research to fight Covid-19 has required access to cutting-edge technology including AI(1), big data and robotics. This has led to a huge increase in demand for digital equipment. Our teams have stepped up their efforts to supply the electronics industry with the gas and advanced materials required to manufacture semiconductors.

•• In China, lockdown had a major impact on gas and equipment supplies to our main electronics customers. During this challenging period, Air Liquide was able to organize and adapt its human, industrial and logistics resources to continue to supply them with the products required to produce electronic components, and maintain their activities. These efforts were appreciated by our customers and strengthened our partnership with the sector's leaders."

# ALEX YAO,

Electronics Strategic Account Manager, Air Liquide, China, April 2020



# Board of Directors

As of December 31, 2020

The Board of Directors is composed of 13 members, including 11 appointed at the Annual General Meeting and two members representing Air Liquide employees. The Board of Directors brings together a diverse range of profiles: five nationalities are represented from three continents where the Group operates (Europe, America and Asia) and 55% of elected members are women. The Board of Directors offers a wealth of skills (finance, management, digital, science, international development, etc.) in a variety of sectors (chemicals, consumer products, healthcare, research, energy, services, automotive, etc.).

The Board of Directors determines the major strategic orientations of Air Liquide's activities and ensures their implementation, in line with its corporate interest, by taking into account the social and environmental stakes of its actions. Accordingly, it examines and approves the Group's major strategic issues.

In 2020, it focused in particular on monitoring the impact of the Covid-19 pandemic on the Group's business, and notably the measures put in place to protect the health of employees, performance analysis and strategy with regard to environmental and societal challenges, the hydrogen and energy transition, shareholder policy and governance issues.



## a. Benoît Potier

Chairman and Chief Executive Officer Born in 1957 – French

## b. Jean-Paul Agon

Lead Director
Independent Director
Chairman of the Appointments
and Governance Committee
Member of the Remuneration
Committee
Born in 1956 – French

## c. Thierry Peugeot

Member of the Audit and Accounts Committee Born in 1957 – French

## d. Siân Herbert-Jones

Independent Director Chairman of the Audit and Accounts Committee Born in 1960 – British

## e. Sin Leng Low

Independent Director Member of the Audit and Accounts Committee Born in 1952 – Singaporean

## f. Annette Winkler

Independent Director Chairman of the Environment and Society Committee Member of the Appointments and Governance Committee Born in 1959 – German

### g. Philippe Dubrulle

Director representing employees Member of the Environment and Society Committee Born in 1972 – French

# h. Geneviève Berger

Independent Director Member of the Environment and Society Committee Born in 1955 – French

## i. Brian Gilvary

Independent Director Member of the Audit and Accounts Committee Member of the Remuneration Committee Born in 1962 – British

## j. Xavier Huillard

Independent Director
Chairman of the Remuneration
Committee
Member of the Appointments
and Governance Committee
Born in 1954 – French

# k. Anette Bronder

Independent Director Born in 1967 – German

# I. Kim Ann Mink

Independent Director Born in 1959 – American

# m. Fatima Tighlaline

Director representing employees Born in 1979 – French



# **Executive Committee**

As of January 1, 2021

The Executive Committee coordinates the Group's programs and business lines. It examines operational management, supervising in particular change projects and the development of activities.

From the earliest signs of the pandemic, the Executive Committee mobilized itself to monitor operations on a global scale. It activated the business continuity plans in all of the Group's businesses and geographies. Their methodical implementation has ensured the safety of employees and partners through adapted work organization, and guaranteed continuity of services in essential sectors such as healthcare.

## a. Benoît Potier

Chairman and Chief Executive Officer. Born in 1957 – French

## b. Michael J. Graff

Executive Vice President supervising the Americas and Asia Pacific hubs, he is also in charge of the Electronics world business line. Born in 1955 – American

## c. François Jackow

Executive Vice President supervising the Europe Industries, Europe Healthcare and Africa/ Middle East & India hubs, as well as the Healthcare world business line and Customer Experience function.

Born in 1969 - French

# d. Fabienne Lecorvaisier

Executive Vice President in charge of Finance, Operations Control and General Secretariat. Born in 1962 – French

# e. Guy Salzgeber

Executive Vice President in charge of the following functions: Sustainable Development, Safety, Innovation, Digital & IT, International Public Affairs. He also supervises the Global Markets & Technologies activity. Born in 1958 – French

# f. Jean-Marc de Royere

Senior Vice President in charge of Inclusive Business. He is also Chairman of the Air Liquide Foundation. Born in 1965 – French

## g. François Venet

Senior Vice President in charge of Strategy. He also supervises the Large Industries world business line and Engineering & Construction. Born in 1962 – French

## h. François Abrial

Vice President in charge of the Asia Pacific hub. Born in 1962 – French

# i. Susan Ellerbusch

Vice President in charge of the US Large Industries, Electronics and Hydrogen Energy businesses, as well as Canada's Large Industries, Industrial Merchant and Healthcare businesses. Born in 1967 – American

### j. Matthieu Giard

Vice President supervising Hydrogen activities and the Industrial Merchant world business line, the Procurement function and Efficiency programs. Born in 1974 – French

## k. Armelle Levieux

Vice President, Group Human Resources. Born in 1973 – French

# I. Émilie Mouren-Renouard

Vice President in charge of Innovation, Digital & IT, and Intellectual Property, as well as Global Markets & Technologies activity. Born in 1979 – French

# m. Diana Schillag

Vice President in charge of Healthcare activities in Europe and the Healthcare world business line. Born in 1971 – German

### n. Pascal Vinet

Chief Executive Officer of Airgas. Born in 1962 – French

Innovating to adapt to the needs of customers and patients

**In a time of crisis,** it is more important than ever to meet the needs of our customers and patients. And beyond that, stepping up to the mark also involves preparing the future and innovating to support transformation in industry and healthcare, by designing efficient and sustainable solutions.



# Strategy

# The strength of a profitable, regular and responsible growth model

From a medical oxygen cylinder to a smartphone, and from energy to food, Air Liquide partners with almost all economic players. Through its unique business model, the Group is able to post long-term growth that creates value for its employees, customers, patients, suppliers and shareholders, as well as society as a whole.

At the core of the Group's business, industrial and medical gases are used in numerous industrial processes – water treatment, glass manufacturing, preservation of fresh food, farming... – as well as in hospitals and patients' homes. They are present in everyday products – food, beverages, smartphones, cars, and more.

Whether producing gas or supplying technological equipment and services, Air Liquide designs and implements a multitude of solutions, tailored to the needs of its customers. The Group's presence in the field, alongside small businesses, large companies and healthcare professionals alike, enables it to detect new needs, develop a detailed understanding of the changes in various markets and offer innovative solutions to meet its customers' needs. Furthermore, the long-term contracts signed by the Group, particularly with Large Industries customers, provide it with longterm visibility and financial stability.

In healthcare, new patient-centric technologies and the development of healthcare systems in emerging economies all represent growth opportunities for the Group.

A diverse range of geographies and markets, a very strong capacity for innovation, and long-term financial vision all form a winning combination that offers the Group a regular and profitable growth model.

This growth is also responsible. We are highly aware of our impact on the environment and society. For the Group, that means acting where we can make a difference: to reduce our own carbon emissions; to speed up the energy transition thanks to the development of hydrogen energy in particular; to develop low-carbon solutions for our industrial customers; and to improve the day-to-day lives of our patients. It also means being a model corporate citizen by reinforcing our actions in terms of ethics and safety and by developing dialogue with our stakeholders: employees,

customers, patients, suppliers, shareholders and local communities.

This ambition is supported by the strength of its assets: operational excellence, a network organization working closely with customers, a high-potential market investment policy, and an open innovation approach. This four-fold combination allows the Group to develop useful and sustainable solutions in order to support industrial and societal change.

# Four stories of our 2020 achievements:

Industry: When proximity leads to innovation and agility

Advanced Technologies: In the race for innovation n. 30

Towards a new approach to value-based healthcare p. 34

Hydrogen and biomethane, the mobility revolution p. 38

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# Industry

# When proximity leads to innovation and agility

The health crisis has put pressure on production and logistics chains in many sectors. Air Liquide supports manufacturers in their quest for agility, competitiveness and sustainable solutions thanks to its unique strengths: technological expertise, in-depth knowledge of customer processes, its presence at the heart of local economies... And its ability to innovate relentlessly.

erving more than 2 million customers around the world, from craftsmen to SMEs and large companies, Air Liquide contributes to nearly every sector of the economy: food, pharmaceuticals, energy, chemicals, automotive, aeronautics and more. The Group is at the forefront of detecting market changes and anticipating the needs that will transform industrial production methods. It is constantly investing to support its customers in their geographical development while offering them innovative solutions that improve the industrial and environmental performance of their processes. This dynamic is reflected in the signing of several long-term contracts in 2020 with major industrial players in mature economies (United States, Europe) and developing economies (China, Russia). Air Liquide's key assets for advancing industry are its close proximity to its customers and its in-depth knowledge of their industrial processes, which enables it to maximize the full potential of the molecules it supplies and to design innovative equipment.

Indeed, the Group is constantly transforming itself to better understand and meet the needs of its customers and respond to them more effectively, even in difficult conditions. For example, SRF, a customer in India specializing in technical textiles and packaging films, wants to become autonomous in its supply and have greater flexibility. Two advantages of Air Liquide's on-site gas production solution that met the customer's expectations. In 2020, despite the many restrictions resulting from the health crisis, multidisciplinary teams worked together on-site and remotely to successfully install and commission a nitrogen production unit at the customer's site in the Dahei region. This 2,000 m<sup>3</sup>/h capacity unit provides SRF with a continuously reliable nitrogen supply, with enhanced safety conditions, and also meet its need for autonomy. And at a cost that is significantly more competitive than the market price. Air Liquide's success in this project illustrates the advantages of on-site gas production which has steadily increased, a growth particularly driven by China

and the United States. After a record year in 2019 with 40 on-site production contracts, the Group signed 45 new contracts in 2020. In addition to the sales stability provided by these 10 to 15 year long-term agreements, they also help to reduce the Group's carbon footprint as there is no gas to liquefy or transport to the customer, resulting in less CO<sub>2</sub> emissions. For industrial companies, these on-site gas production solutions mean autonomy, reliability as well as being environmentally friendly. Ultimately, on-site gas production solutions offer flexibility and competitiveness.

# Digital technology providing greater proactivity

Competitiveness that the Group wants to further strengthen using digital technologies. Air Liquide is experiencing profound change thanks to digital technology, which drives performance and innovation. Digital technology powers the Group's working methods at all levels of the organization.



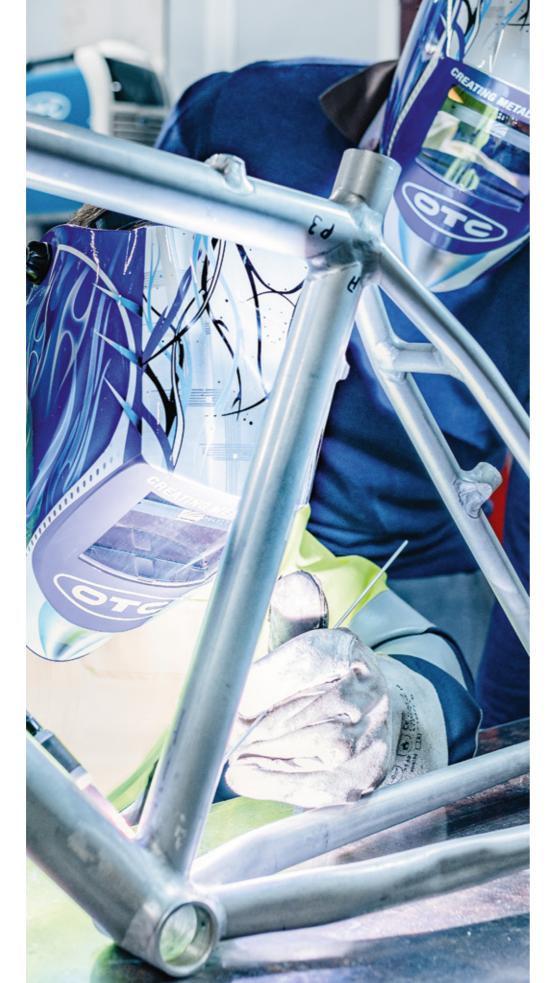
## TESTIMONIAL

If the sales of on-site production units continue to grow, it is because they fully meet our customers' new requirements: the need for competitiveness and the reduction of CO<sub>2</sub> emissions. It also shows that our customers recognize our technological expertise in this field."

## Matthieu Giard,

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Member of the Air Liquide Executive Committee and Vice President, Industrial Merchant business line



The Integrated Bulk
Operations program
is revolutionizing
the liquid gas supply chain

This program is based on four principles: predictive customer demand analysis, gas supply optimization, more efficient management of truck routes and real-time information on customer deliveries. The digital connection of supply chain assets – from

production sites to trucks to customers' on-site tanks – enables data reporting and analysis to improve the customer experience, operating performance and carbon footprint. A logistics revolution for the liquid gas business, which generates 27%<sup>(1)</sup> of Industrial Merchant activity revenue and supplies a variety of markets such as food, electronics, glass and metals industries.

It now permeates the solutions provided to customers, such as the Integrated Bulk Operations program that has been rolled out worldwide (see above). Air Liquide's ambition is to improve customer service by optimizing the liquid gas supply chain end-to-end, using digital technologies and mass data collection from the production site to the customer's site. This solution has already proven itself in North America, where Air Liquide Canada has become a pioneer in the field. The entity now has 95% of its assets connected and already operates two-thirds of its liquid gas business using these technologies. How does it work? Customer consumption and molecule availability data are analyzed in-depth and driver routes are optimized, all in real time. This also has several advantages: the logistics teams anticipate customer requests, identify the most competitive molecules and adapt them to customers' needs, in order to organize more efficient and reliable delivery rounds. The supply chain becomes more agile and CO<sub>2</sub> emissions are reduced.

# Continuing strategic investments

This same quest to drive performance for its customers has led Air Liquide, despite the crisis context, to continue its strategic investments in several regions. In the United States, for example, the Group has strengthened its positions in Texas with the conclusion of long-term contracts with Eastman Chemical Company and Steel Dynamics, two of the region's major players, specialized in steel and chemicals. These contracts cover the supply of oxygen, nitrogen and argon to these customers thanks to the construction of state-of-the art and energy efficient air separation units (ASU). Air Liquide has also invested in Europe, where it has signed several long-term agreements with BASF, a world leader in chemicals, thus strengthening its strategic positioning in the Antwerp industrial basin in Belgium. The Group has also reinforced its industrial presence in Russia and Poland through long-term partnerships with steel producer NLMK and copper

and silver manufacturer KGHM Polska Miedź. In China, Air Liquide continues its development with the construction of a new ASU in the port area of Tianjin, which will allow the Group to support the growth of the region's industrial players. These investments underline Air Liquide's commitment to support its major customers in their transition to safer, more reliable and sustainable technological solutions. They also demonstrate the Group's confidence in the growth of the industry and its transition to cleaner and more efficient methods of production.

The search for quality, reliability and performance, the need for supply autonomy, reduction of environmental impact... By working ever more closely with manufacturers and listening to their needs, the Group is inventing with them more efficient solutions.

(1) 8,959 million euros in 2020

# Advanced Technologies

# In the race for innovation: electronics and deep tech

Innovation never stops. It's the lifeblood of our customers' industries, and it's in our DNA. In 2020, as the world adapted to the Covid-19 crisis, Air Liquide picked up the pace to meet accelerated demand for digital technology, energy transition and scientific research. From the electronics industry to space exploration and quantum computing, the Group continued bringing its scientific expertise and entrepreneurial spirit to help its customers move forward faster and match the evolution of society.

hile the pandemic locked people indoors, it also unleashed digital technology adoption, as work, study and play all shifted online. According to an annual McKinsey & Co survey(1), consumers and companies made a quantum leap to online channels, accelerating digital interactions by three to four years. Surveyed companies reported being seven years ahead in their switch to digital-enabled products – changes that are expected to stick.

In electronics, this created a surge in demand for hardware, especially computers, tablets and smart TVs, along with higher-capacity, more robust digital infrastructure. Rather than subside, demand remained robust throughout the year as the world adapted to the "new normal". And despite the disruption to human lives and business processes, electronics manufacturers kept pursuing innovation. During this unprecedented time, Air Liquide continued working alongside global electronics leaders to design and supply the high-purity gases, advanced materials and specialized

services needed to manufacture increasingly high-performance technology at an industrial scale. The ongoing challenge is to produce faster, more powerful and feature-rich devices while reducing the financial and environmental costs. This involves ever more complex processes and smaller components, particularly nanometric-scale microchips (as little as 5 nanometers), which require the utmost precision and quality.

To meet these new challenges, Air Liquide can rely on its network of Innovation Campuses and Product Development Labs. With these collaborative resources, the Group invents the kind of customized advanced materials that lead to breakthroughs in industry standards. This is the case, for example, for its enScribe<sup>™</sup> range of etching gases, which facilitate the manufacturing of complex 3D memory structures while greatly reducing the environmental impact. The use of advanced materials enabled Air Liquide's key customers to reduce their CO<sub>2</sub> emissions by 140,000 tons in 2020, and these savings should reach 240,000 tons by 2025.

# From the infinitely small to the great unknown

In 2020, Air Liquide also pursued its partnership with the space industry, where the Group's unique technological expertise, especially in extreme cryogenics, has made it a major contributor to exploration programs. The Group is participating in Europe's Ariane launcher program and NASA's space programs, contributing to several space exploration missions (MeteoSat Third Generation, IASI-NG<sup>(2)</sup>, ExoMars, LunaEnergy) and collaborating with the International Space Station (on the MELFI<sup>(4)</sup> refrigeration system).

21%

In 2020, increased demand for digital devices and infrastructure drove sales of Air Liquide Advanced Materials

(1) How Covid-19 has pushed companies over the technology tipping point – and transformed business forever, McKinsey & Co, October 5, 2020, (2) The Atmospheric Infrared Sounding Interferometer-New Generation is an instrument designed by the Centre National d'Études Spatiales and installed on board meteorological satellites. Its objective is to provide observations of the atmosphere for weather forecasting (3) Disruptive technologies based on scientific breakthroughs of such a nature as to change the methods of design and production. (4) MELF1 is a cryo-refrigerator for use on board the International Space Station (ISS) for freezing and storing biological samples and other research specimens at temperatures as low as -95°C, before they are brought back to Earth.



### **TESTIMONIALS**

As end-users, we constantly expect new miracles from our digital ecosystem. The electronics manufacturers can simply not afford to slow down innovation, even during a global pandemic."

# Laurent Langellier,

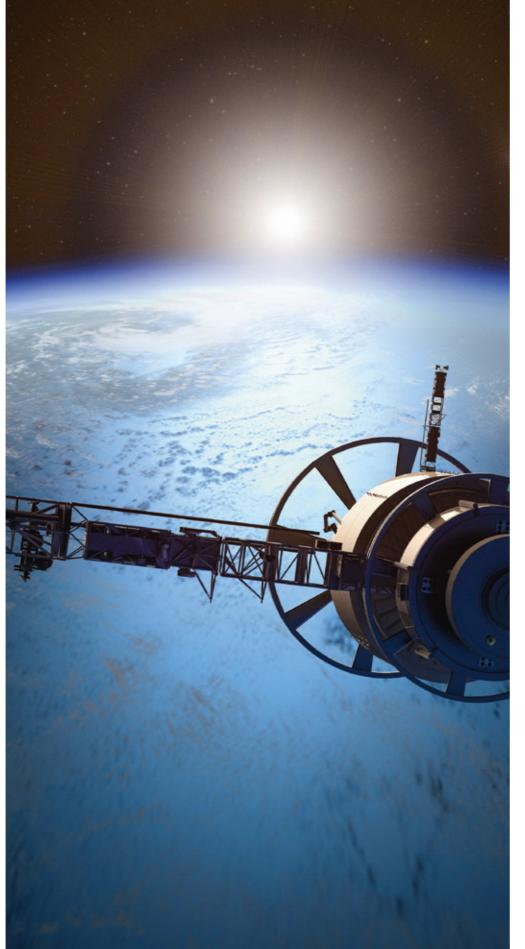
Markets, Customers and Products Vice President at Air Liquide's Electronics business line

• Space his a driver of incredible innovation. Developing technologies in an extreme environment is a way of constantly pushing the boundaries."

## Beniamin Michel

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Space business unit Director at Air Liquide's Global Markets & Technologies activity



Through its advanced technologies, Air Liquide continues transforming ideas into solutions that bring new opportunities.

For more than 50 years, the Group has been developing innovative cryogenic technologies for space exploration. For example, the Group is participating in the ExoMars mission, which consists of sending a rover to Mars in 2022 to analyze the composition of its subsurface. This rover is equipped with high-precision analytical instruments, in particular a chromatograph supplied with helium through a regulation system and a tank designed by Air Liquide.

# From space-age technology to the energy transition

The extreme cryogenics technologies developed by Air Liquide for the space industry also serve a diverse range of industries on planet Earth, from industrial manufacturing and transportation to scientific research. One particularly successful application is Turbo-Brayton, originally developed to keep biological samples cold on the International Space Station. In orbit since 2006 without any maintenance, this solution is increasingly popular among

shipping companies transporting liquefied natural gas (LNG) between producing and consuming countries. Onboard large LNG tankers, it prevents "boil-off" during transport when the gas, cold in its liquid state (-160°C), warms up and partially evaporates (up to 6 metric tons per hour). To limit the financial losses and the negative environmental impact of these "fugitive" CO<sub>2</sub> emissions, shippers are increasingly requiring shipowners to fit their ships with preventative systems. The efficiency and reliability of the Turbo-Brayton solution also opens the door to renewable energy applications. For example, it can be used to liquefy biogas from recovery plants, which produce methane from household, agricultural and industrial waste. In its liquid form, the gas can then be easily transported to its point of use, such as refueling stations for natural gas vehicles. These initiatives have already been introduced in the Nordic countries in Europe. Having sold around 60 units, Air Liquide will enable savings of around 290,000 metric tons of CO<sub>2</sub>-equivalent emissions annually, once all units are in operation.

# Ultra-low temperatures for new heights in research

Reinforcing its 60 years of experience in extreme cryogenics, in 2020, Air Liquide acquired an 80% stake in Cryoconcept, a French company specializing in ultra-low temperature refrigeration. This acquisition enables the Group to offer temperatures as low as -273.14°C or 0.01°C above absolute zero, which are essential to many areas of scientific research, as well as the operation of the most powerful quantum computers. The Group will also be supporting large-scale research experiments, thanks to a new agreement with the Hefei Institutes of Physical Science and the Chinese Academy of Science (HFIPS) to jointly develop and manufacture helium refrigeration systems in China.

Thanks to its technological expertise, Air Liquide is constantly innovating and adapting its solutions to meet the needs of its customers, while opening the path to new markets. This expertise perfectly positions the Group in the race for future growth.

# Healthcare

# Towards a new approach to value-based healthcare

Improving the quality of life of patients requires an overhaul of the continuum of care. As a leading home healthcare provider, this is our conviction. Doing so requires putting the benefits expected by our patients first and measuring them. Air Liquide, in partnership with healthcare professionals, is coordinating an approach which favors personalized support programs for patients in their homes. This approach has reached a new level with the health crisis.

# aking action with patients and doctors to contribute to healthcare advances, this is Air Liquide's ambition.

For several years, the Group has been developing innovative patientcentric solutions, which improve their therapeutic follow-up and quality of life. This momentum has been driven by major trends: an aging population, greater demand for home healthcare and the development of digital technology which is revolutionizing medicine. Three trends, confirmed by the health crisis, that have transformed the world of healthcare and the lives of millions of people. The Covid-19 pandemic has, indeed, reinforced the need for a more personalized approach to patient care for those suffering from chronic diseases that are treated at home (respiratory failure, sleep apnea, diabetes, Parkinson's disease). The crisis thus contributed to developing outpatient care(1). The Group, faced with the urgency of the situation (see p. 08-13), was instantly mobilized to face the healthcare challenges. "To assist patients suffering from Covid-19

or other chronic illnesses and to reduce the load on hospitals, we have introduced new solutions including flexible protocols, digital monitoring tools, remote consultations, coordinating care and multidisciplinary teamwork," explains Dolores Paredes, Head of Markets, Strategy and Innovation at Air Liquide's Healthcare business line. In France, for example, Air Liquide and AP-HP(2) have introduced a new solution: remote monitoring, via a mobile application, of Covid-19 patients receiving oxygen therapy in their homes after being discharged from the hospital. "Patients have emerged from this crisis with a greater role to play in their own healthcare. This is a trend that we wish to accelerate and support," analyzes Dolores. The Group's strength to sustain this momentum is the presence of specialized teams, in close proximity to their patients at home. These teams are the best placed to be able to offer personalized care, which contributes to the improvement of patients' therapeutic follow-up and quality of life.

# - Toward a new assessment of quality healthcare

"This continuous dialogue with patients confirms the idea that a new approach to healthcare in which they have their place in the decisionmaking process is essential," continues Dolores Paredes. "The question is no longer only how many treatments are required but also to discuss with doctors what is most important in the patient's view. Do they want to return home soon to be with their loved ones? Receive support regarding continuing long-term treatment? Have more contact with health professionals? Our strategy is to develop an approach to healthcare which is based on the results that are important to the patient, balanced against the cost of achieving them."

In practical terms, this requires a holistic continuum of care which combines a close relationship with patients in their homes with multidisciplinary teams (doctors, nurses, technicians, etc.) and digital innovations that can continuously assess benefits for the patients.

(1) Change in the health system aimed at better coordinating interventions by the medical sector, hospital-based medicine and home healthcare across each stage of a patient's continuum of care. This change relies, in particular, on care protocols for patients outside of the traditional framework of full hospitalization. (2) Assistance publique - Hôpitaux de Paris: French public healthcare institutions.



### **TESTIMONIALS**

In Europe, doctors and healthcare coverage organizations are becoming increasingly interested in providing global support to patients which focuses on the results of their treatment. We are even seeing experiments into reimbursement based on the results achieved for patients and their health, rather than a standard fee for all."

# Philippe Ogé,

Director of Home Healthcare Europe at Air Liquide

Supporting our teams to help them identify the true expectations of our patients as best as possible. This is the first step in our transition toward a value-based approach. We are working with doctors and nurses to identify the benefits of the approach, both for their patients and for healthcare systems in Northern European countries."

# Gonzague Dehen,

Managing Director of Nordic Infucare, Air Liquide subsidiary



"Our strategy is based on the results that are important to the patient, offset against the cost of achieving this."

These are key to developing a personalized approach to treatment, in cooperation with the prescribing doctor. An approach which takes into account a patient's physiological data, lifestyle and family situation. In this respect, the patient is at the heart of the system, and the entire healthcare ecosystem benefits from this: the doctor can rely on Air Liquide's teams to monitor the observance of treatment, healthcare coverage organizations see a significant decrease in the cost of overall care and pressure is taken off the hospitals.

# - From theory to practice

"At Air Liquide, we have launched an ambitious program to transform our activities in order to introduce this new value-based approach.

Twelve of the Group's countries in Europe have set their own targets in terms of optimizing the continuum of care, creating specialized offers for each pathology and forming strategic partnerships, as it is important to bring together the entire ecosystem," explains Dolores Paredes.

The success of this international project depends, in particular, on the creation of a digital platform to facilitate the measurement and monitoring of results from the care provided and the related costs.

Several initiatives have already been

launched in all of these countries. For example, in Sweden, our subsidiary Nordic Infucare has launched Birgitta, a services transformation program for patients suffering from diabetes or Parkinson's disease. For the latter, the new and resolutely proactive care model focuses on the "3Ps": Prediction (when the patient requires care and attention), Prescription (what is the most suitable treatment) and Prevention (how to slow the progression of the illness). "Our flagship program, and the most advanced, PIMA(3), has been endorsed by the Value Based Healthcare Center Europe<sup>(4)</sup>," welcomed Dolores Paredes. This program is based on an obvious observation: each patient with sleep apnea is different, therefore why offer the same support to them all? By customizing the approach, the goal is to increase the adherence to treatment and ultimately improve the patient's quality of life. This initiative, which was first launched in Spain, has already been adapted for patients in Portugal, Italy, Belgium and the Netherlands. In France, an agreement with the Chair of "Innovation and Value in Health" at the University of Paris School of Medicine has been reached, aimed at supporting academic research into this new approach, in particular for chronic diseases. At the same time, patients in ten countries have been surveyed in order to better understand their expectations in terms of results. After all, surely the patients are the best placed to teach us how to restore meaning and value to care? The floor is theirs. And this is just the beginning.

1.8 M

by Air Liquide worldwide

(3) A personalized program for improved patient adherence. (4) A European organization which brings together healthcare players (doctors, patient associations, universities, industrial players, insurers, etc.) with the aim of encouraging the implementation of a renewed healthcare approach based on value, through the development of new methods and by sharing best practices among healthcare players.

# New energies

# Hydrogen and biomethane, the mobility revolution

Hydrogen has a key role to play in the energy mix of the future and is, along with biomethane, at the heart of the clean transport revolution. Air Liquide is committed to the energy transition and is currently strengthening its lead in these growth markets by developing large-scale projects and strategic partnerships.

he health crisis has acted as a trigger. Faced with the climate emergency, it is time to switch from awareness raising to action. The importance given to the energy transition in the economic recovery plans of several countries underlines this shift. And in particular the interest in hydrogen in response to transportation challenges (16% of global CO<sub>2</sub> emissions<sup>(1)</sup>). Countries such as China, Japan and the United States, already launched ambitious policies several years ago to increase the number of hydrogen-powered vehicles and have invested accordingly. In Europe, the Clean Hydrogen Alliance, founded by the European Commission, is promoting this energy carrier to reach carbon neutrality by 2050(2). The EU has a dedicated strategy to become a global hydrogen player by the end of the decade. Some of its Member States have allocated budgets in the order of several billion euros to develop the sector, such as France, which will invest 7.2 billion euros by 2030. "The large investments that have been put on the table will facilitate a shift in scale and help reinvent

new growth models. We have reached the dawn of a systemic change in which hydrogen and biomethane will play a key role, in particular in terms of transport, to limit our dependency on oil," explains Erwin Penfornis, Vice President of the Hydrogen Energy world business unit at Air Liquide. This represents major opportunities for the Group which, for several years, has been driving an active growth strategy based on hydrogen energy and the valorization of biogas in biomethane.

# — The scaling up of hydrogen

Over the past 50 years, Air Liquide has developed unique knowhow in the management of the entire hydrogen value chain (production, storage, distribution and the development of new usages). This molecule can now be produced using renewable energy sources, stored long term and then re-transformed into electricity, thus compensating for the intermittent nature of these same energy sources. The Group firmly believes that hydrogen is a key driver to

make the switch to a low-carbon society. Thanks to this molecule, hydrogen-powered cars, buses, trucks, trains and even boats are not only quiet but do not generate CO<sub>2</sub> emissions or other pollutants when running.

Since 2020, the Group has stepped up its investment to promote hydrogen mobility. "In Canada, we have commissioned the world's largest membrane-based electrolyzer for the production of low-carbon hydrogen for the North American mobility market in particular," adds Erwin Penfornis. "In France, we recently announced the acquisition by Air Liquide, of a stake in the capital of H2V Normandy<sup>(3)</sup> with a view to build an electrolyzer complex for the largescale production of renewable and low-carbon hydrogen. This is an ambitious project to contribute to the decarbonization of the local industry and mobility markets." In addition to these strategic investments aimed at increasing low-carbon hydrogen production capacity, the Group is also working on scaling up the distribution networks.

(1) Source: Our World in Data (ourworldindata.org/emissions-by-sector). (2) Objective stated by the European Commission in November 2018 in its "A clean planet for all" strategy. (3) Subsidiary of H2V Product Group, industrial company producing carbon-free hydrogen, based on water electrolysis using renewable energy.



### **TESTIMONIALS**

Hydrogen is one of the key solutions for a successful energy transition. This element will help us meet the clean transport challenge and thus contribute to improving air quality."

# Erwin Penfornis,

Vice President of the Hydrogen Energy world business unit at Air Liquide

With the construction of two new production units in Italy, Air Liquide continues to develop its biomethane business worldwide. These new investments showcase our capacity to support our customers towards clean mobility by offering them efficient solutions to reduce their carbon footprint."

40

Christiane Muller, Vice President of the Global Markets & Technologies activity at Air Liquide



# The Hydrogen Council: joining forces to promote hydrogen energy

Convinced that hydrogen will be one of the drivers of the energy transition, leaders from the energy, transport and industrial sectors, along with Air Liquide, decided to join forces in 2017. Their objective: promoting a long-term vision of hydrogen technologies and usage,

and accelerating its large-scale deployment. Three years down the line, the Hydrogen Council, co-chaired by Benoît Potier, Chairman and CEO of Air Liquide and Takeshi Uchiyamada, Chairman of Toyota Motor Corporation, includes executives from more than 100 large international corporations which represent the entire hydrogen value chain and investment companies.

As well as the roll-out of stations for light vehicles in Europe, Japan, South Korea and the United States, Air Liquide is also focused on the truck segment. Large-scale projects are becoming a reality: in Rotterdam in the Netherlands and Fos-sur-Mer in France for example, where the Group is part of key initiatives to develop large-capacity hydrogen stations which will be used to power long-distance trucks.

The diversity of these investments underlines the industrial momentum driven by the Group. "We are striving to unite all players likely to have a major impact on this transformation: industrial players, states and global institutions," explains Erwin Penfornis. Air Liquide has founded several initiatives worldwide, such as the Hydrogen Council (see above) which brings together more than 100 executive officers of large international companies. The Group is also forming public-private partnerships, such as in California and South Korea, to develop hydrogen mobility. In France, it is part of the new National Hydrogen Council which is co-chaired by Benoît Potier, the Chairman and CEO of Air Liquide,

and Patrick Koller, the Chief Executive Officer of Faurecia<sup>(1)</sup>. Its purpose: to structure and develop the French industrial hydrogen segment. "These partnerships are fundamental in promoting collaborative solutions capable of scaling up production and distribution capacities, and thus making hydrogen a global reality,"

# - Biomethane: a circular economy asset

concludes Erwin Penfornis.

Alongside hydrogen, biomethane is well placed in the transportation revolution. It decreases travelrelated CO<sub>2</sub> emissions by 85%, particles by 90% and noise by a potential 50% compared to diesel engines. The Group is investing across the entire value chain of this green energy source, from the recovery and purification of biogas right through to distribution to the end customer in Bio-NGV stations (natural gas for vehicles). The major advantage of this energy source: its natural position in a circular economy where biomass, transformed into biomethane, participates in the optimization of natural resources.

In this context, customers can be both the generators of biomethane from the biomass that they produce, as well as the consumers of the energy thus obtained. "In this market of the future, we are already very active, with 20 biomethane production units worldwide and around 90 Bio-NGV stations in Europe," says Christiane Muller, Vice President of the Global Markets & Technologies activity at Air Liquide. Leading UK retailer ASDA has entrusted Air Liquide with the installation and operation of six biomethane distribution stations to refuel trucks at its sites. In Italy. the Group has just launched this activity with the construction of two production units near Milan, and also intends to build a biomethane filling station for transporters in the region. These investments underline the significant change of pace in the development of the Group's biomethane activities in Europe.

Air Liquide, through its various innovations and achievements, is playing a leading role in making hydrogen and biomethane key solutions for clean mobility. The change in scale is clearly visible.

(1) French global automotive supplier.

# Committing to sustainability

Air Liquide has long been working to combine growth and respect for the environment and the society. The Group contributes through its actions and commitments to achieve some of the Sustainable Development Goals set up by the United Nations, wherever it can make a difference.



# Air Liquide has a growth trajectory.

- This means performing steadily in the present and preparing well for the future thanks to a deeply resilient and diversified business model. Performance and sustainability are therefore both core to our strategy.
- It also means supporting our customers and patients and addressing the urgency of climate change and societal transformation.
- "Our ambition going forward is to make a meaningful difference."
- Inventing and shaping the future with state-of-the-art technologies, operational competences and services close to customers or patients, has always been in our DNA.
- But it is clear today that the role of a company like ours goes beyond this. As a matter of fact we all - States, companies and citizens – share the responsibility and the mission of building a sustainable future.

It is time to ACT for a sustainable future.

# LET'S ACT FOR A SUSTAINABLE FUTURE! **Abatement** of CO, tients emissions As we invent clean 2020 brought healthcare to technologies for industries and the top of the world's agenda with the Covid-19 crisis. clean mobility, we work on the frontline of environmental As a major world player progress, playing a decisive in healthcare, Air Liquide has role in the transition to a always been close to patients, low-carbon society and the medical professionals, hospitals and health development of a hydrogen economy. authorities. The Group is well positioned to contribute to help transform healthcare to better support patients and better meet their needs around the world.

# Trust as the base

# — to engage with our employees

At Air Liquide, we believe in the potential of each person and their talents. The Group's long-term performance is driven by our employees and we are convinced that the power to impact the present and shape a better future is in their hands. Air Liquide's commitment is to create a safe, inclusive and engaging workplace, while nurturing employees' inventiveness, supporting their development and empowering them.

# — and to build a best-in-class governance

As a responsible global and local player overseen by a diversified, independent Board of Directors, we can make a difference in the responsible way we behave day to day, manage our business, and interact with all our stakeholders: customers, patients, employees, suppliers, shareholders and the communities at large.

# batement of CO<sub>2</sub> emissions for a low-carbon society

To address climate change, it is time, more than ever, to take actions.

As a responsible company, Air Liquide has long endeavored to protect the environment. In 2018, the Group took a step further with an ambitious commitment to reduce the carbon intensity of its activities. Air Liquide also helps its industrial customers to reduce their carbon emissions, developing new technologies and skills to support their low-carbon transition. Our recent investments in low-carbon hydrogen also demonstrate this commitment.

# HIGHLIGHT

INAUGURATION OF THE WORLD'S LARGEST LOW-CARBON HYDROGEN PRODUCTION UNIT IN CANADA

In early 2021, Air Liquide inaugurated the world's largest membrane-based low-carbon hydrogen production unit in Bécancour, Canada. Powered by 99% renewable energy, this unit can produce over 8.2 metric tons of low-carbon hydrogen daily – enough to fuel more than 2,000 cars, 16,000 forklifts, 275 buses, or 230 large trucks. This enables the Group to supply its North American industrial customers and mobility markets with decarbonized, high-purity hydrogen and help reduce their carbon footprint.

# $\begin{array}{c} \textbf{REDUCING OUR CO}_2 \\ \textbf{EMISSIONS} \end{array}$

Air Liquide has long been committed to a sustainable growth. In 2018, the Group already committed to a 30% reduction of its carbon intensity<sup>(1)</sup>, and will fully deliver its objective by 2025<sup>(2)</sup>. The Group has now set more ambitious goals to abate CO<sub>2</sub> emissions.

-33%

CARBON EMISSIONS
BY 2035
Air Liquide commits
to decreasing its CO<sub>2</sub>
emissions in absolute
value by 33% by 2035.
This includes direct
emissions from its
hydrogen production and
cogeneration units, as
well as indirect emissions
from the production of
electricity and steam
purchased by the Group
for its operations.

# CARBON NEUTRALITY BY 2050

Air Liquide commits to reaching carbon neutrality by 2050, aligning the Group with international efforts to reduce global warming, as outlined in the Paris Agreement.

This means significantly increasing the use of low-carbon electricity for operations, implementing innovative carbon capture technologies, optimizing supply chains and improving the efficiency of our production units.

# DEVELOPING LOW-CARBON SOLUTIONS FOR OUR CUSTOMERS AND FOR INDUSTRIES

We are not only reducing our carbon footprint but also helping industrial customers do the same. Drawing on our technological expertise and capacity for innovation, we are inventing cleaner, more sustainable solutions to reduce their emissions.

For example, the Group is working closely with the steel industry to reduce  $CO_2$  emissions by using hydrogen on a large scale during the steel manufacturing process. We are also developing new technologies to capture and recycle carbon emissions from the steelmaking process.

# **ACCELERATING IN HYDROGEN**

Hydrogen is a cornerstone of the energy transition. It offers a tremendous growth potential as a competitive low-carbon solution for many applications in the industrial, energy and mobility sectors. Deeply convinced that hydrogen will play a major role in the energy transition, the Group intends to be a key enabler of the hydrogen society thanks to its assets, technologies and expertise.

x3

Our hydrogen revenues will at least triple in size, increasing from 2 billion to more than 6 billion euros by 2035.

~€8 bn

invested in the low carbon hydrogen supply chain by 2035.

(1) In kg CO<sub>2</sub> equivalent/euro of operating income recurring before depreciation and amortization at 2015 exchange rate and excluding IFRS16 for greenhouse gas emissions scopes 1 and 2, Location-based. (2) In the adjusted reporting framework, from a 2020 baseline of 32.5 million tonnes CO<sub>2</sub> eq (scopes 1 and 2), with scope 2 emissions in Market-Based.

# Care for patients

With 1.8 million patients and 15,000 hospitals served worldwide, Air Liquide is a major player in the healthcare sector. Working alongside patients, professionals and hospitals, we aim to improve patients' quality of life and contribute to a more efficient health system. Our employees' mobilization during the Covid crisis has shown we can take on increasing responsibility in this area.

# AT HOME IN MATURE ECONOMIES In Home Healthcare, Air Liquide takes care of patients

OF LIFE OF CHRONIC PATIENTS

**IMPROVING THE QUALITY** 

In Home Healthcare, Air Liquide takes care of patients with chronic conditions, such as respiratory diseases and diabetes. Working with healthcare professionals and caregivers, we are committed to improving patients' quality of life by raising disease awareness, educating and empowering patients, identifying the outcomes that matter most to them, and personalizing services to their conditions and lifestyles.

OUR CONTRIBUTION AND OUR METRICS

Promoting customized care pathways through a combination of personal support from our teams (technicians, nurses) and digital tools, in order to improve the adherence to treatment and quality of life of patients with chronic diseases.

# FACILITATING ACCESS TO MEDICAL OXYGEN FOR RURAL COMMUNITIES IN LOW- AND MIDDLE-INCOME COUNTRIES

Medical oxygen is critical for treating notably pneumonia, which claims the lives of more than 800,000 children under five years old every year<sup>(1)</sup> in the world. Yet wide gaps in access remain in most low- and middle-income countries. To help reduce child mortality, Air Liquide is expanding its partnerships with NGOs<sup>(2)</sup> to provide medical oxygen across those countries and open up access to their inhabitants.

Equipping with oxygen primary care facilities in villages and bringing our expertise to support local communities.

Expanding partnerships with NGOs in this field.

# HIGHLIGHT

# ACCESS OXYGEN: FACILITATING ACCESS TO MEDICAL OXYGEN IN SENEGAL

In Senegal, Air Liquide has equipped more than 80 rural health posts and centers to administer much-needed medical oxygen to patients with acute respiratory diseases. Supported by the Senegalese Ministry of Health and UNICEF, Air Liquide's Access Oxygen solution is now available to a population of around 900,000 inhabitants.

(1) WHO Maternal Child Epidemiology Estimation (WHO-MCEE) 2018. (2) Non-governmental organizations.

# Trust as the base to engage with our employees

Increasing Air Liquide's positive impact means developing our employees' ability to engage and go the extra mile for customers, patients and society as a whole. By creating a safer, more collaborative and inclusive work environment and providing the right support, we aim to empower our employees to develop their full potential.

# HIGHLIGHT

# DIVERSITY, A SOURCE OF DYNAMISM AND A PERFORMANCE DRIVER

With 64,500 employees in 78 countries, 150 nationalities are currently represented within the Group. Air Liquide's objective is to have diverse teams that represent the local culture in which they operate. The Group is also committed to creating equal opportunity for all and promoting a culture of inclusion, and has set ambitious gender equality goals. In 2020, 30% of managers and engineers are women, and five of the current 14 Executive Committee members are women.

# SAFETY FOR ALL OF OUR EMPLOYEES AND STAKEHOLDERS

Safety is a fundamental value and an integral part of Air Liquide's operational excellence and culture. The Group is committed to efficiently reducing exposure to professional and industrial risks for its employees, customers, subcontractors, suppliers and local communities. In 2020, Air Liquide's lost-time accident frequency rate<sup>(1)</sup> dropped to 0.9 (vs. 1.2 in 2019), the lowest rate in 20 years.

# Safety: a zeroaccident ambition

# BELIEVING IN DIVERSITY AS A SOURCE OF PERFORMANCE

At Air Liquide, diversity is a source of dynamism, creativity and performance. An inclusive workplace with talents of different ages, nationalities and backgrounds is a key asset for the Group's success. Thanks to the energy and inventiveness of our teams, Air Liquide continuously invents new practices and develops innovative solutions for customers and patients that improve performance. We can increase our positive impact on society by empowering everyone to grow and make a difference.

WE COMMIT TO INCREASING TO:

35%

Professionals by 2025. To promote diversity and a more inclusive culture, Air Liquide encourages each of its entities to develop initiatives that make their workforce more representative of their local communities.

# COMMON BASIS OF CARE COVERAGE FOR ALL EMPLOYEES

Present in 78 countries with diverse cultures, Air Liquide historically faces very different situations in care coverage for employees. As a socially responsible employer, the Group is committed to offering a common basis of care coverage for all our employees.

WE COMMIT TO PROVIDING

100%

of our employees with common basis of care coverage by 2025 including life insurance, health coverage and new maternity leave policy.

# ENCOURAGE EMPLOYEE ENGAGEMENT IN LOCAL INITIATIVES

Each of our 64,500 employees has the potential to support their communities. Believing in our people means giving them opportunities to engage in local initiatives.

We offer our employees the opportunity to devote time to a project or a mission supporting the Group's Sustainability objectives in their local communities.

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

# Trust as the base to build a best-in-class governance

More than ever, a sustainable future means working with all our stakeholders and sharing responsibility in a spirit of openness, fairness and accountability. Through transparency and continuous dialogue, Air Liquide commits to strengthening relations with its stakeholders: customers and patients, shareholders, suppliers, local communities and the public sphere.

# HIGHLIGHT

# IMPROVING CUSTOMER EXPERIENCE, FROM LISTENING TO ACTION

As part of its commitment to delivering an outstanding customer experience, Air Liquide has set up in 2017 the "Voice of the Customer" digital platform to collect and analyze customer reviews in real time worldwide and to react immediately in case of dissatisfaction. This platform allows each Air Liquide entity to measure customer satisfaction and share feedback throughout the Group in a spirit of continuous improvement and transparency. Over 150,000 customer feedback have already been submitted through the platform, deployed in more than 60 countries.

# A DIVERSIFIED BOARD OF DIRECTORS AND CLOSE RELATIONSHIP WITH SHAREHOLDERS

Being international, independent and gender-balanced with a wealth of different profiles and skills, Air Liquide's Board of Directors is a key strength for the Group's long-term performance. Performance which brings value to all our shareholders. The trust and loyalty of our 470,000 shareholders are key to Air Liquide's development. For more than a century, the Group has involved them in its growth, building longterm relationships based on transparency and proximity. We commit to maintaining ongoing dialogue with both individual and institutional shareholders through dedicated services, attractive remuneration and increased long-term investment value.

# A RESPONSIBLE DIALOGUE WITH OUR BUSINESS STAKEHOLDERS

OUR CONTRIBUTION AND OUR METRICS

In a constantly evolving and increasingly competitive environment, integrity, transparency and dialogue are the cornerstones of Air Liquide's responsibility to customers, patients and suppliers. The Principles of Action defined by the Group govern the actions of all our employees in the management of business. We also go one step further by introducing an assessment of our sustainability development approach in the customer satisfaction surveys. As part of our procurement policy, we are also monitoring the compliance of our suppliers in terms of responsibility.

# A POSITIVE IMPACT ON SOCIETIES WHERE WE OPERATE

Air Liquide develops close relationships and dialogue with all its local stakeholders, whether communities, international institutions, NGOs, associations or authorities. In particular, the Air Liquide Foundation acts for the advancement of science, through support to fundamental medical and environmental research. The Foundation also contributes to the development of communities through local initiatives and its work on professional integration in technical fields. In doing so, we help make a positive impact on local communities where we operate.



# 2020, an unprecedented year

This exceptional health crisis has disrupted our lives, our routines, our habits and has deprived us of our exchanges with you, which we are very attached to.

We have, of course, adapted to this. Remotely, by working from home.

We have done everything possible to continue to support you in your procedures, to keep you updated and answer your questions, to guide you through our tools, to listen to you. We have done our best to maintain the proximity that has always defined our relationship.

Our relationship has remained as strong as ever.

But nothing can ever replace what we miss the most. Seeing you, meeting with you.

We cannot wait to see you again.

# Apart but closer than ever

Faced with an unprecedented health crisis, we mobilized our services and implemented several measures to maintain our proximity and trust-based relationship.

# - Ensuring the continuity of your services

As soon as the first lockdown was announced, Shareholder Services advisors quickly stepped up to guarantee a long-term and optimal service. Thanks to foresight and the introduction



# (2) Jean-Jacques D.

"I would like to thank you for dealing with my donation request for my granddaughter. Once again, Air Liquide Shareholder Services have been extremely efficient. I will shortly be carrying out the same transaction for my grandson, who has just been born, and I am sure that you will again be there to help."

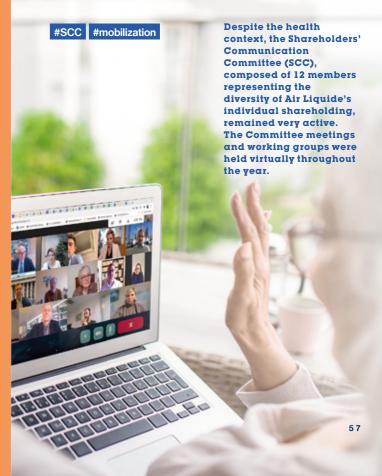
of a business continuity plan, all of our advisors were able, within 24 hours, to continue their work from home under safety and confidentiality conditions that were similar to normal. They continued to provide you with the tailormade services that you required and to assist you through every aspect of share ownership. They also provided support to those a little less accustomed to digital tools and helped those struggling to connect to their personal online Account. During the year, an online help section was also added to our airliquide.com website to provide you with answers to your most frequently asked questions.

# - Keeping you informed throughout the year

"Apart but closer than ever", that was our philosophy in 2020. Our objective: keeping you informed as regularly as possible to maintain this bond that unites us. Benoît Potier was also keen to personally address Group shareholders, as of the beginning of the crisis, to thank you for your support.







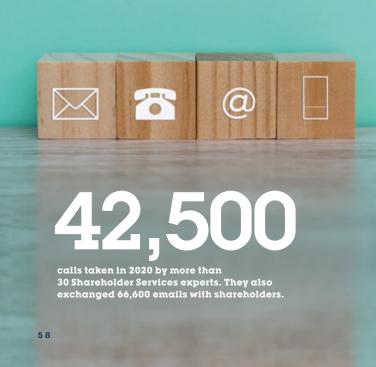
# #confidence

- •• I admire your company and I support you. What you achieved during lockdown made me decide to buy shares to back you. So I will give you my financial support (within my means) because I have confidence in you!"
- ●● As a long-term shareholder, I had absolutely no doubt regarding the Group's ability to withstand this pandemic and I'd like to say well done to all of your employees."

Messages left as part of a survey of Air Liquide shareholders carried out in October 2020.



#morepresentthanever #atyourservice





Jérémie Créange, **Head of Shareholder Services' Project Division** 

Moreover, we maximized opportunities for communication, notably through digital tools. Our email communications were more regular to provide you updated information about your Group with, for example, news flashes regarding our response to Covid-19. Our newsletter was redesigned and its frequency increased to allow you to get to know Air Liquide and its various businesses better. Your Stock & Share webzine also offered more content, on subjects relating to both your life as a shareholder and that of the Group. Finally, we maintained the traditional communication tools to which you are particularly attached: the Interactions letter (published twice a year), the Shareholder's Guide and the Shareholder's Factsheets.

# - A year of innovation

The digitization underway at Air Liquide is also shaping our relationship with shareholders. Your personal online Account allows you to carry out routine operations twenty-four hours a day, seven days a week: changing your contact details, downloading your accountrelated documents, accessing the resolutions proposed at the Annual General Meeting, placing your Stock market orders at a reduced brokerage rate(1). This year, it has been your key ally in your shareholding life.

We have improved our internal tools to provide a better customer experience when you call our toll-free number. Your advisors are therefore more efficient and able to provide you with even better tailor-made answers.

And we are committed to continuing to improve our digital services: new features expected in 2021 include the ergonomic redesign of the personal online Account, for easier, more dynamic and intuitive navigation on your computer, smartphone or tablet.

What are the new features of the personal online Account dedicated to shareholders?

At the end of 2020, the personal online Account was given a makeover. This is the most visible part of a program launched in 2017 to completely overhaul Shareholder Services. We have reviewed our working habits, our tools, listened to the expectations of our stakeholders (shareholders, Shareholders' Communication Committee, employees), and launched several projects at the same time to improve services for shareholders.

Can you tell us a bit more about the new services already in place?

We decided to start with the less visible, but key, changes to meet the need expressed by our shareholders for an even more tailor-made relationship. Today, when advisors answer the phone to a shareholder, they have access, via a single interface, to all of his or her information: civil status, account statement, stock market orders. overview of requests made, letters, emails and telephone calls. Facilitating account opening and allowing shareholders to carry out a maximum of operations online have also been two key projects within this program. These changes have had a major impact this year, as 80% of the individual accounts opened in 2020 were opened online and 85% of stock market orders were placed online. Finally, as mentioned earlier, the personal online Account has been modernized to be clearer, easy-to-use and to offer even more services. And we do not intend to stop there. Further changes will be made during the months ahead, all of which focus on making shareholders' lives easier, based on their comments.

(1) Reduced brokerage rate of 0.10% before tax instead of 0.18% before tax for purchases paid by SEPA automatic debit (for accounts domiciled in the SEPA zone) or by bank card (up to 3,000 euros). Subject to having signed an account agreement. Only applicable to accounts with full ownership.

## - Events in a new format

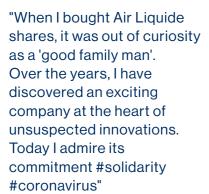
This year has led us to review the events during which we meet, which we are very attached to, to maintain contact, even remotely. The Annual General Meeting was adapted to ensure the safety of both shareholders and employees. We also believed that it was important to maintain discussions by enabling you to submit your questions via a dedicated platform. Almost 300 questions were received in this way and, on May 5, for more than forty minutes, Benoît Potier was able to answer them during the live stream. Despite being held behind closed doors, the Annual General Meeting was followed live by more than 2,500 people and watched on replay more than 38,000 times.

As we were unable this year to come and meet you locally, as we usually do, or during the Investir Day event in Paris, we created a new 100%-digital meet up: "Génération Hydrogène". We were keen to continue to discuss a societal and environmental subject that you are passionate about - hydrogen.



 $A \circ \circ$ 

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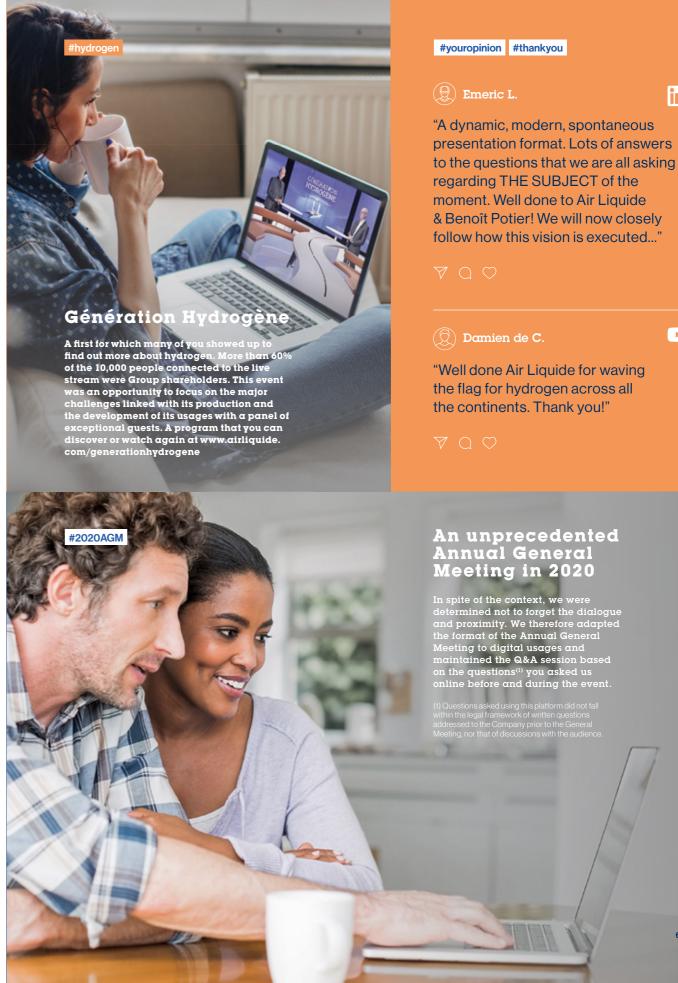
With more than 500 questions collected, more than 10,000 people connected live on December 10, 2020 and almost 60,000 views of the program replay, you confirmed major interest in this subject and for the new digital format available to you. During this program, you were able to learn more about Benoît Potier's vision for the development of this molecule full of potential, as well as the point of view of Bertrand Piccard, Initiator and Chairman of the Solar Impulse Foundation and even the passion of Philippe Croizon, the adventurer who has placed hydrogen at the heart of his next challenge.

# - More than ever, we are looking forward to seeing you again

Individual share ownership represents one of the fundamentals of our growth model. Digital tools have a key role in the long-term relationship that we have with you. This past year has proven that they are an asset and an essential addition. However, opportunities to meet and talk face-toface are as important, if not more so. That is why we sincerely hope that this past year remains an exception and we are working hard to return to the proximity which we are very attached to as quickly as possible.







in

61

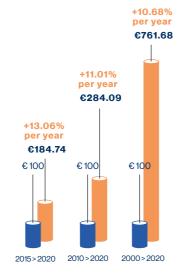
# The strength of your Group

Since the very start of the health crisis, your Group has stepped up to ensure the continuation of its activities under the best possible conditions. Strong fundamentals have allowed it to withstand such events.

Over the years, your Group has already been faced with external crises. This year, its strength was demonstrated yet again thanks to very specific advantages.

Our regular, profitable and responsible growth model draws on a portfolio of essential products for life, matter and energy. These foundations will help build tomorrow's world. Moreover, our presence at the heart of local economies in 78 countries and the diversity of the markets that we serve provide a particularly relevant complementarity to weather a global crisis. In addition to this, we can draw on the long-term, trust-based relationships with our partners and customers, as well as the well-proven adaptability of our teams.

Finally, we can rely on the trust-based relationship and the loyalty established with you, our shareholders, over many years. This is the basis of our long-term financial and strategic independence. This is essential for our highly capitalistic industry which requires major investment in research projects over several decades, as was the case for hydrogen. A mutual trust that was particularly visible in 2020.



# PORTFOLIO GROWTH

over the past 5, 10 and 20 years (TSR)

Value of portfolio at December 31, 2020 and average annual growth, before taxes.

The Total Shareholder Return (TSR) is an annualized rate of return for a shareholder who buys his shares at the beginning of the period and resells them at the end of the period. This calculation takes into account the evolution of the share price, the dividends reinvested in shares as well as the allocations of free shares, both increased by the loyalty bonus, and includes the impact related to the capital increase of 2016.

"The relationship with our shareholders is stronger than ever"

The year 2020 and its unprecedented crisis has once again underlined the confidence of our shareholders. There was no panic selling, some shareholders waited, others purchased new shares. At our end, we maintained our fundamentals and our commitments. We have, for example, decided to pay the planned dividend, despite the crisis. Contrary to common belief, this dividend payment supports the real economy, and often represents a retirement supplement for our shareholders.

Patrick Renard,
Director of Air Liquide
Shareholder Services

As Patrick Renard, Director of Air Liquide Shareholder Services reminds us, "when the crisis broke out, the share price began to decrease and then rose again. But we were extremely impressed by our registered shareholders who remained loyal throughout the period".

The Group, which has always been driven by the desire to involve its shareholders in its success, therefore maintained its traditional elements of shareholder compensation and recognition in 2020, in particular a dividend per share of 2.70 euros, plus a loyalty bonus of +10% awarded to shareholders owning shares in registered form for at least two years.

(1) Source: The French Individual Investors Observatory 2020, OpinionWay & F2IC survey - November 2020.

(2) Proposed for the 2020 fiscal year at the Annual General Meeting on May 4, 2021.

+10%

The loyalty bonus for registered shareholders awarded to shareholders owning shares in registered form for at least two years. Shareholding is changing!

540/0

of new shareholders
in France in 2020
are women. French
shareholding saw a
degree of renewal: more
young people and women,
with online management
and mobile mediums.

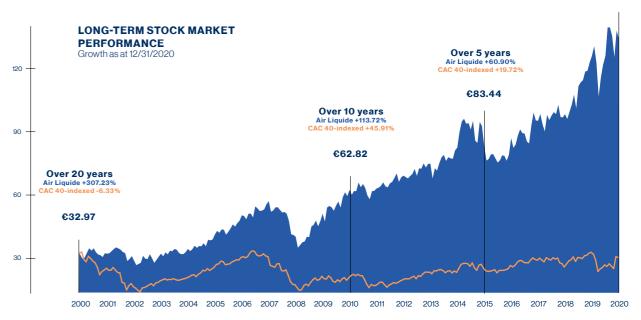
More independent
and short-term
focused, they are
also open to other
types of investment(1).

€2.75

per share. The amount of the dividend proposed in 2021<sup>(2)</sup>, marking an increase of +1.9% compared with the previous fiscal year.

2020 Air Liquide +6.38% CAC 40-indexed -7.14%

€134.25



CAC 40-indexed Air Liquid

Adjusted according to current Euronext regulations. Share price as at December 31 of the year in question. Past performances of Air Liquide's share are not a guarantee of future results.

# **Air Liquide**

A world leader in industrial gases and related services

> A unique model

# Our profile

~64,500 committed employees in 78 countries

**Extensive scientific** and technical expertise in industrial gases (oxygen, nitrogen, hydrogen, etc.)

>3.8 million and patients

4,300 employees contributing to innovation

5 Innovation Campuses

11,000 patents

2 industrial gases production modes

On-site production at customers'

3 industrial gases distribution networks

>10,000 trucks for medium quantities

for small quantities

# Our business model

Long-term vision and clear strategy

A wide range of customers and applications

Major ability to innovate

Long-term customer contracts. indexed to energy prices

Management and optimization of production and distribution chain

Active involvement in new markets

Global presence and local activity

# Our activities



# To support almost all economic sectors

# LARGE INDUSTRIES Industrial gases

long-term partnerships

Chemicals Refining & energy Metals

# INDUSTRIAL MERCHANT

Industrial gases in small

Automotive & fabrication Food & pharmaceuticals Technology & research Entrepreneurs & distributors

Materials & energy

# ELECTRONICS

Semiconductors Flat panels Photovoltaic

# HEALTHCARE

in hospital and at home

Hospitals Home healthcare Specialty ingredients

# **GLOBAL MARKETS** & TECHNOLOGIES

Molecules, equipment and services to support of energy transition and deep tech(2)

Energy transition Deep tech(2)

# **ENGINEERING** & CONSTRUCTION

for industrial gas

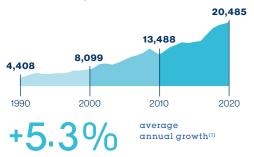
Customers choosing to insource their industrial gas needs

# A regular performance over 30 years

The Group was fully mobilized to serve its customers and patients in 2020, which was an out of the ordinary year. The Group's performance was outstanding in this environment: sales resilience, significant margin improvement, net profit growth and investment decisions continued at a very high level. This performance illustrates the solidity of our business model.

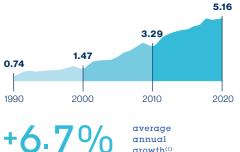
# **EVOLUTION** OF GROUP REVENUE

over 30 years (in millions of euros)



# **EVOLUTION OF ADJUSTED** NET EARNINGS(2) PER SHARE

over 30 years (in euros)



# **EVOLUTION OF ADJUSTED** DIVIDEND(2) PER SHARE



# 2020 key financial figures

€20,485 M

**NET PROFIT** 

€2,435 M

**OIR MARGIN** 18.5%

+80 pbs(5)

**EFFICIENCY GAINS** €441 M

> **GEARING** 55.8%

**INVESTMENT DECISIONS** €3.2 bn

# 2020 key extra-financial figures

**SAFETY** 0.9

Frequency rate of accidents with time off work per million hours worked. This is the lowest frequency rate of the last 20 years.

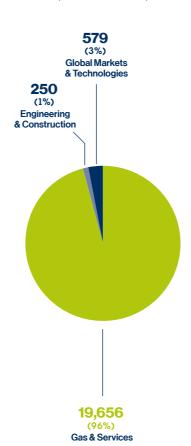
> **CARBON INTENSITY<sup>(6)</sup>** -30%

Reduction in carbon intensity over the past five years, in line with the target set for 2025

> **DIVERSITY** 30%

of women among Engineers and Professionals

# **DISTRIBUTION** OF 2020 GROUP REVENUE (in millions of euros)



# (in millions of euros) 2,001 Electronics 3,724 (18%) Healthcare 8,959 (44%) Industrial Merchant

4,972

(24%)

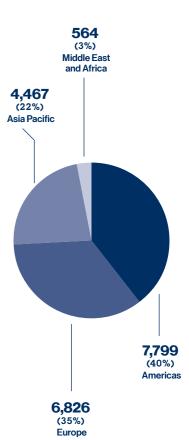
Large Industries

2020 GAS & SERVICES

**REVENUE BY ACTIVITY** 

# **DISTRIBUTION OF 2020 GAS & SERVICES REVENUE BY GEOGRAPHY**

(in millions of euros)



# INNOVATION (2020 figures)

of innovation expenses

new patents filed in 2020

>300 industrial and scientific partnerships and collaborations with start-ups

# **GROUP SHAREHOLDERS**

(as of December 31, 2020)



including 105,000 direct registered shareholders, 158,000 intermediary registered shareholders and 207,000 bearer shareholders.

dividend per share proposed in the AGM of May 4, 2021

shareholders

(1) Calculated according to prevailing rules over 30 years. (2) Adjusted for the 2-for-1 share split in 2007, for attributions of free shares and for a factor of 0.974 reflecting the value of the rights of the capital increase completed in October 2016. (3) 2020 dividend subject to the approval of shareholders during the General Meeting on May 4, 2021. (4) Excluding exceptional and significant operations not impacting the Operating Income Recurring. (5) Excluding energy impact. (6) Kg of CO\_equivalent per euro earnings before depreciation, excluding the impact of IFRS 16, at 2015

# Consolidated income statement (summarized)

AS OF DECEMBER 31, 2020

(in millions of euros)	December 31, 2019	December 31, 2020
Revenue	21,920	20,485
Operating costs	-15,988	-14,557
Operating profit before depreciation	5,932	5,928
Depreciation and amortization	-2,138	-2,138
Operating income recurring	3,794	3,790
Other non-recurring operating income & expenses	-188	-140
Operating income	3,606	3,650
Net financial costs and other net financial expenses	-468	-440
Income taxes	-801	-678
Share of profit of associates	1	-4
PROFIT FOR THE PERIOD	2,338	2,528
- Minority interests	96	93
- Net profit (Group share)	2,242	2,435
Basic earnings per share (in €)	4.76	5.16

# Consolidated balance sheet (summarized)

AS OF DECEMBER 31, 2020

Assets (in millions of euros)	12/31/2019	12/31/2020
Goodwill	13,943	13,087
Fixed assets	22,673	21,401
Other non-current assets <sup>(1)</sup>	1,083	1,123
Total non-current assets	37,699	35,611
Inventories and work-in-progress	1,532	1,406
Trade receivables and other current assets	3,379	3,033
Cash and cash equivalents(1)	1,057	1,836
Total current assets	5,968	6,275
Assets held for sale	-	91
TOTALASSETS	43,667	41,977

Equity and Liabilities (in millions of euros)	12/31/2019	12/31/2020
Shareholders' equity	18,870	18,543
Minority interests	454	462
Total equity	19,324	19,005
Provisions and deferred tax liabilities	4,573	4,290
Non-current borrowing	11,567	10,220
Non-current lease liabilities	1,088	969
Other non-current liabilities <sup>(1)</sup>	308	218
Total equity and non-current liabilities	36,860	34,702
Provisions	268	316
Trade payables and other current liabilities	4,396	4,462
Current lease liabilities	244	218
Current borrowings <sup>(1)</sup>	1,899	2,240
Total current liabilities	6,807	7,236
Liabilities held for sale	-	39
TOTAL EQUITY AND LIABILITIES	43,667	41,977

(1) Including fair value of derivatives.

# Consolidated cash flow statement (summarized)

# AS OF DECEMBER 31, 2020

(in millions of euros)	12/31/2019	12/31/2020
Funds provided by operations	4,859	4,932
Changes in working capital	-37	364
Other cash items	-110	-90
Net cash from operating activities	4,712	5,206
Purchases of property, plant and equipment, and intangible assets	-2,637	-2,630
Purchases of financial assets and the impact of changes in scope	-537	-129
Proceeds from sale of subsidiaries, property, plant and equipment, and intangible and financial assets	589	804
Net cash in investing activities	-2,585	-1,955
Distribution	-1,237	-1,387
Increase in capital stock	39	44
Purchase of treasury shares	-148	-50
Transactions with minority shareholders	-31	-16
Change in borrowing and lease liabilities (including net interest)	-1,403	-1,019
Impact of exchange rate changes and net debt of newly consolidated companies and others	1	-1
Change in net cash and cash equivalents	-652	822
NET CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD	897	1,719

A world leader in gases, technologies and services for Industry and Health, Air Liquide is present in 78 countries with approximately 64,500 employees and serves more than 3.8 million customers and patients. Oxygen, nitrogen and hydrogen are essential small molecules for life, matter and energy. They embody Air Liquide's scientific territory and have been at the core of the company's activities since its creation in 1902.

Air Liquide's ambition is to be a leader in its industry, deliver long-term performance and contribute to sustainability - with a strong commitment to climate change and energy transition at the heart of its strategy. The company's customer-centric transformation strategy aims at profitable, regular and responsible growth over the long term. It relies on operational excellence, selective investments, open innovation and a network organization implemented by the Group worldwide. Through the commitment and inventiveness of its people, Air Liquide leverages energy and environment transition, changes in healthcare and digitization, and delivers greater value to all its stakeholders.

Air Liquide's revenue amounted to more than 20 billion euros in 2020. Air Liquide is listed on the Euronext Paris stock exchange (compartment A) and belongs to the CAC 40, EURO STOXX 50 and FTSE4Good indexes.



# AIRLIQUIDE.COM

See our annual publications on our website: Annual Report, Universal Registration Document, Shareholder's Guide, On Air Magazine, Interactions.

# Contact us throughout the year:

Via an online form on airliquide.com, section "Shareholders/Online help & Contact", button "Access our contact form"

By phone: +33(0)157 05 02 26 (from outside France) or 0800 166 179 (free from a French landline)

By mail: Service actionnaires TSA 91948 - 62978 Arras Cedex 9, France

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The information included in this Document is as at 12/31/2020.

Note: past performances of Air Liquide's share are not a guarantee of future results.

L'Air Liquide - S.A. company established for the study and application of processes developed by Georges Claude with issued capital of 2,605,133,982.00 euros.

