

# impact

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Anna-Maria

Pubill Melsió

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# Manifesto

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## *Performing with impact*

**T**he mastery of small molecules essential to life, energy, and matter has great impacts for the world. The Air Liquide Group has been inventing the future since it was founded, supporting companies of all sizes and from every industry and every country in their growth. From its earliest days, the Group has been shaped both by and for the world's major transitions, continuously adapting and innovating. At the forefront of its time, Air Liquide has played and will continue to play a key role in industrial, technology, energy, and healthcare-related transformations. Drawing on our expertise and innovative spirit, we embrace challenges that come our way, turning them into opportunities to create useful solutions with a positive impact for society.

**As a catalyst for progress**, we push the boundaries of science and technology to harness the limitless potential of oxygen, argon, hydrogen, and many other molecules. As a tech leader, we turn these molecules into cutting-edge innovations as we seek to constantly offer our customers and patients solutions that are ever more effective, useful, and sustainable.

**As a strategic partner**, we provide support over the long run to key sectors, such as industry, energy, tech, and healthcare. Our expert and committed teams are involved wherever they can have an impact, backed by our global footprint and local bases.

**As a performing company**, we seize new opportunities to stay on a path of profitable and responsible growth. This ambition is underpinned by our model of sustainable value creation, which is backed by our employees, upheld by the confidence of our shareholders, and recognized by our customers.

## Performing with impact in a changing world

**Benoît**

**Potier**

Chairman of the  
Board of Directors,  
Air Liquide

**François**

**Jackow**

Chief Executive  
Officer, Air Liquide

In a rapidly changing world, Air Liquide's business model is demonstrating its strength and resilience in response to the challenges of multiple transitions. At the cutting edge of technological innovation notably in the fields of energy transition and electronics, the Group stands out with its ability to collaborate with strategic partners. Benoît Potier, Chairman of the Board of Directors, and François Jackow, Chief Executive Officer of Air Liquide, share their perspectives.

### How does the changing global environment influence Air Liquide's strategic vision?

**Benoît Potier:** Geopolitical and economic fragmentation is redefining the global balance of power. We are witnessing a global clusterization, with the world operating increasingly through communities of interest and alliances. At the same time, major transformations (demographic, climate, digital and societal) are also having an effect. In response to these challenges, Air Liquide is strategically positioned to provide relevant solutions and support its customers in these major transitions. Our global presence and our long-standing ties with key industrial basins are part of our structural advantages that enable us to serve a wide range of sectors. Drawing on our mastery of essential molecules and our ability to innovate, we continuously develop new solutions to

meet emerging needs. We integrate the very best technologies into our products to benefit our customers and patients. We have always aimed to play a pioneering role by embracing emerging trends in response to global transformations, all with a market-driven approach. This is still the case, now more than ever! We are visionaries, taking immediate and tangible action to contribute to the world's transformations.



## The transition to a carbon-neutral economy by 2050 starts now. ”

**Benoît Potier**

### In this context, how would you assess the Group's performance in 2024?

**François Jackow:** I am extremely proud of the Group's very solid financial performance. It is all the more remarkable in a year marked by macroeconomic tensions and the Group's structural transformation. This performance has led to improved results in several areas. We achieved a record improvement in our operating margin of more than 110 basis points<sup>1</sup>. Encouraged by this result, which was made possible by record efficiencies of nearly 500 million euros, we have decided to raise and extend our margin ambition, now targeting an increase of +200 basis points for the period

2025-2026, representing an unprecedented total increase of +460 basis points<sup>1</sup> over five years (2022-2026). There has also been growth in sales, which now amount to more than 27 billion euros, up +2.6%<sup>2</sup>, in sluggish market conditions. These sales figures are further proof of Air Liquide's significant resilience, driven particularly by Industrial Merchant in North America, Electronics in Asia and Healthcare. The Group's recurring net profit<sup>3</sup> increased by +11.5% and recurring ROCE is at +10.7%, even though our investments are increasing. Now more than ever, we are continuing to prepare the future, with sources of growth fueled by our record investment decisions in 2024, reaching 4.4 billion euros.

Our ability to provide our customers with innovative products and services with a technological focus is reflected in major commercial successes in both traditional sectors and the transformation-driven fields of the energy transition and semiconductors. For example, the contracts signed with LG Chem and GlobalFoundries in the United States, Wanhua in China and Aurubis in Europe are proof of the relevance of our offerings. These successes come alongside a growing number of large-scale projects, such as the continued development of our low-carbon hydrogen ecosystem in the Normandy industrial basin, the project of a low-carbon oxygen platform for ExxonMobil in the United States (which would be the Group's largest investment in its history!) and major investment projects, working with TotalEnergies, for the construction of two very large-capacity electrolyzers to accelerate decarbonization in Europe.

Moreover, several of our projects have received support from the European Union, including the D'Artagnan CO<sub>2</sub> infrastructure project, managed with Dunkerque LNG, to decarbonize the Dunkirk basin, the carbon capture and storage project in Denmark with Cementir and the large-scale project for the production,

liquefaction and distribution of low-carbon and renewable hydrogen from ammonia in the port of Antwerp-Bruges in Belgium. This support is an acknowledgment of the relevance of our technological solutions in response to the challenges of the energy transition and their key role in tomorrow's industry.

We owe these major advances to the remarkable dedication of our teams around the world. Every year, they push boundaries, innovate and rise to new challenges, contributing to the Group's growth and transformation.

### What can you tell us about your extra-financial performance?

**F.J.:** Our extra-financial results are solid on all indicators of our ADVANCE plan. On safety, which is of paramount importance, I would like to thank all of our teams for their remarkable mobilization, which allowed us to make progress in 2024. On the environmental front, we have reduced our CO<sub>2</sub> emissions by 11%<sup>4</sup> compared with 2020, confirming that we are ahead of schedule in achieving our inflection target by 2025. Our carbon intensity has decreased by 41%<sup>5</sup> compared to 2015, already surpassing our reduction target of 30% set for 2025. In terms of diversity, women currently represent 33% of the Group's Managers and Professionals, while all Air Liquide employees now benefit from a common basis of care coverage, one year ahead of our target.

Once again, this progress is the result of the tireless work of the teams and their unwavering commitment to the environment, safety and inclusion. At a time when a decline is being seen in some of these areas, these results are all the more remarkable and meaningful, demonstrating our determination to go even further. I would particularly like to thank our staff for their vital contribution. I have every confidence in them and in our collective ability to drive our performance again in 2025.

<sup>1</sup> Excluding energy effect.

<sup>2</sup> On a like-for-like basis.

<sup>3</sup> Excluding currency impact and exceptional and significant operations that do not impact operating profit.

<sup>4</sup> Emissions are reported by the Group in scopes 1 and 2, using a "market-based" methodology, and are restated, from 2020 and each subsequent year, to take into account changes in scope having a significant impact (upwards and downwards) on CO<sub>2</sub> emissions.

<sup>5</sup> In kg CO<sub>2</sub> equivalent/euro of operating profit before depreciation and excluding IFRS 16 at the 2015 exchange rate on scopes 1 and 2 "market-based" greenhouse gas emissions.

### What are the strengths of Air Liquide's model when it comes to responding to the challenges of a changing world?

**B.P.:** Our model is unique. It is built on a broad range of markets, applications and geographies and makes our Group particularly resilient. We are strategically located on five continents, yet we also have in-depth knowledge of local industrial networks. This solid foundation enables us to offer useful and customized solutions, drawing on best practices on a global scale, while developing strong relationships with our customers, underpinned by long-term contracts and strategic partnerships. Increasingly, we are joining coalitions and playing the role of facilitator within multi-stakeholder ecosystems. This role highlights our expertise and our abilities to innovate and develop trusted relationships as we work closely with our teams, customers, partners and shareholders. This trust is built on quality dialog. This unique and proven model has successfully navigated crises while creating value.

**F.J.:** To continue the progress made so far, maintain our agility and enhance our performance, we have launched an ambitious internal transformation program. Our fundamentals, namely safety, customer satisfaction and employee engagement, are deeply rooted in the Group's culture.



**Continuing to develop solutions that address the world's challenges and create value is the strength and the hallmark of our business model. ”**

**François Jackow**

To sustain this corporate culture, we recognize the need to simplify our organization to become even more proactive, competitive and attractive, ensuring that we are better prepared for the challenges of tomorrow. This simplified structure will facilitate quicker decision-making and increased efficiency, while the creation of a new single Group Industrial Direction will develop operational synergies. This transformation plan will give us the means to continue to seize market opportunities created by the challenges of the world's ecological, economic and societal transitions. There have never been so many and such large-scale opportunities. We must make the most of them!

### To what extent do the Group's activities, products and technological solutions contribute to creating a positive impact?

**F.J.:** Our innovation is strongly focused on technologies with a positive impact. More than 3,000 employees are dedicated to innovation, working tirelessly with the Group's operational teams to optimize the use of molecules and improve the efficiency of industrial processes and our healthcare solutions. They are tasked with developing effective and useful solutions for society as a whole. In terms of decarbonization, this includes the supply of low-carbon gas, oxy-combustion, capture solutions for CO<sub>2</sub> sequestration and renewable and low-carbon hydrogen production plants. These solutions are implemented in various sectors, including those that are the hardest to abate, such as the cement industry. Our efforts also extend to the transformation of healthcare systems: we provide hospitals with low-carbon molecules and we offer solutions that combine human interaction and digital technologies to better support patients treated at home. This technological expertise is also reflected in our support for the growth of the semiconductor industry. Today, it is a vital industry for many everyday activities, including communication, transportation and even healthcare, and our gas solutions and services make a difference, both in terms of performance and carbon footprint. Lastly, we leverage our long-standing expertise in industrial processes by providing increasingly advanced and innovative solutions to support our customers every day as they work to continuously improve their products.

**B.P.:** Our impact is at the heart of our deliberations and decision-making processes at all levels of the company. Sustainable development is one of the key priorities of our ADVANCE plan and the work of our Board of Directors, which is knowledgeable about this topic and includes an Environment and Society Committee which closely monitors our objectives and our undertakings. Our commitment to sustainability reflects our desire to create a positive impact. We have committed to a 33% reduction in our CO<sub>2</sub> emissions<sup>1</sup> by 2035 through low-carbon hydrogen, CO<sub>2</sub> capture and the electrification of industrial processes. This trajectory is integrated into our investment decisions and the environmental impact of our projects is given careful and exacting consideration. The social aspects (safety, social coverage, diversity) on which we have made progress are also monitored by the Board. We are mindful that our impact also relates to our governance. Our governance must be exemplary and I want to commend the efforts and commitment of our Directors in this regard.

### What are the main challenges in the short term?

**B.P.:** We must adapt to numerous changes, geopolitical tensions, the rise of artificial intelligence and the acceleration of economic cycles. We must become more agile while remaining attentive to emerging trends and weak signals from our various markets to ensure that we can anticipate these transformations. I have the utmost confidence in our values, which serve both as the cornerstones of our business model and as a frame of reference; they must help us move forward and consolidate our position. This is particularly important, given the increasingly urgent need for companies to transform: the transition to a carbon-neutral economy by 2050 starts now. This will involve accelerating our partnerships and the joint development of solutions with industrial and institutional partners, because these challenges are complex and go far beyond the scope of individual companies and countries. Major challenges such as the transport and storage of CO<sub>2</sub>, access to renewable energy and the development of low-carbon hydrogen infrastructure require a collective and coordinated approach. To achieve this, there will need to be a simplified regulatory framework that is tailored to the competitive environment of the future. A pragmatic and flexible approach will facilitate the rapid and efficient

development of these new ecosystems: this will be one of the challenges facing our industries, particularly in Europe.

### What are the priorities in response to these challenges?

**F.J.:** Firstly, we must continue to develop solutions that address the world's challenges and create value – that's the strength and the hallmark of our business model, which has proven itself time and time again. We are also going to enhance our competitiveness by continuing the Group's transformation to achieve improved performance that benefits our customers and patients. We remain firmly committed to the energy transition, despite the changing views of some political and economic stakeholders. This commitment is reflected in our continued efforts to reduce our carbon emissions and support our customers as they work towards decarbonization. Similarly, we continue to focus on healthcare and semiconductors, two strategic sectors with real promise as we prepare for the future.

To put it another way, our priority is to show that, day after day, we are a productive and useful company that is worthy of the trust put in us by all our stakeholders. We will do this by creating value for our employees, customers, patients and shareholders, while striving to make a useful contribution to our world.

<sup>1</sup> Scopes 1 and 2 absolute emissions.

# Highlights

**C**ommercial successes, new investments, large-scale projects, strengthened partnerships, strong performance, and governance changes, — a look back at Air Liquide's key highlights.

## THE GROUP LIFTS ITS MARGIN TARGET TO AN UNPRECEDENTED LEVEL

**Following an excellent performance in 2024**, which featured a record improvement in margin and growth on the back of major commercial successes, Air Liquide decided to raise its operating margin ambition. After doubling the ambition in 2023, Air Liquide moved its goal even higher in 2024 to aim for an unprecedented +200 basis point (bps) increase during the 2025-2026 period, or +460 bps<sup>1</sup> over the 2022-2026 period. The new goal far exceeds the initial objective set under the ADVANCE plan, which targeted a +160 bps increase by 2025.

# +460

**bps over five years** is the new ambition set for the improvement in the Group's operating margin over the 2022-2026 period.

## MAJOR CONTRACTS IN THE SEMICONDUCTOR INDUSTRY

**Air Liquide is investing in two innovative new production units**, one in the United States, and the other in Singapore. They will supply large volumes of ultra-pure nitrogen to major semiconductor manufacturers. The Group also renewed its contract with one of them and will provide high-purity nitrogen for the next 15 years to its existing facilities in New York State, which are set to be transformed through energy efficiency initiatives.

# \$300M

**invested** to build new production units.

## AIR LIQUIDE, OFFICIAL HYDROGEN SUPPORTER OF PARIS 2024

**Air Liquide is proud to have supported the environmental commitments of the Olympic and Paralympic Games Paris 2024** by supplying hydrogen from renewable sources to the official fleet of the Games. The Group, which also provided financial support to enable six high-performance athletes to take part in the Games, is delighted to have left an enduring legacy in the Greater Paris region by building a solid infrastructure to develop hydrogen-based mobility.

# 1M

**km traveled**

**during the Olympic and Paralympic Games Paris 2024**, thanks to the 12 tonnes of hydrogen supplied to the vehicles of the official fleet.

<sup>1</sup> Excluding energy effect.

#### SUCCESSFUL GREEN BOND ISSUANCES

#### TO FINANCE THE ENERGY TRANSITION

**Three years after its inaugural green bond issue**, the Group conducted new issues in 2024 and 2025, illustrating its determination to pair growth with sustainability. For each operation € 500 million were raised under competitive financial conditions and will enable the Group to finance flagship projects in low-carbon hydrogen, CO<sub>2</sub> capture, and low-carbon air gases.

# € 500M

were raised through each green bond issuance, which attracted significant investor interest.

#### HISTORIC INVESTMENT PROJECT TO CREATE

#### A LOW-CARBON GAS PLATFORM IN TEXAS

**The Group has been selected to build a low-carbon industrial gas platform** as part of ExxonMobil's low-carbon hydrogen production project in Baytown, Texas. Pending the final investment decision, Air Liquide would build, own, and operate four large modular air separation units capable of producing 9,000 metric tons of oxygen a day, a significant volume, while reducing the production-related carbon footprint by two-thirds. The future units will also supply up to 6,500 metric tons of nitrogen a day as well as large volumes of argon, krypton, and xenon, enabling the Group to bolster its offering on the rare gases market.

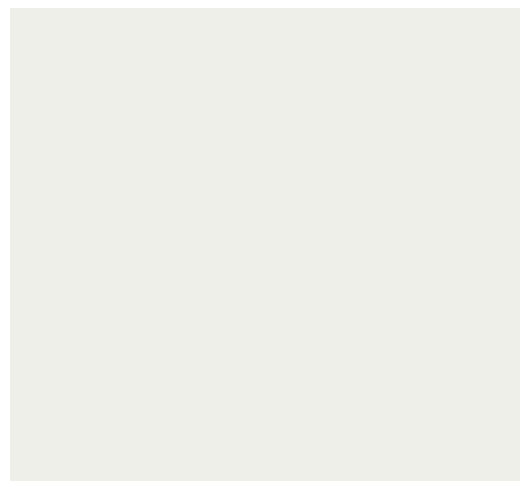
# \$ 850M

in total could be invested, making this the largest industrial investment in Air Liquide's history.

Read more about this project on p.26

#### THE HOME HEALTHCARE ACTIVITY

#### STRENGTHENED IN EUROPE



**Two acquisitions, one in Belgium and one in the Netherlands, will enable Air Liquide to continue expanding its Home Healthcare activities in Europe.** The newly acquired entities deliver home support to 10,000 patients living with respiratory insufficiency or sleep apnea, or requiring infusion or nutrition treatments. Through these acquisitions, the Group is strengthening its presence and broadening its infusion services in both countries. Worldwide, Air Liquide already provides home healthcare to 2 million people living with chronic illnesses and has made Home Healthcare one of its strategic development priorities.

# 2M

patients worldwide including

# 10,000

new patients supported by Air Liquide in Belgium and the Netherlands.

#### SUPPORT FROM THE EUROPEAN UNION FOR THE

#### D'ARTAGNAN CO<sub>2</sub> INFRASTRUCTURE INITIATIVE

**Air Liquide and Dunkerque LNG**, which operates the LNG terminal in Dunkirk, France, have received support from the European Union to build CO<sub>2</sub> transportation and export infrastructure. The aim is to reduce the carbon emissions of the Dunkirk industrial basin in the north of France. The infrastructure will include a pipeline to transport CO<sub>2</sub> from capture facilities to the terminal at the port of Dunkirk, where it will be liquefied and loaded onto ships. D'Artagnan will receive a grant of more than € 160 million through the Connecting Europe Facility for Energy funding program if the project goes ahead.

# 1.5Mt

of CO<sub>2</sub> a year will be handled by the new infrastructure. This will ultimately climb to **up to 4 million tonnes annually**, which is equivalent to more than 5% of French industry's greenhouse gas emissions.

#### EVOLUTION OF THE GROUP'S GOVERNANCE

#### TO FOSTER AGILITY AND PERFORMANCE

**Air Liquide is simplifying its organization** to respond more effectively to new market requirements. Several changes have been made to the Executive Committee, including the appointment of David Prinselaar to head the Group's new single worldwide Industrial Direction. Adam Peters, CEO for North America, has also joined the Executive team in 2024.

Read more about the Executive Committee on p.44

#### STOCKHOLM EXERGI ADOPTS CRYOCAP™ LQ CO<sub>2</sub>

#### LIQUEFACTION TECHNOLOGY

**The energy supplier to the Swedish capital has selected Air Liquide to be part of its Bio-Energy Carbon Capture & Storage (BECCS) project.**

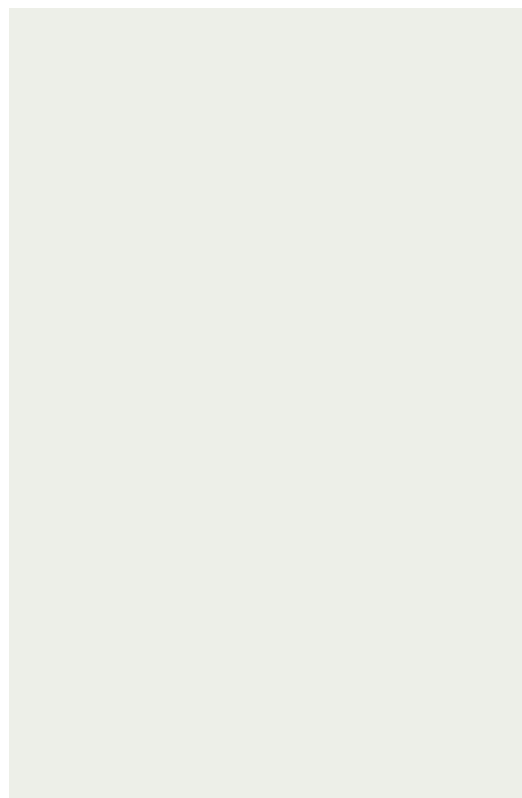
The Cryocap™ LQ CO<sub>2</sub> liquefaction unit supplied by the Group will be one of the world's largest, with a capacity of 3,500 tonnes per day. The liquefied CO<sub>2</sub> will be transported for permanent storage in carbon sinks. The project is being supported by the European Innovation Fund.

# 8 Mt

of CO<sub>2</sub> will be liquefied and stored during the first ten years of operation.

#### ELECTRIFICATION OF TWO OXYGEN

#### PRODUCTION UNITS IN CHINA



**Air Liquide has invested €60 million** to modernize two air separation units in Tianjin, China. The investment will allow the units to run on electrical power, including low-carbon energy, instead of coal-powered steam, which will drive down CO<sub>2</sub> emissions linked to the production of oxygen and other gases.

→ [Read more about this project on p.28](#)

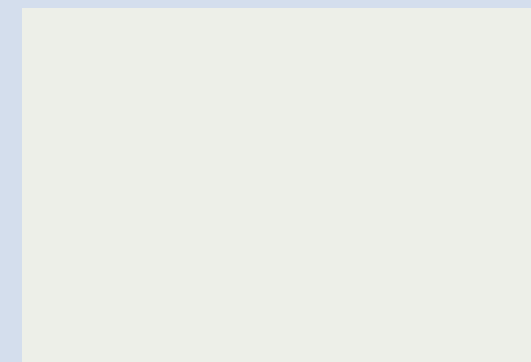
#### MAJOR INVESTMENTS

#### TO SUPPORT EUROPEAN DECARBONIZATION

#### IN PARTNERSHIP WITH TOTAENERGIES

**In early 2025, Air Liquide announced two large-scale electrolyzer projects to produce renewable and low-carbon hydrogen in Europe.**

The first project, ELYgator, is a 200 MW electrolyzer located in Maasvlakte (Rotterdam). It will meet the needs of TotalEnergies' industrial platform, while also serving other customers in Europe's industrial and heavy mobility sectors. In addition, the two partners plan to set up a joint venture to develop a 250 MW electrolyzer to supply the TotalEnergies refinery in the Dutch province of Zeeland. Once completed, these two projects will represent a combined investment of more than € 1 billion and will help to avoid up to 500,000 tonnes of CO<sub>2</sub>-equivalent emissions per year, strengthening the Group's position as a technological leader for low-carbon hydrogen in Europe.



# € 1bn

**will be invested in these projects**, which will make it possible to avoid up to 500,000 tonnes of CO<sub>2</sub>-equivalent emissions per year.



# Air Liquide

## in figures

2024

> 66,500

employees

60

countries

> 4M

customers and patients

900,000

individual shareholders

> €27bn

Group revenue

+2.6%<sup>(1)</sup>

€3.5bn

Net Profit Recurring (Group share)

+11.5%<sup>(2)</sup>

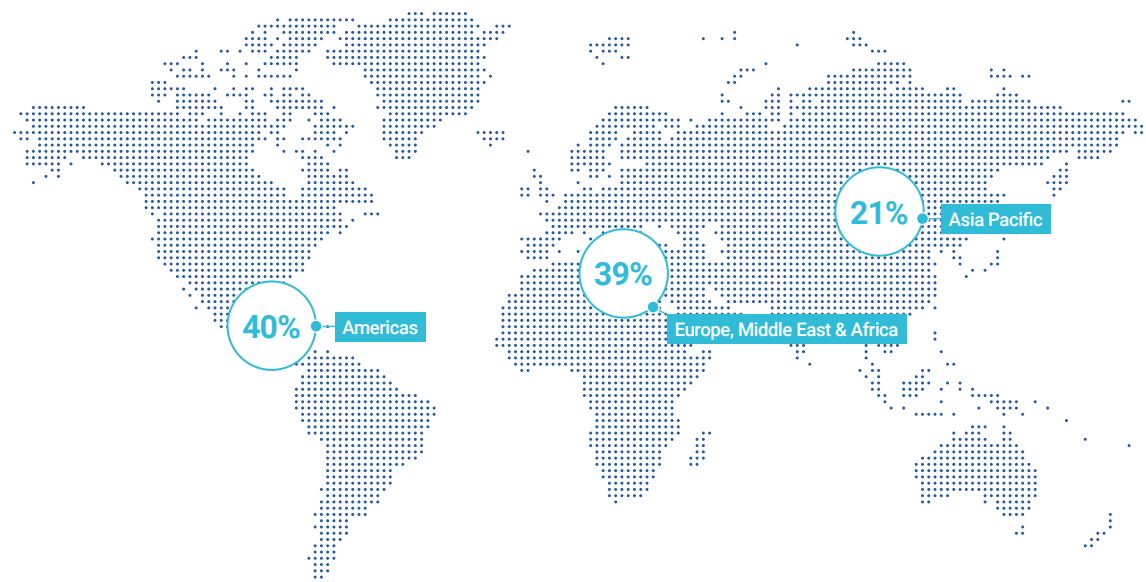
+110 bps

in operating margin<sup>(3)</sup>

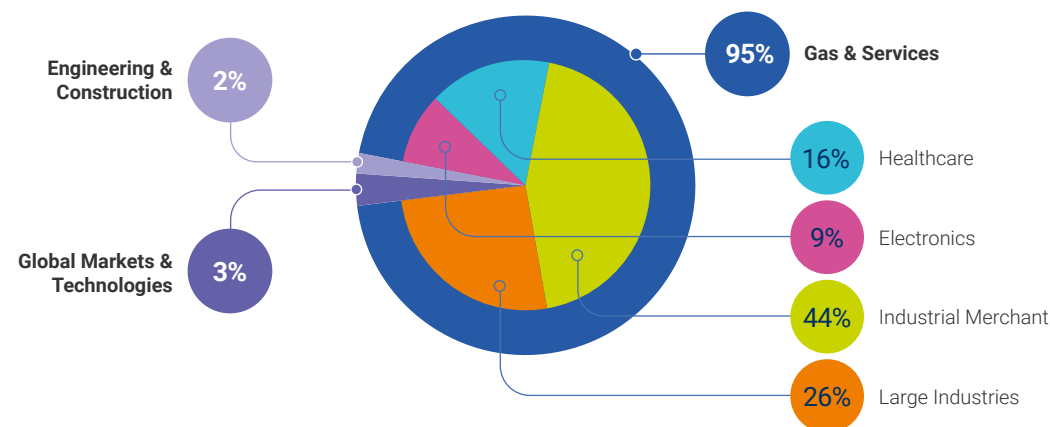
€4.4bn

in investment decisions

### 2024 GAS & SERVICES REVENUE BY GEOGRAPHY



### ACTIVITIES AS A PERCENTAGE OF 2024 GROUP REVENUE



<sup>(1)</sup> On a comparable basis.

<sup>(2)</sup> Excluding exceptional and significant transactions with no impact on recurring operating income.

<sup>(3)</sup> Excluding energy passthrough impact.

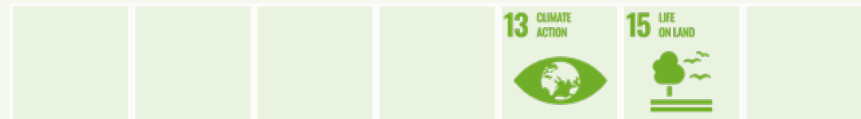
# Sustainable development: our commitments and 2024 results

Performing with impact to tackle global environmental and societal challenges is Air Liquide's core ambition. Built into our strategy via our ADVANCE plan, which combines financial and extra-financial performances, our sustainability goals plot a clear forward trajectory.

The progress made in 2024 on every indicator shows that Air Liquide's determination to act for the environment, health, and wider society is bearing fruit. Now, more than ever, the Group is positioned to be a positive force for change amid the great transitions taking place in the world.

\* Air Liquide has been a signatory of the United Nations Global Compact (UN Global Compact) since 2014 and contributes to certain Sustainable Development Goals (SDGs).

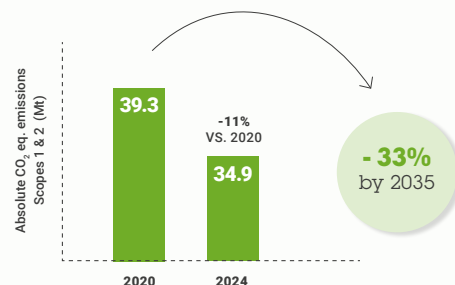
## For the Environment



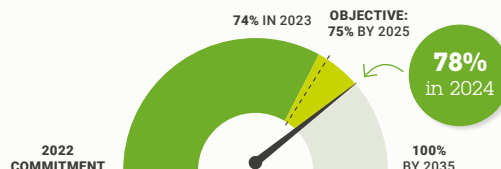
### CO<sub>2</sub> TRAJECTORY

→ By 2035, **- 33% reduction in absolute Scopes 1 and 2 CO<sub>2</sub> emissions<sup>1</sup>** vs. 2020, with an inflection point around 2025.

**Inflection point confirmed** ✓



→ Scope 3: by 2025, **75% of Top 50 customers committed to 2050 Carbon neutrality**, and 100% by 2035.

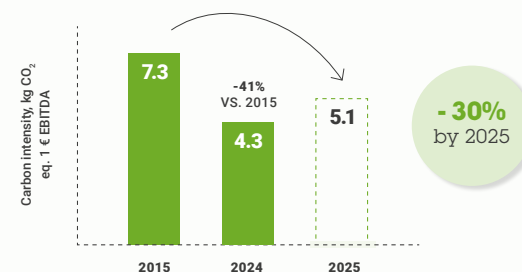


### BIODIVERSITY PRESERVATION

→ **Biodiversity assessment criteria** integrated in the investment process ✓

→ **Develop and implement** an aggregated biodiversity indicator by 2025.

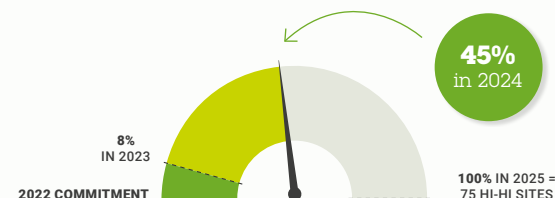
→ By 2025, **- 30% reduction** in Carbon Intensity vs. 2015. **Attained one year in advance** ✓



→ Our commitment, by 2050, **to reach carbon neutrality** across the entire value chain.

### WATER MANAGEMENT

→ By 2025, 100% of **Water Management Plans** implemented in high water consumption and in high water stress areas.



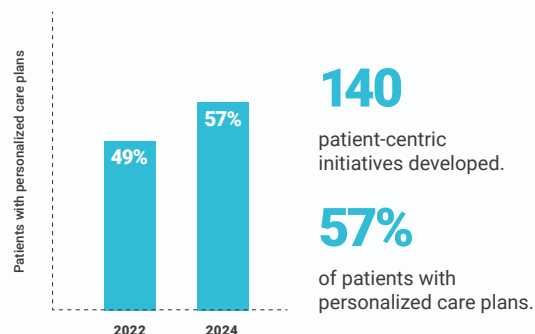
→ Define a **Group standard** for all operations related to the **quality of discharged water** ✓

<sup>1</sup> Scope 1: direct emissions generated by all emission sources owned or controlled by Air Liquide. Scope 2: indirect emissions related to the production of electricity or steam purchased outside the Group.

# For Health

## IN HOME HEALTHCARE

→ Improving the **quality of life of chronic patients at home.**



## IN LOW- AND MIDDLE-INCOME COUNTRIES

→ Facilitating **access to medical oxygen.**

**2.7 million**

Population living in areas where access to medical oxygen was facilitated by Access Oxygen™ since 2017.

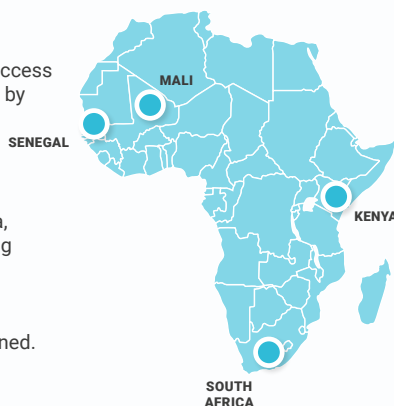
**300**

healthcare centers in South Africa, Senegal, Kenya and Mali benefiting from Access Oxygen™.

**1,800**

healthcare professionals trained.

**1** new country in 2024, Mali

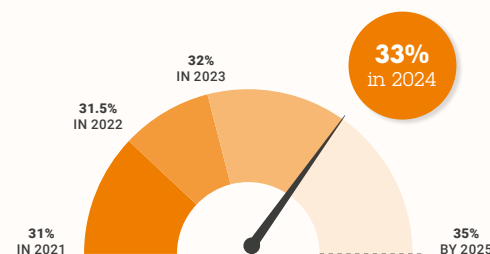


# For All



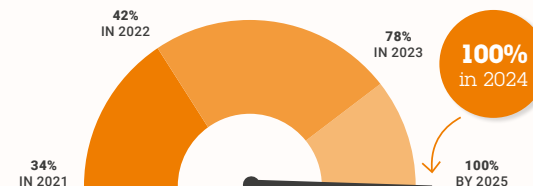
## FOR OUR EMPLOYEES AND COMMUNITIES

→ By 2025, **35% women among the Manager and Professional population.**

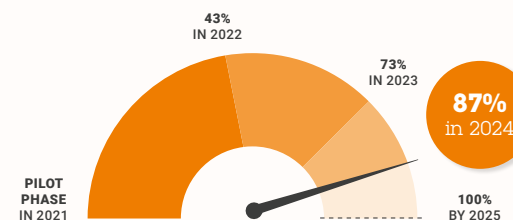


→ By 2025, **100% of employees will have a common basis of care coverage**, including death and disability benefits, health coverage and a minimum 14 weeks of paid maternity leave.

**Objective reached one year in advance** ✓



→ By 2025, **100% of employees** will have access to volunteering opportunities through the Citizen at Work program.



→ **Safety**

**0.7** Lost-Time Accident Frequency Rate<sup>1</sup>, reaching a historically low level.

→ **Air Liquide Foundation**

The Air Liquide Foundation has been supporting fundamental research for **15 years**

focusing on **3 areas**:

- Respiratory health research
- Professional integration
- Solidarity

<sup>1</sup> Number of accidents with at least one day's absence per million hours worked, involving Group employees and temporary workers.

# Joint Interview



**We measure our success by our financial performance and our ability to have a positive impact on the planet and society.”**

**Diana Schillag**

## **What are the takeaways from Air Liquide's 2024 performances?**

**Jérôme Pelletan:** We can be proud of the Group's financial performance. We achieved solid results in a difficult market environment, once again demonstrating the strength of our business model. Our investment decisions are at record levels and passed the €4 billion mark once again this year. Despite the challenging conditions, business opportunities abound, with investment potential running to several billion, particularly in the energy transition and electronics. The Group's outlook holds significant potential.

**Diana Schillag:** Our extra-financial performance was equally impressive. By decreasing our CO<sub>2</sub> emissions by more than 11% relative to 2020 following three years in a row of reductions, we again reasserted our ability to combine financial growth with lower emissions. We published our first Climate Transition Plan, which details our strategy and the levers that will enable us to reach carbon neutrality by 2050.

In terms of diversity, we are making progress toward our ambition of reaching 35% women among managers and professionals by 2025. To achieve this, we implemented a series of targeted initiatives in our geographies. On the social front, we achieved our objective of rolling out a common basis of care coverage one year ahead of schedule, guaranteeing each and every one of our 66,500 employees access to a minimum set of benefits that go beyond local regulations. Finally, we prepared the first round of CSRD<sup>1</sup> reporting. This was a major team effort and forms part of a long-term shift to increase the clarity and transparency of sustainability disclosures.

## **How do you link financial and extra-financial targets?**

**J.P.:** In 2022, we launched ADVANCE, our strategic plan, which ties financial and extra-financial objectives closely together and sets out an ambitious trajectory combining sales growth, profitability, and a reduction in CO<sub>2</sub> emissions.

**Jérôme**

**Pelletan**

Chief Financial Officer,  
Executive Committee  
member

**Diana**

**Schillag**

Group General Secretary  
overseeing Healthcare activity,  
Sustainability and General Control,  
Executive Committee member

<sup>1</sup> Corporate Sustainability Reporting Directive.

On the last of these points, our goals are clear: we want to reduce our Scope 1 and 2 CO<sub>2</sub> emissions<sup>1</sup> by 33% by 2035 and be carbon neutral by 2050. To do this, we are decarbonizing our operations by using low-carbon electricity, making our plants more energy efficient, and deploying our CO<sub>2</sub> capture technologies. At the same time, we are developing low-carbon solutions to support our customers in their own transitions. We believe that, to have a positive impact, it is critical to perform well financially, because our credibility is linked to our ability to fund our investments – including in the energy transition – and to continue operating over the long run. The same goes on the sustainability front, where our commitments bind us, while simultaneously being a source of shared progress, motivation, and pride.

### **In today's environment, what are your strategic priorities for sustainable development?**

D.S.: Our commitments to the environment, health, and society remain intact. The economic, geopolitical, and even regulatory landscape is shifting, certainly, but we remain ambitious and engaged, taking the long view that is our hallmark. While political climates can be hard to read and trends may vary regionally, Air Liquide has investment opportunities related to the energy transition in all geographies. In this context, we act with discernment and agility, adapting our approach to local specificities to maximize our impact. Our global presence, combined with our local roots, which keep us close to the needs of our customers, gives us valuable resilience. In addition, we are convinced of the role that large companies must play in meeting society's expectations, particularly in times of uncertainty. Our Group actively contributes to providing answers to contemporary challenges, as it has always done, by offering concrete and useful solutions.

### **How much do sustainability objectives influence the Group's investment decisions?**

J.P.: At Air Liquide, we take a responsible approach to investing. Every new project is assessed based on its business performance and its environmental

impact. Since 2022, our investment decisions have factored in both the future financial returns of projects and their CO<sub>2</sub> footprints. We have set up a specific governance process to monitor our emissions reduction goals by allocating carbon budgets to each region, just as we do with investment budgets. This is helping us to stay on track, anticipate risks, and take opportunities linked to the transition to a low-carbon industry, by prioritizing projects with positive impact.

### **What is the Group's strategy to combine growth and impact?**

J.P.: Our vision is based on sustainable growth that combines profitability with value creation over the long term. The Group's growth drivers, which include the energy transition, healthcare, and electronics, remain at the heart of our strategy. We are investing in the production of low-carbon, renewable hydrogen and in CO<sub>2</sub> capture solutions to reduce global emissions attributable to our own industrial processes as well as those of our customers. In semiconductors, we will continue to leverage our leadership position in the sector to support technological progress and the exponential rise of artificial intelligence, whose growth will be driven by mounting demand for next-generation chips. In healthcare, we are pursuing initiatives to respond to the growing needs of the sector, delivering ever more personalized care solutions to the many patients treated at home and in hospital settings. We are therefore clearly positioned in growth markets where our solutions and technologies can make a positive contribution, thanks to the expertise and incredible dedication of our talented teams.

D.S.: At Air Liquide, we measure our success by our financial performance and by our ability to have a positive impact on the planet and society. Our molecules and technological solutions are vital to meeting the great challenges of our time. From fighting climate change to accelerating the energy transition, from building more resilient healthcare systems to improving the care delivered to patients, Air Liquide has a decisive part to play, alongside our customers and society as a whole. We know that a collective effort is needed to make the shift. Air Liquide is determined and already at work to seize opportunities, bring stakeholders together, and generate a positive impact for industry and wider society.



**Every new project is assessed based on its economic performance and its environmental impact.”**

**Jérôme Pelletan**

<sup>1</sup> Direct emissions generated by all emissions sources owned or controlled by Air Liquide (Scope 1) and indirect emissions generated by the production of electricity and steam purchased outside the Group (Scope 2).

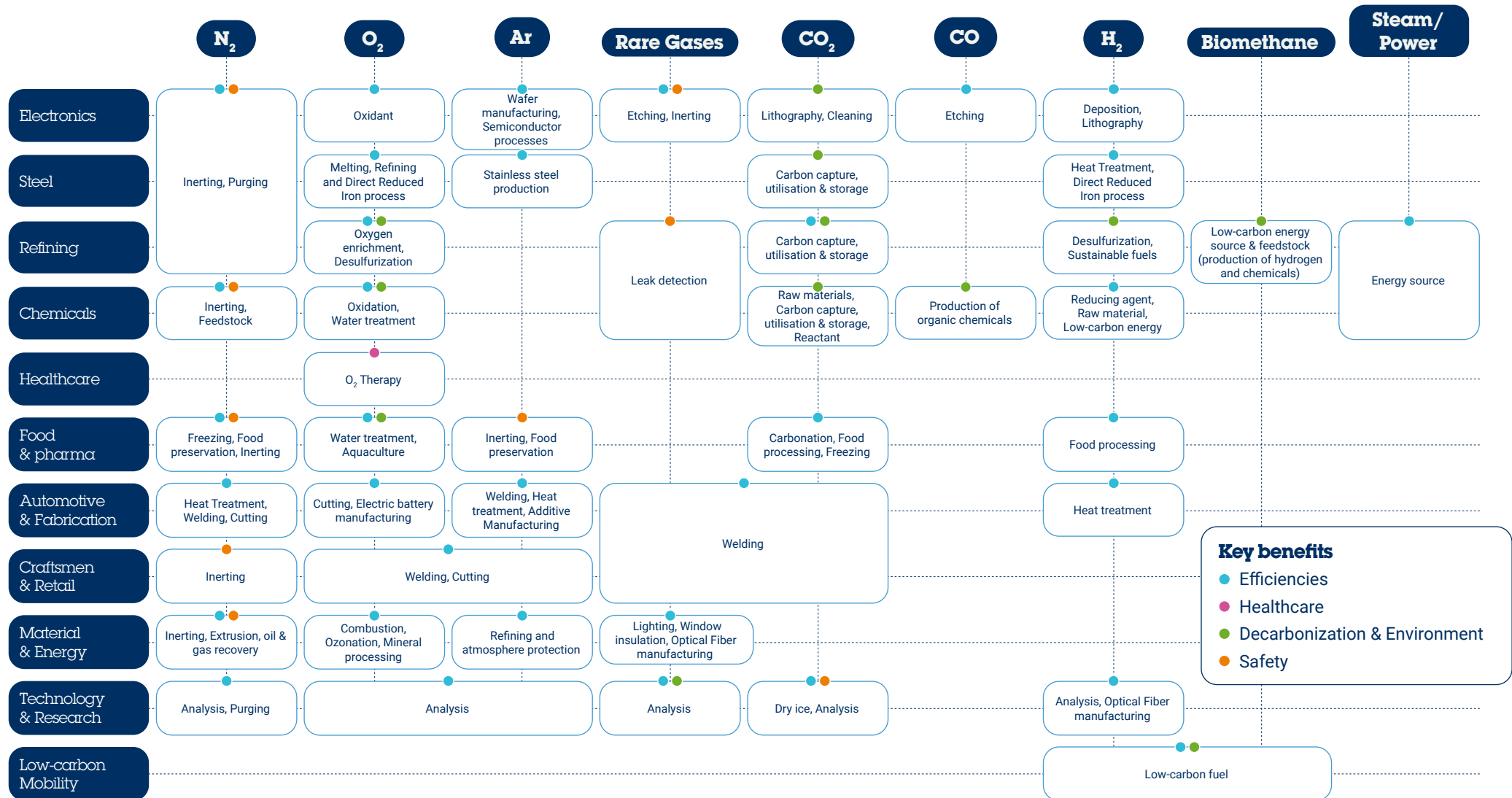
# Our model

**P**resent in every region, Air Liquide has built a robust and flexible model that is capable of evolving with the changes taking place in the world to serve customers and patients as effectively as possible. Our model is based on a long-term vision centered on value creation and utility, thanks to the limitless potential of essential molecules, coupled with the technical ingenuity and dedication of our employees.

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# Our molecules, essential to industry and healthcare

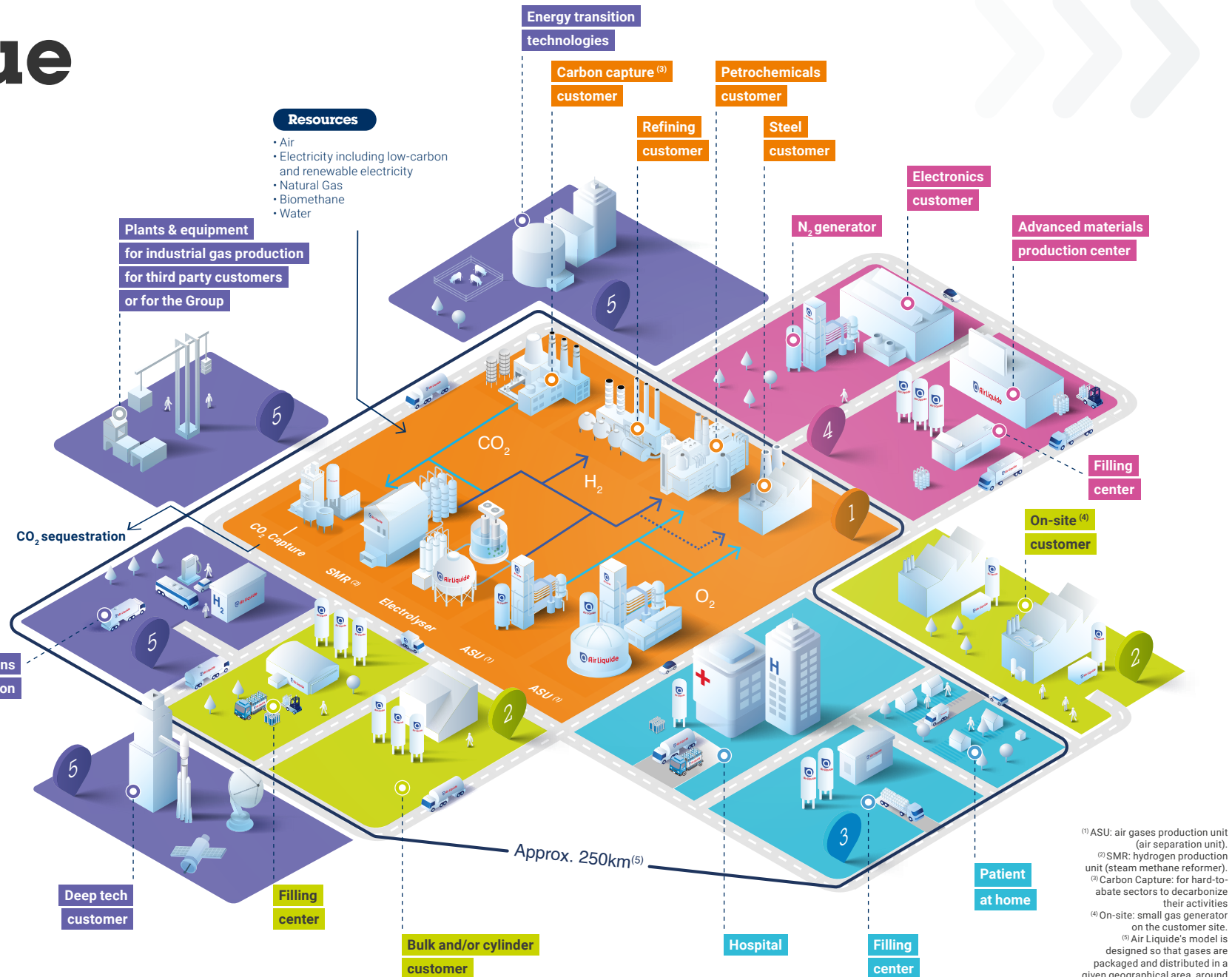
Our molecules  
deliver benefits  
across a very broad  
range of sectors.





# A unique model

**R**esilience, innovation and long-term value creation are the three strengths of Air Liquide's business model, which relies on the diversity of its activities serving almost all sectors of the economy. The strong integration of the various activities allows the Group to create numerous synergies that are not limited to the industrial aspect, but also include technological expertise, innovation, human resources and financial management. It thus focuses on key industrial basins from which the Group can develop. This specificity of Air Liquide's business model is a pillar on which the Group relies to generate growth and performance.





## Resources

### Natural resources

Air  
Electricity including **40%** of low-carbon and renewable electricity  
Natural gas  
Biomethane  
Water

### Human resources

~ **66,500** employees  
**900,000** shareholders holding **33%** of the capital  
**80,000** suppliers

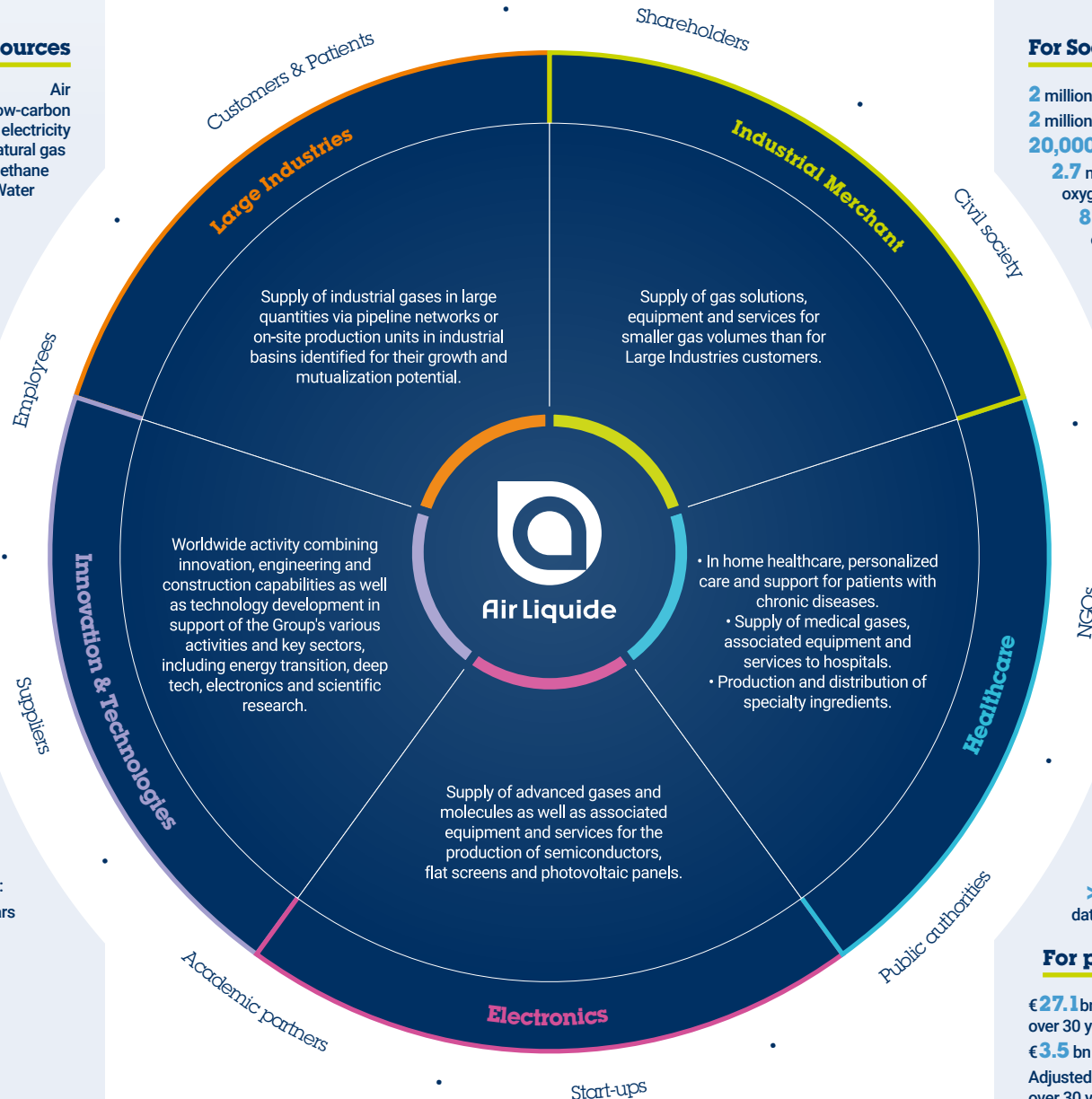
### Technological resources

**350** strategic partnerships  
Portfolio of technologies for energy transition (CCS, Electrolyzers, ATR...)  
**600** production units  
**6** Innovation & Technologies campuses  
**More than 3,000** employees work in entities dedicated to innovation  
**€309M** of innovation spending  
~ **15,000** patents  
**3.5** billion data points collected each day

### Financial resources

**€4.4bn** of investment decisions  
**€6.5bn** of cash flow from operating activities before changes in working capital:  
**+7.1%** on average over 30 years

## Activities



## Value creation

### For Society

**2** million industrial customers  
**2** million patients treated at home  
**20,000** hospitals and clinics served  
**2.7** million people have had easier access to medical oxygen thanks to Access Oxygen™  
**87%** of employees have access to volunteer opportunities as part of the Citizen at Work program  
**90%**: Customer satisfaction rate  
~ **600** projects supported by the Air Liquide Foundation for over 15 years

### For the Environment

**-11%** reduction of CO<sub>2</sub> emissions compared to 2020<sup>1</sup>  
**2,500** GWh of new renewable and low-carbon power purchase agreements secured

### For employees

**0.7**: lost-time accidents frequency rate  
**33%** of women among managers and professionals and **23.7%** among senior executives  
**14.2**: average number of training hours per year and per employee

### For innovation

**40** start-ups accompanied by ALIAD, the Group's capital venture entity, since its creation in 2013  
**> 500** use cases, products and programs using data and artificial intelligence

### For performance

**€27.1bn** of Group revenue: **+ 5.9%** on average over 30 years  
**€3.5 bn** of Net Profit  
Adjusted dividend per share: **+8.8%** on average over 30 years

2024 data

<sup>1</sup>Scope 1 and 2 emissions.

# Innovation, driving our impact

**B**orn in 1902 from an invention, Air Liquide has naturally made innovation the driving force behind its growth strategy. To tackle today's and tomorrow's challenges, our teams turn intuitions into cutting-edge technologies and practical solutions. By harnessing these innovations, the Group optimizes its own and its customers' industrial processes, accelerates the energy transition, contributes to technological progress, and improves patients' quality of life.

## Our key levers of action for a sustainable growth



**Decarbonization:**  
reduce CO<sub>2</sub> emissions to limit global warming and accelerate the energy transition through the use of hydrogen in industry and transport.



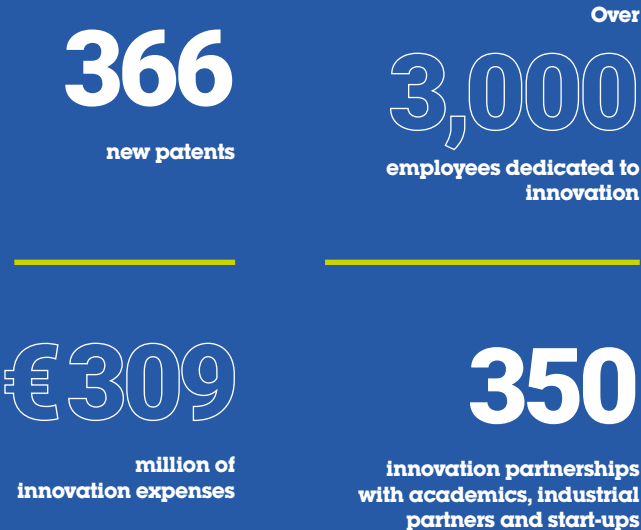
**Modernization of industry:**  
continue the progress dynamic and address sovereignty challenges.



**Semiconductors:**  
support the responsible development of digital technologies.



**Transformation of healthcare:**  
contribute to the improvement of patients' quality of life.



2024 data



**Thanks to the innovative capabilities of our teams and our technological excellence,**

**we develop solutions that shape the future. From healthcare to electronics and decarbonization, our expertise enables us to create high-impact technologies for our customers and patients in a wide range of areas.”**



Armelle

Levieux

Group Vice President Innovation & Technology,  
member of the Executive Committee

# Focus on promising technological solutions

## DECARBONIZING THE GLASS INDUSTRY USING HYDROGEN

“My team is conducting a series of combustion tests under real-life conditions to replace natural gas with hydrogen to reduce the CO<sub>2</sub> emissions of the glass industry. We are developing a technology to combust hydrogen along with oxygen, which will enable glass furnaces to emit only water vapor. SDG Pharma, a manufacturer of pharmaceutical-grade glass containers, contacted us to test our technology at its site, as it is looking for practical solutions to lower its furnace's CO<sub>2</sub> emissions.”

→ **Anna-Maria Pubill Melsió,**  
Combustion Team Leader, Innovation Campus Paris, Air Liquide

## UNLOCKING HYDROGEN'S POTENTIAL

“The ammonia-cracking technology that we have developed represents a major step forward in the production of low-carbon hydrogen. Right now, the challenge with hydrogen is to deploy it at a large scale. With this in mind, we tested and optimized our technology at a pilot plant in Antwerp, Belgium. The pilot is the first step towards the construction of an industrial-scale renewable ammonia cracking plant, for which the Group has obtained support from the European Innovation Fund. It will contribute to the development of an ammonia-based low-carbon hydrogen production and distribution industry in Europe.”

→ **Dieter Ulber,**  
Hyco Technologies Director, Air Liquide

<sup>1</sup> Proton Exchange Membrane.

## RELIABILITY AND SAFETY AT THE HEART OF SUBLEEM™,

### AN INNOVATION FOR SEMICONDUCTORS

“In 2024, Air Liquide launched Subleem™, a new solution combining solid precursors and distribution systems for semiconductor manufacturing. Precursors are the ultra-pure materials needed to create electronic chip components, which are deposited layer by layer with extreme precision, measured to the nanometer. Our new distribution systems convert solid precursors directly and on a large scale into gas phase through sublimation, a first in the industry. Subleem™ ensures guaranteed supply, delivering an uninterrupted, reliable, and high flow of vaporized precursors during the semiconductor manufacturing process. This is especially valuable in the production of the most advanced logic and memory chips, which will be integrated in tomorrow's electronic devices.”

→ **Nicolas Blasco,**  
Senior Expert Electronics Technology Integration, Air Liquide

## JOINING FORCES TO PRODUCE ELECTROLYZERS

“Accelerating the deployment of industrial electrolyzers is indispensable to scale up the production of low-carbon and renewable hydrogen. The gigafactory created in collaboration with Siemens Energy enables us to bring together complementary expertise for the mass production of PEM<sup>1</sup> modules that are needed to build electrolyzers. This enables us to scale up the development of low-carbon and renewable hydrogen production units at a competitive cost. After the inauguration of the PEM electrolyzer in Oberhausen (Germany) in 2024, this collaboration will reach a new milestone with the Air Liquide Normand'Hy project in France, which is a major contribution to the energy transition in Europe.”

→ **Marie-Khuny Khy,**  
Product Line Director Electrolysis, Air Liquide

## A thriving ecosystem

Air Liquide's innovation approach is part of an open and global ecosystem. It is supported by our 5 Innovation Campuses in Europe, the United States, and Asia, and by the Campus Technologies Grenoble in France.

Alongside our scientific and industrial partners, Air Liquide's R&D teams are working actively to constantly deepen the Group's knowledge of essential small molecules in order to harness their full potential and provide new solutions to the challenges facing industry, high technology, and healthcare.

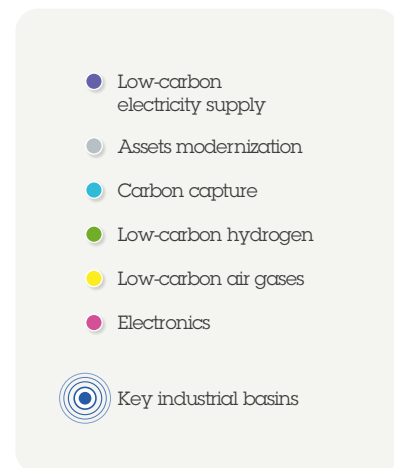
The Group's innovation is also nourished by technologies developed by promising start-ups. These may get support from ALIAD, Air Liquide's venture capital arm, or from Accelair, our start-up accelerator, which provides them with experimentation spaces and a support program. These two entities help start-ups continue their growth and bring their technologies to market, with assistance from Air Liquide experts.

# Our advances

**T**he energy transition, the digital revolution, and the transformation of healthcare systems are some of Air Liquide's strategic levers to drive long-term growth. To help meet these societal challenges, the Group leverages its know-how, technological expertise, and ability to anticipate the specific and emerging needs of customers and patients. Spotlight on flagship projects — operational, recently launched, or under development — whose scale and impact are helping shape the future.

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# Our major advances worldwide



<sup>1</sup> Pending final investment decision.

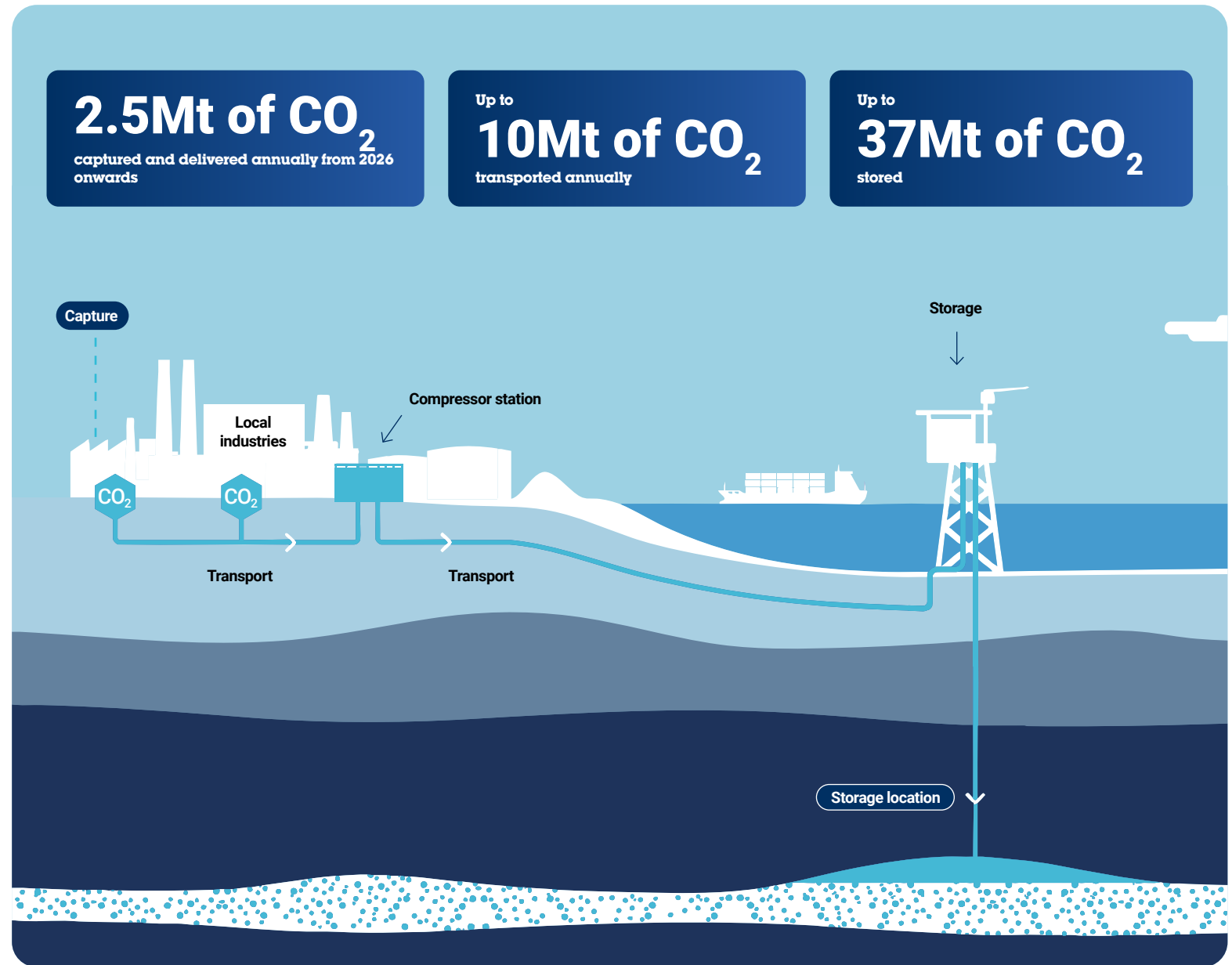
<sup>2</sup> In construction.

<sup>3</sup> In execution.

<sup>4</sup> In operation.

## In Rotterdam, a CO<sub>2</sub> Transportation and Storage Project to decarbonize European industry

The Porthos project is a public-private infrastructure initiative designed for CO<sub>2</sub> reduction in the largest industrial port in Europe and to set a standard for other industrial hubs to follow. Air Liquide is one of four industrial launching customers for this project. Its goal: substantially reduce the site's CO<sub>2</sub> emissions thanks to an ambitious carbon capture and storage (CCS) solution.



## Decarbonization without deindustrialization

The Port of Rotterdam is the largest port in Europe and the most important energy transportation hub on the continent. Generating €30.6 billion, 3.2% of the Dutch gross domestic product (GDP), and over 193,000 direct and indirect jobs<sup>1</sup>, the port area is responsible for around 15% of CO<sub>2</sub> emissions in the Netherlands<sup>2</sup>. That's why the Porthos CO<sub>2</sub> Transportation and Storage project is at the heart of the new CO<sub>2</sub> infrastructure of the Rotterdam region. Construction of the project started in early 2024 for completion in 2026. Air Liquide is playing a leading role in the development of carbon capture, enabling the production of hydrogen with a significantly lower carbon footprint.

At the site of Air Liquide's hydrogen plant in Rozenburg, work is underway to install a new CRYOCAP™ carbon capture facility. Using a low temperature process to condense and separate carbon dioxide during the production of hydrogen, Air Liquide's CRYOCAP™ technology will reduce the site's overall emissions by half.

## Achieving CO<sub>2</sub> emissions reduction targets with a strong ecosystem

Recognized as a Project of Common Interest by the European Union, the project was made possible with a CEF<sup>3</sup> grant from the European Commission. Porthos represents a €1.3 billion investment, undertaken by the Port of Rotterdam Authority, Gasunie and Energie Beheer Nederland (EBN)<sup>4</sup> through a public-private initiative. The project will deliver the required infrastructure to collect and transport captured CO<sub>2</sub> from industrial sites in the port area for permanent storage in depleted gas fields under the North Sea.

Four industrial launching customers, including Air Liquide, have committed to the Porthos project. The infrastructure will transport and store 2.5 million tonnes of CO<sub>2</sub> annually, with operations set to begin in 2026. But this is just the start. The pipeline has been designed for future expansion and can transport up to 10 million tonnes per year.

Air Liquide has been developing expert knowledge of the CO<sub>2</sub> value chain with proprietary and operational technologies since 2006, but the Porthos project is the first to store CO<sub>2</sub> in a depleted gas reservoir. As such, it will provide important learnings for the CCS players involved. Air Liquide's objective is to accelerate the development of carbon capture and storage on a global scale, with projects underway in Europe, North America and Asia.

While accelerating the deployment of renewable energy is essential, CCS is a key solution for decarbonizing hard-to-abate industries, such as cement, steel, and chemicals, to reach carbon neutrality by 2050.

👉 **We are transforming the port of Rotterdam into a sustainable, low emissions area in line with the European Industrial Carbon Management Strategy. We have around 80 ongoing projects, so infrastructure is key. Facilitating CCS is one of the solutions to help industries in hard-to-abate sectors shorten the time gap as they transition away from fossil fuels."**

→ Jeroen Steens,  
Commercial Delivery Director for the Port of Rotterdam

👉 **It is very important to work with established industrial players like Air Liquide, who bring their experience and expertise on CO<sub>2</sub> technology and operations. Their contribution is highly appreciated and very valuable to the development of the Porthos system."**

→ Hans Meeuwssen,  
Project Director of Porthos

<sup>1</sup> Port of Rotterdam's facts and figures.

<sup>2</sup> Port of Rotterdam.

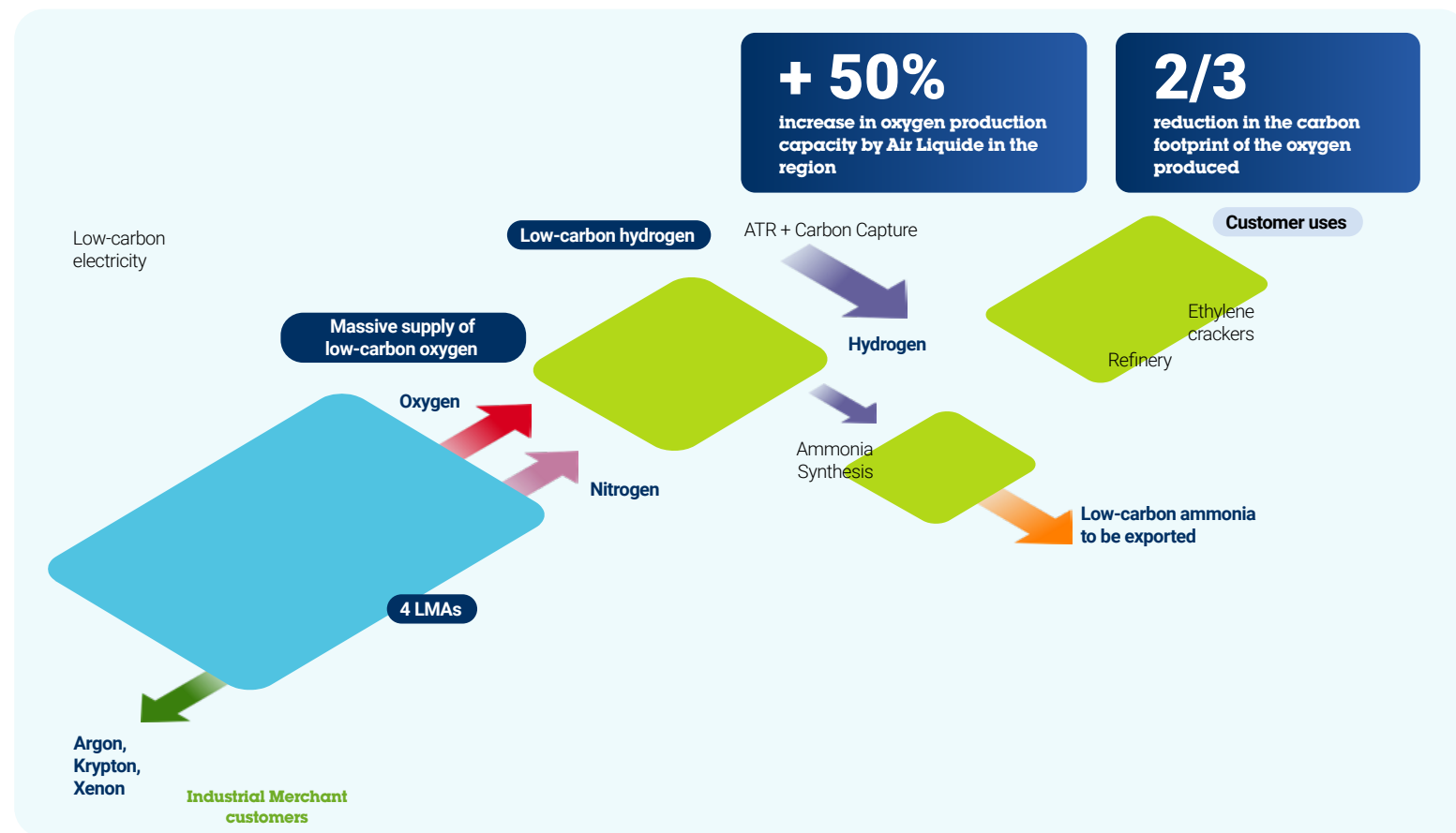
<sup>3</sup> Connecting Europe Facility (CEF) is a funding program for projects in the fields of energy, transportation, and digital infrastructure.

<sup>4</sup> The Dutch state participation in Oil & Gas.

## An investment project for low-carbon oxygen production in the Americas

Air Liquide could invest up to 850 million dollars to create a low-carbon industrial gas platform in Baytown, Texas, as part of a long-term agreement with ExxonMobil.

The goal is to build, own, and operate four large modular air separation units (LMAs) at the customer's facility. Pending the final investment decision, this major decarbonization project would be the largest industrial investment in Air Liquide's history.



Under the project, Air Liquide would operate four LMAs at the facility owned by ExxonMobil, a strategic customer of the Group for 30 years. The new units are capable of supplying a record daily volume of 9,000 metric tons of oxygen, which would be used by ExxonMobil's autothermal reformers (ATR) to produce low-carbon hydrogen. The LMA units would also supply up to 6,500 metric tons of nitrogen per day to support the production of ammonia as a source of low-carbon energy for the export market.

In addition, the LMA units would produce large amounts of argon, krypton, and xenon, enabling the Group to strengthen its offering to customers in the rare gases market.

This trailblazing project will support ExxonMobil in its aim to build the world's largest low-carbon hydrogen platform in Baytown. The facility is expected to produce 1 billion cubic feet of low-carbon hydrogen every day and more than 1 million tons of ammonia every year, while capturing and permanently storing 7 million tons of CO<sub>2</sub> annually.

For Air Liquide, the project also has strategic significance, as the new LMA units will raise the Group's oxygen production capacity by 50% in the region, while reducing the CO<sub>2</sub> footprint per ton of oxygen by two-thirds.



## ECO ORIGIN™: a range of low-carbon industrial and medical gases

With ECO ORIGIN™, Air Liquide is supporting customers that want to reduce their environmental impact by offering them low-carbon medical and industrial gases produced using 100% renewable electricity and energy sources.

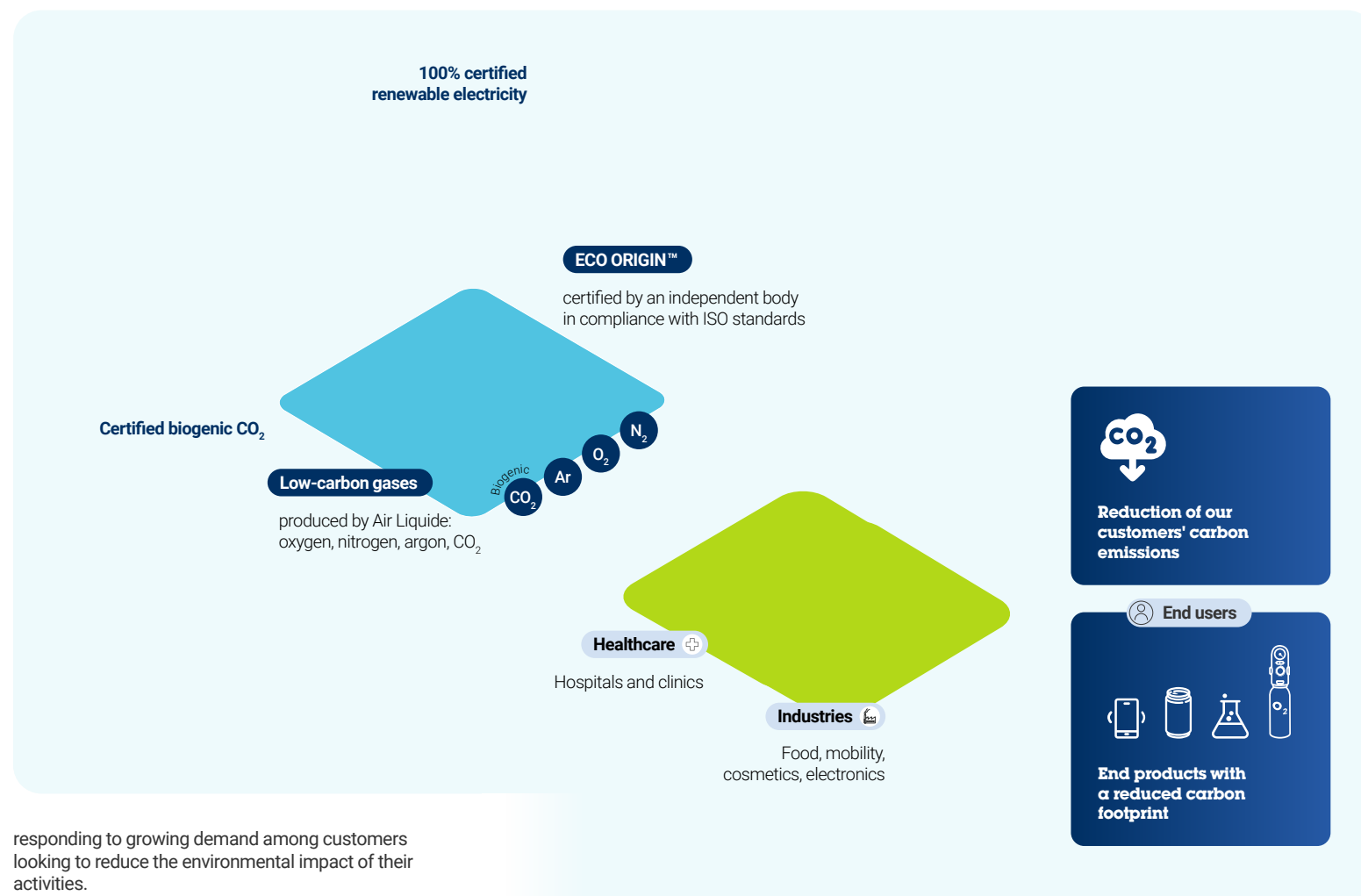
Customers from a wide array of industries, including food, automotive, aerospace, pharmaceutical, and electronics, as well as hospitals and clinics, have chosen this unique range.

Gases such as oxygen, nitrogen, argon, and carbon dioxide are essential to many industrial manufacturing processes and hospital treatments. But the production of these gases counts towards the carbon footprints of our customers. For this reason, Air Liquide has developed ECO ORIGIN™, a range of certified low-carbon gases produced from renewable sources such as biomass, wind power, solar power, and hydropower. Traceability of the gases' carbon footprint, from production to delivery, is certified by an independent body in compliance with ISO standards. ECO ORIGIN™ enables customers to significantly reduce their Scope 1 and 3<sup>1</sup> emissions with no impact on the quality of gas supplied. In this way, Air Liquide is

responding to growing demand among customers looking to reduce the environmental impact of their activities.

Customers such as Michelin and Gruppo San Pellegrino have already chosen to include ECO ORIGIN™ in their strategies aimed at producing locally and sustainably. And less than a year after the solution was launched for healthcare customers, contracts have been signed with 20 hospitals and clinics in six European countries, as well as Brazil.

<sup>1</sup> Scope 3 comprises all greenhouse gas emissions generated upstream and downstream in the organization's value chain.

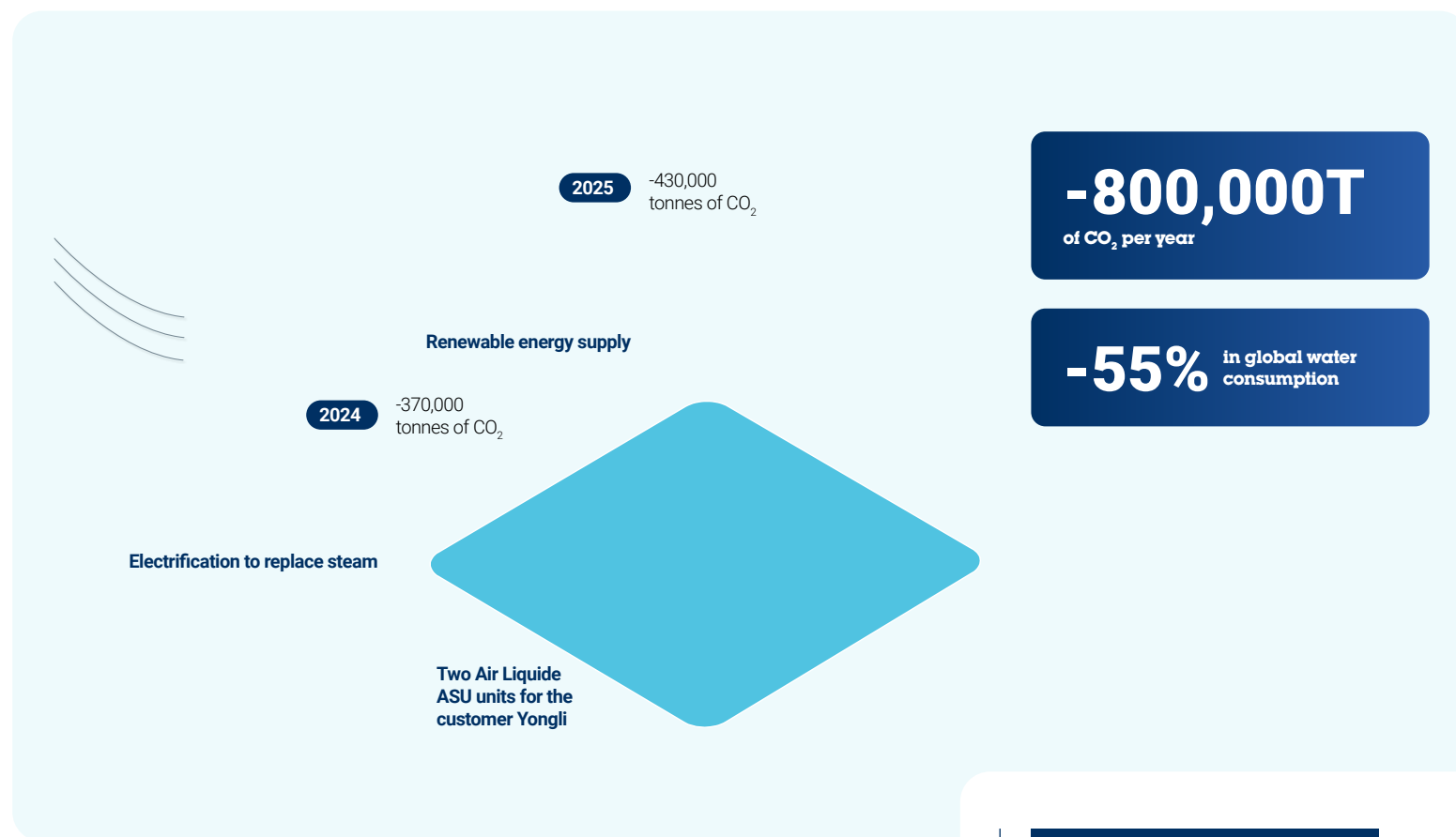


“ECO ORIGIN™ is winning over more and more of our customers, as it reduces Scope 3<sup>1</sup> emissions attributable to the product value chain, as well as Scope 1 emissions corresponding to the CO<sub>2</sub> emitted during production.”

→ Christel Champinot,  
Climate Program Manager, Industrial Merchant activity, Air Liquide

## Electrification and renewable energy in Tianjin

Using the right decarbonization levers depending on the site, in order to have the greatest impact – that is what Air Liquide has achieved in Tianjin, China. In less than two years, the Group has lowered CO<sub>2</sub> emissions at two oxygen production sites in a major industrial basin. Two key steps were at the heart of the project: both sites modernized their assets to reduce energy and are now sourced of low-carbon electricity following the signature of a multi-year Power Purchase Agreement (PPA).



Air Liquide's decarbonization strategy includes three main levers: asset modernization, sourcing of massive amounts of low-carbon electricity and deployment of carbon capture and storage technologies at its plants.

In Tianjin, the Group was able to combine two of these levers in a project carried out with its customer, Tianjin Bohua Yongli Chemical Industry, as part of the renewal of industrial gas supply for two air separation units (ASUs) that produce 4,000 tonnes of oxygen every day, mainly for the chemicals sector.

Step one was to electrify the site, which was previously powered by steam produced by coal based boilers. Besides reducing the carbon footprint by 370,000 tonnes of CO<sub>2</sub> a year, this also cut water consumption by over half.

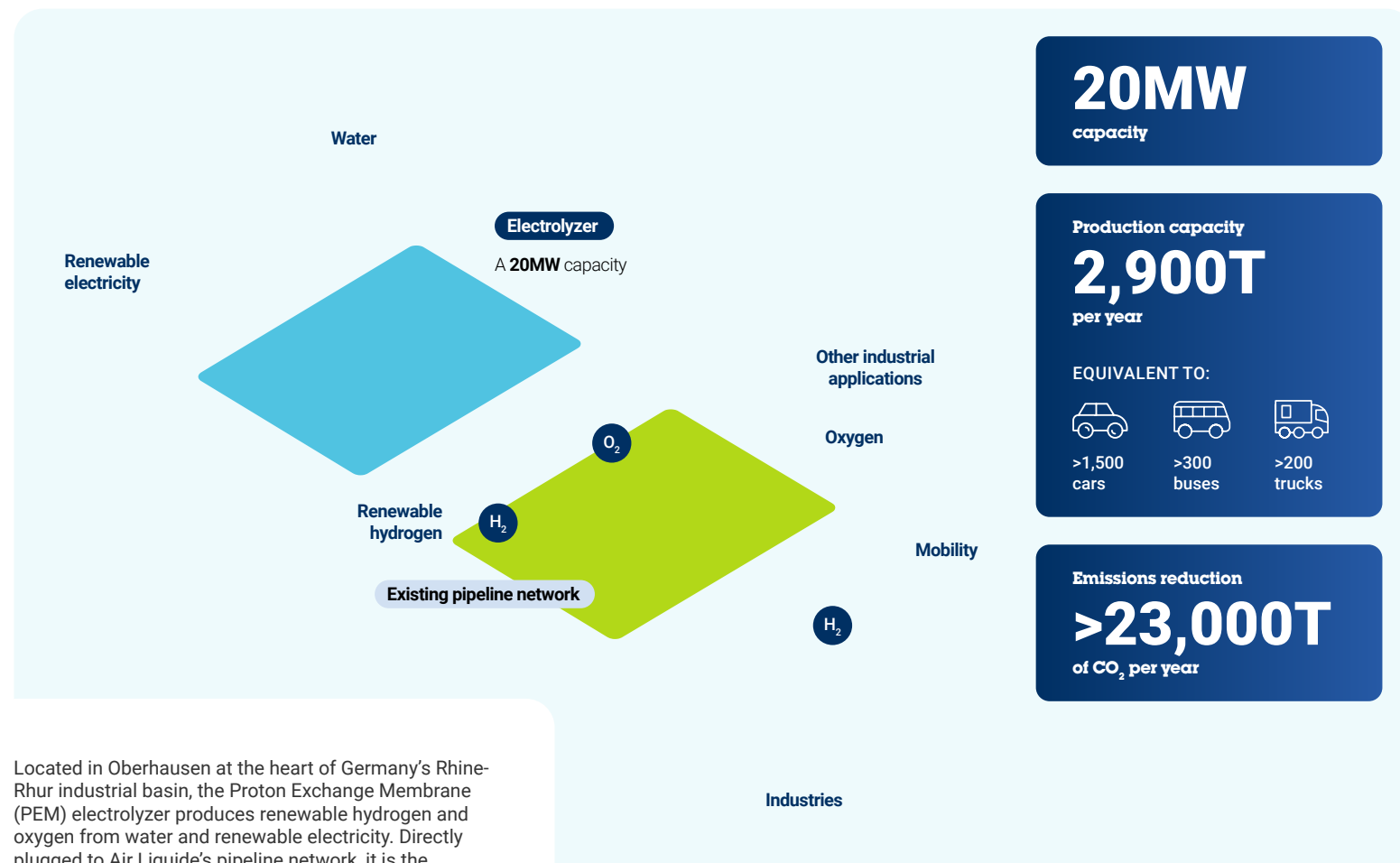
Step two was accomplished at the end of 2024 with the signature of a multi-year PPA, paving the way for CO<sub>2</sub> to be reduced annually by a further 430,000 tonnes starting in January 2025. In total, the two projects will bring down the carbon footprint by 800,000 tonnes of CO<sub>2</sub> every year.

### Record volumes of low-carbon and renewable electricity secured in 2024 under PPAs

In 2024, Air Liquide signed a record amount of multi-year power purchase agreements across Asia, Europe, and South America, adding more than 2,500 GWh per year of low-carbon and renewable electricity to previously secured capacities. These PPAs, most of which are effective from January 2025, will allow Air Liquide to decarbonize its existing plants and support the Group's future decarbonized growth. Adding to previously signed PPAs, this marks an additional significant step towards Air Liquide's commitment to achieving carbon neutrality by 2050.

## An electrolyzer to accelerate the decarbonization of German industry

In 2024, Air Liquide launched a 20MW electrolyzer to produce renewable hydrogen in Oberhausen, Germany. The electrolyzer, which is now connected to Air Liquide's pipeline network, is gradually supplying hydrogen to local industrial and mobility customers. This project represents a big step forward in decarbonizing the Rhine-Rhur industrial basin. It also demonstrates the power of the collective drive to develop the hydrogen industry, which is being undertaken notably in partnership with Siemens Energy and with the backing of the German government.



Located in Oberhausen at the heart of Germany's Rhine-Rhur industrial basin, the Proton Exchange Membrane (PEM) electrolyzer produces renewable hydrogen and oxygen from water and renewable electricity. Directly plugged to Air Liquide's pipeline network, it is the largest electrolyzer in Germany to be connected to an existing infrastructure and is capable of producing up to 2,900 tons of hydrogen a year – equivalent to the annual consumption of 300 buses.

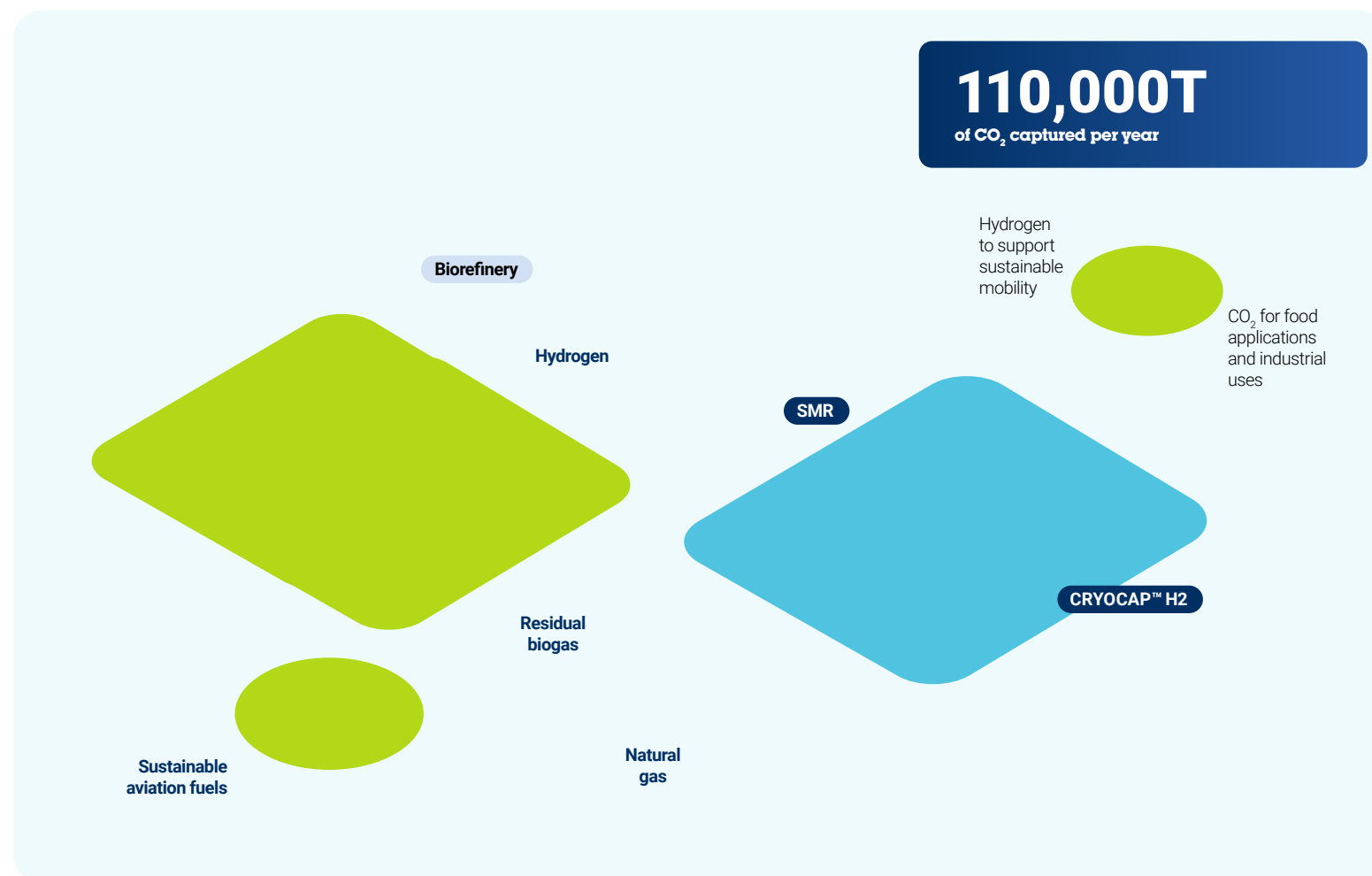
While it has received € 10.9 million in funding from the German Federal Ministry for the Economy and Climate Protection, the electrolyzer is also the fruit of a private partnership with Siemens Energy. The PEM modules used on the site were manufactured at the gigafactory built by Air Liquide and Siemens Energy in Berlin. By mass manufacturing electrolyzer components, this joint venture is paving the way for low-carbon and renewable hydrogen to be produced at an industrial scale and a competitive cost.

🗨️ **The new electrolyzer will accelerate the decarbonization of key industries in North Rhine-Westphalia and promote low-carbon mobility in this densely populated region. This shows what can be accomplished when authorities and corporations work together to achieve a common goal."**

➔ Sylvie Villepontoux,  
CEO of Air Liquide Central Europe Cluster

## Renewable and low-carbon hydrogen for TotalEnergies' Grandpuits biorefinery

As part of the conversion of TotalEnergies' Grandpuits facility into a biorefinery, Air Liquide is building a renewable and low-carbon hydrogen production unit with an annual capacity of more than 20,000 tonnes. It will use biogases emitted by the biorefinery to partially replace the natural gas traditionally used and will integrate Air Liquide's CRYOCAP™ CO<sub>2</sub> capture technology. The hydrogen produced will be used to produce sustainable aviation fuel.



Air Liquide has invested over €130 million in a new renewable and low-carbon hydrogen production unit, which is helping reduce the carbon emissions of the TotalEnergies' Grandpuits platform. The project integrates Air Liquide's SMR-X™ and CRYOCAP™ proprietary technologies, the latter making it possible to capture up to 110,000 tonnes of CO<sub>2</sub> every year for reuse in food and industrial applications.

The hydrogen will be used to produce sustainable aviation fuel and could meet clean mobility needs in the Ile-de-France region. Through this collaboration, Air Liquide and TotalEnergies are pursuing a sustainable and circular economy approach, consistent with the goal of reaching carbon neutrality that both groups have set for 2050.

Following the signature of this long-term contract in 2022, another major project was announced with TotalEnergies at the end of 2024. Air Liquide will build, own, and operate a new renewable hydrogen production unit with an annual capacity of 25,000 tonnes to supply TotalEnergies' biorefinery at the La Mède site in the south of France. This project will contribute to the emergence of a new renewable hydrogen ecosystem in the Fos-sur-Mer area, a major industrial basin for Air Liquide in France.

## Supporting the semiconductor industry while reducing its environmental footprint

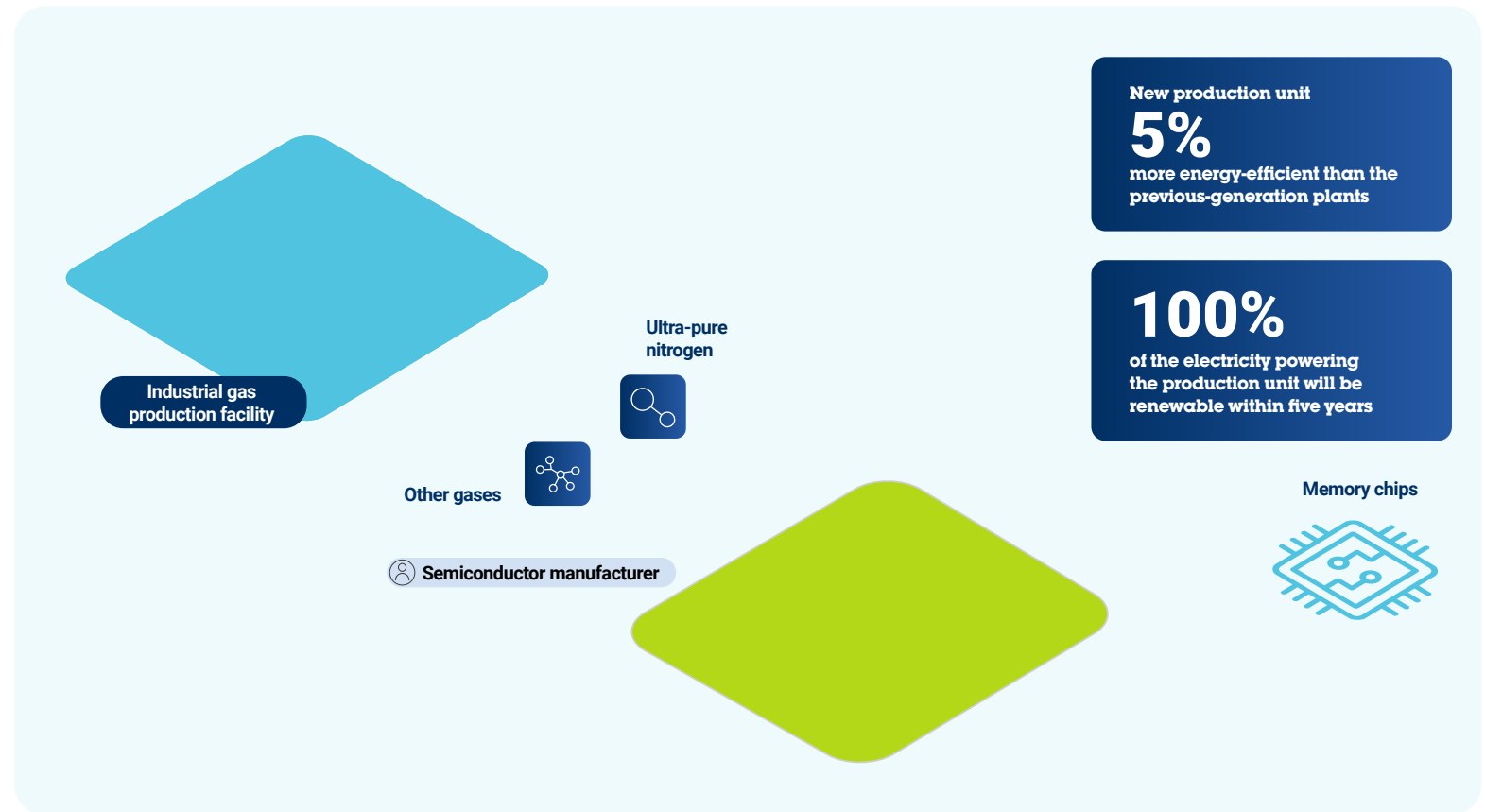
Under a long-term contract, Air Liquide is building an industrial gas production facility in Idaho, in the United States, to supply the new fab of one of the world's largest semiconductor manufacturers. The state-of-the-art, environmentally efficient production unit will be operational by the end of 2025.

It will provide large volumes of high-purity industrial gases for the production of cutting-edge memory chips. Through this project, Air Liquide is contributing to technological progress while optimizing the semiconductor sector's environmental footprint.

Air Liquide will build, own, and operate a new industrial gas production facility in Idaho, which will produce large volumes of ultra-pure nitrogen and other gases, such as oxygen and argon, for a leading player in the semiconductor industry and other customers in the area. The project will create hundreds of direct and indirect jobs during construction and operation.

Air Liquide will invest over \$250 million in the project. This represents a strategic investment that will support the production of cutting-edge memory chips, notably to meet the growing demand for computing capacities required by artificial intelligence.

As it will produce a wide range of critical gases with enhanced energy efficiency and reduced logistics-related emissions, the unit will give the customer a significant competitive edge in the growing semiconductor market. Most of the gases will be produced on-site, avoiding the need for them to be transported by truck. In addition, the electricity for the new facility is targeted to be 100% from renewable sources within the next five years.

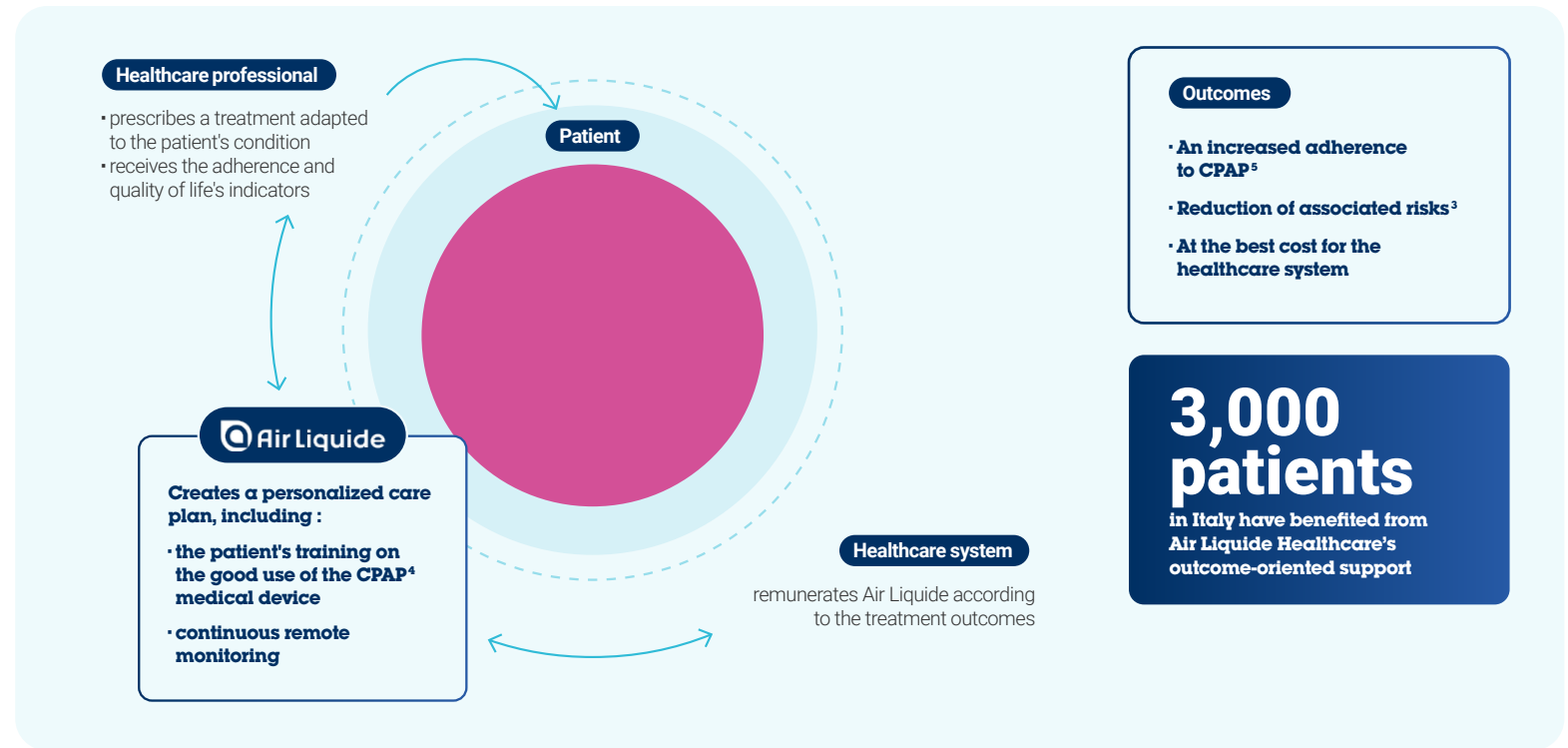


## Towards better management of sleep apnea in Italy

Providing better support to patients while helping to build a more sustainable healthcare system – that is what the solutions developed by Air Liquide in Italy are doing for people living with sleep apnea. Through personalized care, the Group contributes to improved patient adherence and better quality of life. Meanwhile, by linking payment to outcomes, home healthcare can be delivered at the best cost for the Italian healthcare system.

Widespread but underdiagnosed, sleep apnea syndrome<sup>1</sup> can be treated effectively through appropriate care and monitoring. In Italy, Air Liquide is working with the national healthcare system to provide patients with personalized support paired with Continuous Positive Airway Pressure (CPAP) supply.

Once the treatment is prescribed by a doctor, Air Liquide's teams set up a personalized care plan to promote patient adherence, including initiation, device selection, educational materials, and training for family members. Additional support is also provided to reduce sleepiness and improve quality of life through a mobile app and monitoring by Air Liquide's teams.



In 2024, several contracts signed with regional health authorities introduced remuneration for Air Liquide, as the home healthcare service provider, based on outcomes in patient treatment adherence. Data collected through remote monitoring show how many hours the device is used and the number and duration of apnea events during sleep. Provided to healthcare professionals and payers, the data can be used to assess treatment adherence and sleep quality, while at the same time providing the basis for payments to the Group.

Personalized support combined with remote monitoring improves compliance with CPAP treatment compared with standard monitoring, as shown by a Spanish study<sup>2</sup>. Improved adherence is correlated with a reduction in sleep apnea-related health risks, as well as a reduction in healthcare consumption and associated costs<sup>3</sup>.

In 2024, 3,000 patients in Italy received this support. Building on the Group's expertise in home healthcare and the experience gained through similar initiatives in several other countries, Air Liquide's teams in Italy developed a value-based healthcare approach, result-oriented and tailored to the national healthcare system. This approach reflects the Group's commitments to prioritize patient-centered support, aiming to deliver optimal care at the best possible cost, thereby contributing to a more efficient and virtuous healthcare system for families and the community.

<sup>1</sup> Sleep apnea is a condition characterized by unusually frequent pauses in breathing during sleep.

<sup>2</sup> Rudilla D, Perelló S, Landete P, et al. PIMA Study. Improvement of adherence and quality of life of obstructive sleep apnea under PAP treatment through an intervention based on the stratification and personalization of care plans: a randomized controlled trial. *Rev Patol Respir* 2021; 24: 125-134.

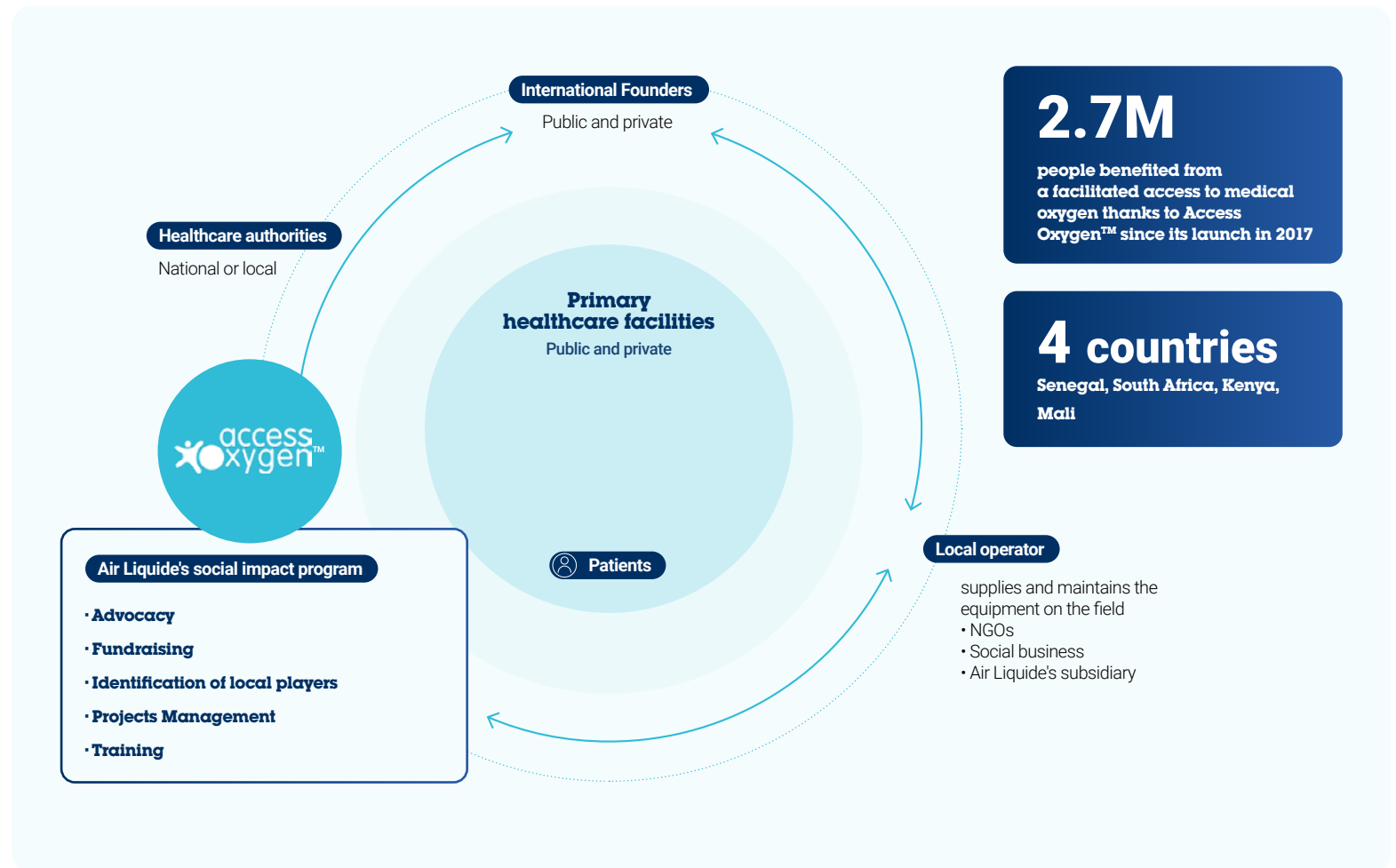
<sup>3</sup> Gagnadoux F, Bequignon E, Prigent A, Micoulaud-Franchi JA, Chambe J, Texereau J, Alami S, Roche F. The PAP-RES algorithm: Defining who, why and how to use positive airway pressure therapy for OSA. *Sleep Med Rev*. 2024 Jun; 75:101932.

<sup>4</sup> Continuous Positive Airway Pressure.

<sup>5</sup> Telemedicine interventions for CPAP adherence in obstructive sleep apnea patients: Systematic review and Meta-analysis, by Gonzalo Labarca, Alexia Schmidt, Jorge Dreyse, Jorge Jorquera, Ferran Barbe, *Sleep Medicine Reviews*, 2021.

## Access Oxygen™ deployed in Mali

Access to medical oxygen is a basic requirement of any healthcare system, yet more than half of the world's population has no access to medical oxygen<sup>1</sup>. Air Liquide has leveraged its expertise in medical gases to create Access Oxygen™, a social impact program to provide people in low- and middle-income countries with reliable and affordable access to medical oxygen. Already present in Senegal, South Africa, and Kenya, the program was introduced in Mali in 2024.



Access Oxygen™ is based on introducing solutions to supply medical oxygen that are tailored to the specific features of local healthcare systems. In the long run, the goal is to ensure that the solution is sustainable beyond Access Oxygen™'s intervention. In 2024, this program hit a significant milestone as it was deployed for the first time in Mali, where the oxygen therapy solution is being rolled out in 20 healthcare facilities in the Ségou and Kayes regions. The initiative was made possible thanks to the donation of oxygen concentrators by Airgas, Air Liquide's U.S. subsidiary,

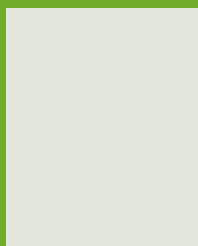
to the Fédération Nationale des Associations de Santé Communautaire (National Federation of Community Health Associations), and to a collaboration with Malian health authorities and Mag Global Service, the local operator responsible for delivering the solution.

Besides providing access to medical oxygen, Access Oxygen™ aims to help build sustainable and lasting healthcare models to address crucial public health needs.

<sup>1</sup> The Lancet Global Health. "Reducing Global Inequities in Medical Oxygen Access: The Lancet Global Health Commission on Medical Oxygen Security." Vol. 13, no. 3 (2025).

# Our employees, at the heart of the Air Liquide's long-term performance

**O**ver 66,500 talented people make up the driving force behind Air Liquide. Spread across 60 countries, they form a team that powers the Group's growth and performance. Every day, they are committed to serving our customers and patients as they strive to deliver useful, value-creating solutions. This commitment has its roots in a corporate culture that emphasizes employee safety, respect, ethics and engagement, and that seeks to offer everyone an environment that is conducive to success and innovation.



**Amelia**

**Irion**

Vice President, Group  
Human Resources  
and member of the  
Air Liquide Executive  
Committee



**Behind every innovation and every solution stand women and men who are passionate about what they do.**

**Day in, day out, they turn ideas into reality, driving Air Liquide forward with their energy and belief. Whether they are researchers, engineers, technicians, operators, sales people, or nurses, whether they operate on the front line or behind the scenes, they all share the same commitment to provide our customers and patients with effective and useful solutions. Through my interactions since joining the Group in September 2023, I have come to understand the power of the Air Liquide community. It inspires me and strengthens my belief that, together, with all our differences, we can take action for the future.”**

More than

66,500

employees worldwide

More than

160

nationalities

33%

of managers and  
professionals are women

49%

of employees are  
Group shareholders

2024 data



## BeActEngage, a framework to build a shared culture

In a constantly changing world of interlinked challenges and evolving work practices, it is imperative to offer our employees an environment that is safe, structured, and motivating. This sets a framework, promotes engagement, and stimulates innovation, while fostering an approach based around listening and discussion. With this in mind, Air Liquide's BeActEngage framework, created by and for employees, unites everyone around a shared culture. It is founded on three pillars :

- **Be** - Live our fundamental values: safety, ethics, and long-term performance, that have always been and will always be the Group's foundations ;
- **Act** - Act responsibly and nimbly to deliver concrete results ;
- **Engage** - Bring people together by inspiring and helping them develop their talents, encouraging everyone to express themselves and make an active contribution to individual and collective success.

In a constantly moving world, this approach offers a clear reference framework that is shared by everyone at Air Liquide.

### MY VOICE, AN ANNUAL SURVEY THAT LETS

### EMPLOYEES HAVE THEIR SAY

Central to Air Liquide's long-term performance strategy, listening to and talking with personnel play a key role in improving employee experience and engagement. Each year, the My Voice survey gathers employee feedback to gain a better understanding of expectations and identify actions to carry out at every level of the company. Paying attention to the employee experience is essential to loyalty and fulfilment, but also supports continuous improvements for Air Liquide. My Voice therefore helps drive our collective performance while serving the goal of having engaged employees and satisfied customers.

| **80+\***

**The items Safety, Respect, Inclusion and Confidence in management have achieved very high scores for several years, constituting a solid foundation on which the Group can build to move forward.**

\* Scores on 100. The annual My Voice engagement survey of all employees took place in October 2024.

## Diversity: helping drive the Group's performance

Air Liquide seeks to promote diversity throughout its workforce, reflecting its belief that this is a way to stimulate innovation, strengthen employee engagement, and boost the Group's long-term performance.

As part of its ADVANCE strategic plan announced in 2022, the Group reaffirmed its ambition to reach 35% women among engineers and managers by 2025. This ambition is being pursued through a broad approach and targeted action plans, tailored to local contexts. From inclusive recruitment to strong leadership commitment, and through training initiatives and proactive communication campaigns in schools and universities, Air Liquide is working on all aspects of its organization to achieve significant progress. All while ensuring that skills and qualifications remain at the heart of every recruitment decision.

In 2024, the proportion of women among engineers and managers in the Group reached over 33%, representing a 1% increase year-on-year.

### Creating a more inclusive work environment

Air Liquide is committed to creating a safe and inclusive work environment, in which every employee can benefit from fair working conditions.

This commitment is even more important for female employees at operational sites, for whom the Group has established standards to support its entities in terms of safety, comfort and well-being, while respecting local regulations and cultural specificities. Concrete measures have been taken around the world, such as providing women with adapted personal protective equipment, creating dedicated areas for greater comfort and privacy, and implementing security measures for women working at night.

In addition to promoting safety and well-being in the workplace, Air Liquide is committed to supporting its female employees at every stage of their careers and during key moments of their personal lives. The Group supports parents by offering a 14-week fully paid maternity leave, accompanied by support before, during and after the leave to ensure a smooth transition, without any impact on their career. By implementing these standards, Air Liquide aims to attract and retain talents by creating an environment where everyone can develop their full potential serenely.

### Women's PPE to support inclusion and performance

Given the challenges associated with diversity, providing women with personal protective equipment (PPE) designed for female bodies might seem like a minor point. Yet, it represents a very significant advance! Air Liquide has made this commitment to ensure the safety and comfort of women working on its sites. Airgas, the Group's U.S. subsidiary, turned this symbol of inclusivity into reality by launching PPE for women in the fall of 2024. The new range includes better-fitting gloves and welding jackets that are now available to the subsidiary's female employees as well as to women welders outside the Group via the Airgas online store and sales outlets. Users have praised the benefits of the new PPE, citing improved safety, enhanced work performance, and more comfort, all of which instills greater self-confidence. In China, Air Liquide has also developed a PPE range for female employees that is available at all sites across the country. All Group entities are now rolling out this initiative, which represents a practical step towards a safer and more inclusive work environment.

**Mbali**

**Mashinini**

Senior Manager Mechanical,  
Air Liquide South Africa



## I am an engineer & I belong here at Air Liquide.

**My time in the company has been rewarding, with great opportunities for career growth. I encourage every woman at Air Liquide to go after what they want, no matter the obstacles. There's so much strength, courage, and talent within us. Take chances and surprise yourself, as you'll never know what you can achieve until you try. Embrace your strengths and confidently pursue your goals."**

## Care coverage for all employees

With a presence in 60 countries, Air Liquide has to deal with very different care coverage situations for its employees. To offer all employees the same conditions, beyond local legislation, the Group pledged to provide a common basis of care coverage for all employees by 2025, including life insurance, health coverage and a minimum of 14 weeks paid maternity leave. In 2023, 78% of teams benefited from a common basis of care coverage, rising to 100% in 2024. In some regions, this offer has had a significant impact. In the United States, Germany, Latin America or Indonesia, for example, where welfare benefits vary widely, offering the same coverage to everyone, regardless of their role, makes Air Liquide a more attractive employer.

**100%** of Air Liquide employees  
have access to a common  
basis of care coverage

**Objective reached one year in advance** ✓

## Our commitment extends beyond our walls

Through its Foundation, Air Liquide has supported for over 15 years projects in fundamental research respiratory diseases, solidarity and job integration, particularly in technical fields. Harnessing the Group's strengths – particularly its expertise, teams, and local presence – the Foundation is tasked with taking on social challenges in which it has clear legitimacy and can have a socially beneficial impact. Individually, Group employees may volunteer to dedicate a portion of their working hours to various social or societal projects via the Citizen at Work program, set up in 2022. As of today, 87% of our employees have access to volunteering opportunities thanks to this initiative.

**87%** of employees can access the  
Citizen at Work program

# Building tomorrow with our stakeholders

→ **Fatima Tighlaline**,  
Program Manager  
Employee  
Citizenship,  
Air Liquide

→ **Virginie Lutrot**,  
Chairwoman  
of Caux Seine  
agglo

→ **Xavier Combet**,  
Portfolio Manager at  
Mirova

→ **Alfred Arpin**,  
Director of Test  
Centers at FEV  
France

→ **Anouck Veyret**,  
Individual  
Shareholder

**A**s global challenges grow more complex, dialogue between companies and their stakeholders is more crucial than ever. Air Liquide fosters active dialogue and collaboration with employees, customers, investors and shareholders, as well as with public authorities and local communities to create value and drive positive impact. In this discussion, key stakeholders share their perspectives on how the Group's commitments align with their ambitions and contribute to meaningful change.

**Many of Air Liquide's solutions help address today's societal challenges. How do you feel about this statement?**

**Fatima Tighlaline:** Fully aligned! Air Liquide is driving the energy transition with advancements in CO<sub>2</sub> capture and low-carbon hydrogen production. In Healthcare, the Group provides essential medical gases and solutions to hospitals and home patients while also improving access to medical oxygen for underserved communities. Beyond our daily roles, by the end of 2025, all Air Liquide teams around the world will have the opportunity to get involved locally through the Citizen at Work program. I recently took over responsibility for this program, and I can already attest to the Group's strong commitment and energy in encouraging employees to engage in local

initiatives. Another strong example: Air Liquide had set a goal to provide social coverage for 100% of its employees by 2025. This objective has been achieved one year ahead of schedule, a significant social milestone!



**I recently took over responsibility for the Citizen at Work program, and I can already attest to the Group's strong commitment and energy in encouraging employees to engage in local initiatives."**

**Fatima Tighlaline**  
Employee

**Alfred Arpin:** We specialize in developing propulsion solutions for mobility, whether thermal or electric. To make the shift toward low-carbon mobility, Air Liquide provides us with concrete support. FEV develops and calibrates engines for all types of vehicles, with a strong focus on environmental protection, performance, and safety. For example, we use reference gases for metrology to accurately measure pollutants

in exhaust gases. We also use hydrogen combustion, to test new, more sustainable power generation and energy conversion systems. These solutions help us make real progress on decarbonization issues.



**In a highly competitive international environment, for both our company and Air Liquide, only a close, responsive and innovative collaboration will enable us to be the most effective in winning strategic projects."**

**Alfred Arpin**  
Customer

**Virginie Lutrot:** The Air Liquide Normand'Hy electrolyzer is a perfect illustration of our vision: building a model region for the energy transition. At the regional level, it brings to life our ambition to create a responsible industrial ecosystem within the Port-Jérôme industrial area, where innovation and sustainability come together. Nationally, it addresses the

urgent need to decarbonize industry by enabling large-scale production of low-carbon hydrogen, essential for reducing our dependence on hydrocarbons. Finally, on the international stage, it positions Normandy as a model for energy innovation.



**The Air Liquide Normand'Hy electrolyzer project perfectly illustrates our vision: building a model region for the energy transition. It brings to life our ambition to create a responsible industrial ecosystem, where innovation and sustainability come together.”**

**Virginie Lutrot**  
Local elected official

Xavier Combet: As a global asset management company dedicated to sustainable investing, Mirova recognizes the critical role that companies like Air Liquide play in tackling pressing issues such as climate change, resource scarcity, and social inequality. As long-term investors, our strong environmental, social and governance (ESG) commitment is reflected in the orientation of our portfolios. We are convinced that by choosing companies like Air Liquide, with a long-term view and a sustainability strategy we can outperform the market in the long term. In a world where the challenges we face are increasingly complex, partnering with forward-thinking companies like Air Liquide is essential for driving meaningful change.

Anouck Veyret: When you invest in a company like Air Liquide, you want to understand its plans and be part of them. I identify with the Group's long-term vision, and in particular with its ambition to grow and be carbon neutral by 2050. It is an inspiring challenge that we are all facing as citizens.

### **How do Air Liquide's solutions and commitments align with your aspirations or objectives?**

F.T.: Air Liquide is not just an industrial company. Its technologies are truly part of the solution for a more sustainable world, supporting industries in their decarbonization efforts and accelerating the development of low-carbon hydrogen. And I'm proud to contribute, in my own way, to building a more sustainable future!

X.C.: Absolutely, we only invest in companies that demonstrate a credible sustainability strategy, and Air Liquide excels in this regard. Air Liquide fits in our portfolios, it ticks all the boxes, on the ESG side, and on the financial side. It is an enabler of a low-carbon society, thanks to the supply of essential gases, supporting the decarbonization of the industry, and as a company aligned with the Paris Agreement, participating in reducing emissions in its upstream value chains. We also value the company for its capacity to provide equal opportunities for all workers through training and internal promotions, and by providing an enabling framework to accelerate women's careers.



**We don't invest in a company if the impact is not positive. Air Liquide fits in our portfolios, it ticks all the boxes, on the ESG side, and on the financial side.”**

**Xavier Combet**  
Investor

A.A. : FEV is undergoing a major transformation to support the shift towards low-carbon powertrains. Air Liquide's solutions, such as hydrogen for propulsion and liquid nitrogen for cooling, help us develop new test benches and remain competitive in complex projects. We are working together on a hydrogen-related project, for which the development of fuel cells represents a strong technical and economic challenge. In a highly competitive international environment, for both our company and Air Liquide, only a close, responsive and innovative collaboration will enable us to be the most effective in winning strategic projects.

### **In your opinion, in which areas can the Group have the greatest societal impact in the coming years?**

V.L.: Air Liquide has a central role to play in three major areas: industry and decarbonization, heavy-duty clean mobility, and training. Firstly, the decarbonization of hard-to-abate industries using decarbonized hydrogen and carbon capture, which is essential to meet climate challenges and strengthen our energy independence. Secondly, the development of clean mobility, particularly through hydrogen for heavy transport and recharging infrastructure. Finally, a strategic lever to maximize this impact is based on training the talents of tomorrow. The H2 Academy, a center of excellence in vocational training integrated into the H2 Carbon Neutrality project<sup>1</sup>, embodies this ambition. This regional project aims to develop the talents of tomorrow and to adapt training courses to the strategic skills required by new sectors and emerging professions in the field of hydrogen.

A.V.: Energy transition and technology are sectors in which Air Liquide has had and will continue to have a significant impact in the future, especially in a context of renewed sovereignty stakes. Geopolitical tensions remind us how important it is to have strong European companies, particularly in industry. We need successful and innovative companies that are also committed to having a strong societal impact.



**I identify with the Group's long-term vision, and in particular with its ambition to grow and be carbon neutral by 2050.”**

**Anouck Veyret**  
Individual shareholder

<sup>1</sup> The "H2 Carbon Neutrality" project, led by the Normandy International Excellence Campus for Energy (CEINE), aims to develop a professional training program in decarbonized hydrogen to meet industrial needs.

# Our Governance

**A**ir Liquide has a robust governance system that is tailored to its challenges and sustainable growth goals. Keenly aware of its responsibility, the Group incorporates financial and extra-financial aspects in its strategic decisions, which are handled at the very top level of the company.

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→ For more information on Air Liquide's governance, read the [Universal Registration Document](#).

# Interview

Could you explain the main missions of the Environment and Society Committee within the Board of Directors?

Annette Winkler: I firmly believe strong governance underpins any successful strategy. That's precisely why the Environment and Society Committee, or CES, is so crucial at Air Liquide. It plays a pivotal role in shaping Air Liquide's sustainability strategy and ensuring its effective implementation. Air Liquide has had this committee since 2017, which shows its proactive approach to ESG. This is also reflected in the Group's strategic plan, ADVANCE, which places financial and extra-financial performance on a comparable level of importance. The committee members have diverse backgrounds, both inside and outside Air Liquide, all genuinely interested in ESG, which keeps our approach strategic yet firmly rooted in reality. In 2024, our priorities included implementing the Corporate Sustainability Reporting Directive (CSRD), reviewing our first Climate Transition Plan, and looking at ESG-related risks and opportunities. We rigorously evaluate progress toward the Group's ESG objectives via a thorough assessment of action plans, providing recommendations to the Board, supported by strong internal governance and high-quality discussions with Air Liquide's teams. It's a process I'm deeply involved in, and I'm proud of the progress we're making.



**ESG is not a separate agenda item; it's truly embedded within the Group's long-term vision which aligns business opportunities with societal needs."**

The global landscape is constantly evolving. How do you see this impacting ESG trends, and how is Air Liquide positioning itself to navigate these challenges?

We are living in a period of rapid, uncertain, and often contradictory change on many fronts. ESG, an increasingly pressing issue – and one I follow closely – is no exception. We see different trends playing out. While the direction in the United States remains somewhat uncertain, Europe, despite its regulatory push, faces intense debates and demands for simplification, especially on the reporting front. China maintains a strong dynamic regarding energy transition. Air Liquide navigates this complex landscape with a sense of responsibility, agility, and importantly, pragmatism. The Group is committed to being a driving force for change, and taking a long term view, leveraging its deep expertise, diverse technologies and extensive global presence. This means focusing on practical and impactful actions in each geography.

From your perspective, what differentiates Air Liquide's approach to sustainability?

What impresses me most about Air Liquide – and I've seen this firsthand – is not just the breadth of challenges the Group addresses – from driving the energy transition and supporting an aging population to transforming industries, including digitization and Artificial Intelligence – but its integrated approach to sustainability. ESG is not a separate agenda item; it's truly embedded within the Group's long-term vision which aligns business opportunities with societal needs. Beyond CO<sub>2</sub> emissions, which are obviously critical, Air Liquide also prioritizes the social and societal dimensions. The Group firmly believes that long-term value creation depends on the engagement of its employees and the well-being of the communities where the Group operates. This holistic approach, combined with concrete evidence of progress, positions Air Liquide to achieve a lasting positive impact. I'm proud to be a part of it!

Annette

Winkler

Director and Chairwoman  
of Air Liquide's Environment and  
Society Committee

# The Board of Directors

## sets the strategic orientations

Composition as of December 31, 2024

→ **Bertrand Dumazy**

Independent Director

Member of the Appointments and Governance Committee, Member of the Audit and Accounts Committee

Born in 1971 • French

→ **Aïman Ezzat**

Independent Director

Member of the Audit and Accounts Committee

Born in 1961 • French

→ **Benoît Potier**

Chairman of the Board of Directors

Born in 1957 • French

→ **Catherine Guillouard**

Independent Director

Chairwoman of the Audit and Accounts Committee

Born in 1965 • French

→ **Philippe Dubrulle**

Director representing the employees

Member of the Environment and Society Committee

Born in 1972 • French

→ **Xavier Huillard**

Independent Director  
Lead Director

Chairman of the Remuneration Committee, Chairman of the Appointments and Governance Committee

Born in 1954 • French

→ **François Jackow**

Chief Executive Officer & Director

Born in 1969 • French

→ **Christina Law**

Independent Director

Born in 1967 • Chinese (Hong Kong)

→ **Kim Ann Mink**

Independent Director

Member of the Remuneration Committee

Born in 1959 • American

→ **Alexis Perakis-Valat**

Independent Director

Born in 1971 • French and Greek

→ **Michael H. Thaman**

Independent Director

Born in 1964 • American

→ **Fatima Tighlaline**

Director representing the employees

Member of the Remuneration Committee

Born in 1979 • French

→ **Monica de Virgiliis**

Independent Director

Member of the Environment and Society Committee

Born in 1967 • Italian and French

→ **Annette Winkler**

Independent Director

Chairwoman of the Environment and Society Committee, Member of the Appointments and Governance Committee

Born in 1959 – German

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

approves the main points of the Group's strategy, including the multi-annual strategy orientations concerning Corporate Social Responsibility. The Board relies on four specialized committees.



# Four Board Committees

## Audit and Accounts Committee

### Three members

- Ensures the integrity of the process used to prepare financial information; reviews the financial statements and the accounting methods used;
- Verifies the existence and functioning of control organizations and procedures used to identify and manage risks, including sustainability risks, relying upon the work of the Environment and Society Committee;
- Monitors the organization of the internal audit function;
- Monitors the sustainability information preparation process, including the double-materiality review process implemented to determine the information to be published in accordance with applicable sustainability reporting standards;
- Monitors the execution by statutory auditors and sustainability auditors of tasks relating to certification of the financial statements and sustainability information.



→ For more information on Air Liquide's governance, read the [Universal Registration Document](#) p.97.

## Environment and Society Committee

### Three members, including one Director representing the employees

- Examines the Group's sustainability strategy and commitments;
- Monitors the Group's sustainability actions and their deployment, as well as the actions engaged by the Foundation;
- Examines the sustainability risks in liaison with the Audit and Accounts Committee;
- Monitors the Group's material sustainability issues and associated sustainability Impacts, Risks and Opportunities (IRO);
- Examines the Group's annual consolidated sustainability information published by the Company;
- Examines the Vigilance Plan and monitors its implementation within the Group;
- Reviews the Group's extra-financial ratings.

The members of the Environment and Society Committee and the members of the Audit and Accounts Committee meet at a joint session at least once a year. This session is an opportunity for the two Committees to work together, notably to review risks and carry out the new tasks assigned to them under the European Union's Corporate Sustainability Reporting Directive No. 2022/2464.

## Remuneration Committee

### Three members, including one Director representing the employees

- Examines the performance and all the components of remuneration for the Corporate Officers;
- Examines the remuneration and retirement policy applied to Executive Management and in particular to the Executive Committee;
- Examines the proposals by the Executive Management concerning the granting of stock options, performance shares, and other incentive systems related to the share price;
- Proposes to the Board of Directors the allocation of the fixed annual sum awarded to the Directors by the General Meeting.

## Appointments and Governance Committee

### Three members

- Looks for new Board members, carries out its own research into potential candidates, and makes proposals for the renewal and appointment of Directors;
- Periodically evaluates the structure, size, and composition of the Board of Directors and submits recommendations for potential changes;
- Examines the succession plan for members of the Executive Management;
- Prepares the evaluation of the way the Board operates provided for by the internal regulations and ensures the proper functioning of the governance bodies.

# The Executive Committee steers the strategy

Composition as of March 15, 2025

**T**he Executive Committee implements the strategic orientations provided by the Board of Directors, and oversees Air Liquide's operations and business development. It conducts strategic reviews and steers the Group's financial and extra-financial performance. In 2024, it launched a transformation program to enhance the Group's agility and performance. This included a simplification of the internal organization to speed up decision-making and leverage the company's size more effectively by turning it into a competitive advantage. The composition of the Executive Committee has thus changed to better reflect the Group's ambitions and support this transformation.

→ **François Jackow**  
Chief Executive Officer  
Born in 1969 • French

→ **Marcelo Fioranelli**  
Chief Executive Officer of Airgas overseeing the Group's Industrial Merchant activity  
Born in 1968 • Brazilian

→ **Armelle Levieux**  
Group Vice President Innovation and Technology, overseeing the Hydrogen and Electronics activities  
Born in 1973 • French

→ **Adam Peters**  
Chief Executive Officer, Air Liquide North America  
Born in 1973 • American

→ **François Venet**  
Senior Vice President overseeing the Large Industries activity, Group Strategy, and Group Safety & Industrial Systems  
Born in 1962 • French

→ **François Abrial**  
Senior Vice President in charge of Transformation and Artificial Intelligence  
Born in 1962 • French

→ **Matthieu Giard**  
Group Vice President overseeing Air Liquide operations in the Americas as well as Digital & IT  
Born in 1974 • French

→ **Emilie Mouren-Renouard**  
Group Vice President overseeing Air Liquide operations in Europe, Africa, Middle East, and India, as well as Public Affairs  
Born in 1979 • French

→ **David Prinselaar**  
Group Vice President, Industrial Direction  
Born in 1974 • Dutch and French

→ **Ronnie Chalmers**  
Group Vice President overseeing Air Liquide operations in Asia-Pacific as well as Procurement  
Born in 1968 • British

→ **Amelia Irion**  
Group Human Resources Vice President  
Born in 1970 • American and French

→ **Jérôme Pelletan**  
Chief Financial Officer overseeing the Legal, Insurance and Shareholder Services Departments  
Born in 1970 • French

→ **Diana Schillag**  
Group General Secretary overseeing Healthcare, Sustainability and General Control  
Born in 1971 • German

# Making investment decisions

**T**hrough its investments, Air Liquide shapes the future of the Group and of industry. To ensure that investments reflect its financial and extra-financial commitments, the Group has set up a specific governance system under senior leadership.

## Investments: strategic decisions taken at the very highest level

The Board of Directors is regularly informed of the evolution of the Group's portfolio of opportunities, evaluates major investment projects and reviews the investment decisions required for the Group's medium-term development, including those relating to the energy transition. The Executive Committee members examine investment projects in their scope of responsibility, within the Resources and Investment Committees (RIC).

## Resources and Investment Committees for a 360° project assessment

The Resources and Investment Committees (RICs) review and approve proposed investments. RICs approve investment requests, medium and long-term contractual commitments, associated human resources requirements, as well as the environmental impacts of projects.

In addition to considering the expected profitability of each project, investment decisions are based on a rigorous assessment in which the following criteria, in particular, are systematically reviewed:

- whether the project is located in an industrial basin with high potential,

- the competitiveness of the customer's site, including factors such as size, production processes, environmental footprint, cost of raw materials, and access to markets,
- customer risk,
- country risk,
- whether the project is aligned with the Group's environmental objectives.

RICs typically meet once a month for each geography and each activity. Each Committee meeting is chaired by the member of the Executive Committee in charge of the geography or of the activity involved and brings together the manager of the cluster or business line concerned by the investment, along with representatives from the Group Finance department, Engineering & Construction and the Capital Implementation Group, who have a veto right. Additional participants may be invited to attend, including representatives of the Group Industrial Direction. The member of the Executive Committee with responsibility for Sustainable Development is consulted on projects submitted to the RICs, giving special attention to sustainability issues. RIC decisions are reviewed by the CEO.

### CLIMATE AND INVESTMENT DECISIONS

To achieve decarbonization goals, investment plans must be compatible with the Group's carbon trajectory. The investment process is now accompanied by the allocation and monitoring of an annual CO<sub>2</sub> budget assigned to Group Operations, in order to steer this trajectory.

# Managing risk

**E**veryone plays a part in risk management at Air Liquide. From Operations to the Board of Directors, from each employee to the CEO, the Group has established a set of procedures to identify, manage, and mitigate risks linked to its own business as well as to the activities of its subsidiaries and suppliers.

## **Vigilance Plan: identifying and preventing risks**

Since 2017, Air Liquide has implemented a Vigilance Plan that is designed to identify and prevent risks in three areas: human rights and fundamental freedoms, human health and safety, and the environment. The plan encompasses the activities of the Group itself but also of its subsidiaries, suppliers, and subcontractors. It is organized around five measures:

- 1 Risk mapping;
- 2 Procedures to regularly assess the situation of subsidiaries, suppliers, and subcontractors;
- 3 Appropriate measures to mitigate risk and prevent serious impacts;
- 4 An alert mechanism that collects reports of potential or actual risks;
- 5 A monitoring scheme to follow up on the measures implemented and assess their effectiveness.

## **Risk Committee: steering major risks**

The Risk Committee provides its expertise to entities that are required to manage financial risks within their respective scopes of responsibility. It meets twice a year under the chairmanship of the Chief Executive Officer and in the presence of the General Secretary and the Group Vice President of Strategy, and brings together the heads of the Group Control and Compliance, Legal, Finance, Communication, Safety and Industrial Systems, and Sustainable Development Departments as well as a representative from Operations. It is tasked with monitoring active risks for the Group, reporting on progress in priority measures to mitigate major risks, drawing up a risk management summary, and determining the Group's guidelines in the area.

## **Air Liquide is committed to respecting human rights, protecting people and preserving the environment in its operations worldwide.**

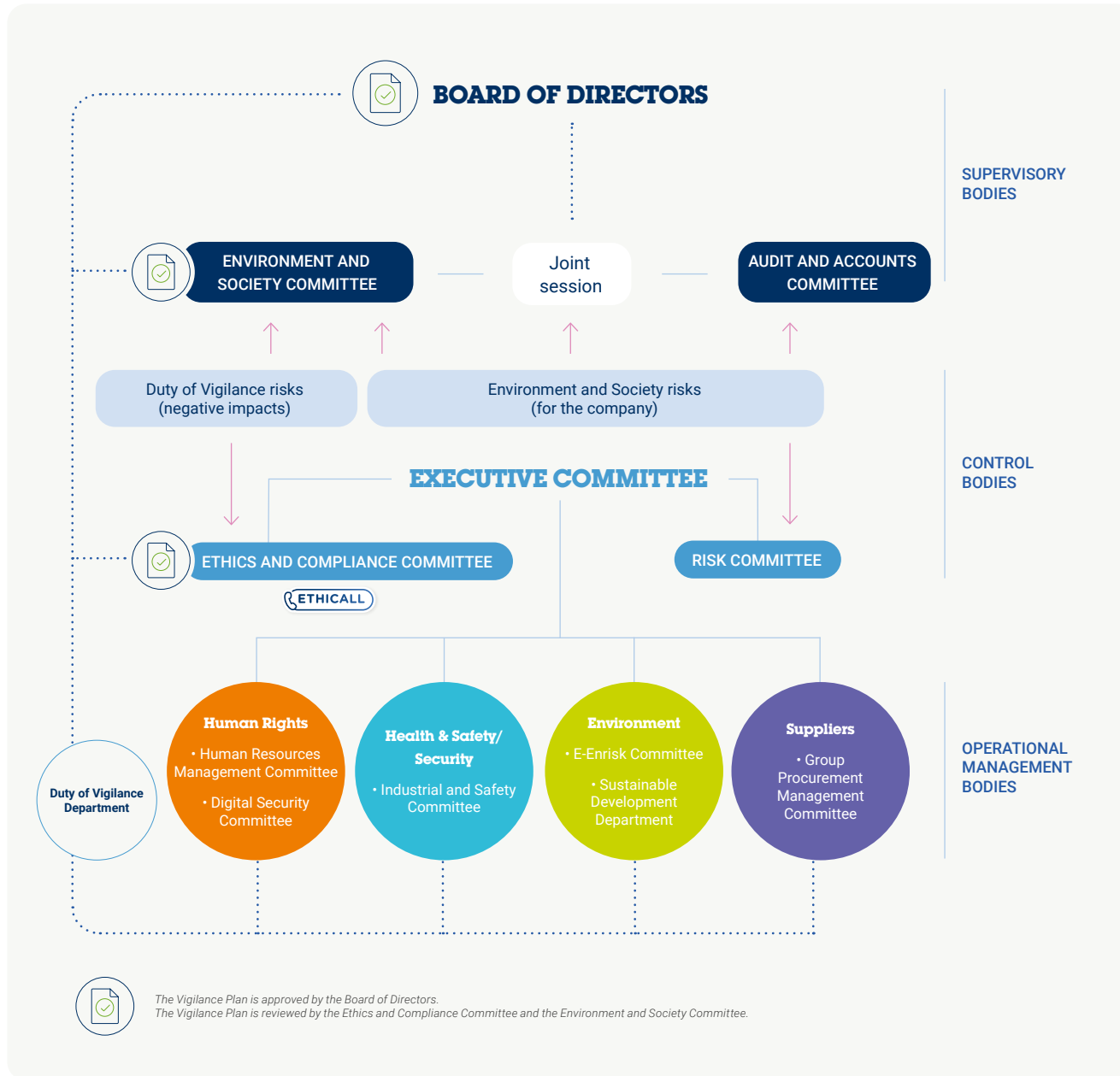


The Vigilance Plan

→ Access the digital  
version

## Governance of the Vigilance Plan

A dedicated team oversees the implementation of Air Liquide's Vigilance Plan. It is integrated in the Legal Department, which is in turn supervised by the Group CFO, who sits on the Executive Committee. The plan is reviewed by the Ethics and Compliance Committee and the Environment and Society Committee before being approved by the Board of Directors. The Procurement, Group Control and Compliance, Sustainable Development, Legal, Human Resources, and Safety & Industrial Systems Departments play a key role in identifying risks and rolling out measures provided for under the Vigilance Plan.



# Steering our sustainability commitments

**W**hen it put sustainability at the heart of the Group's strategy, Air Liquide also set up a robust governance structure to ensure that projects are executed in accordance with the strategy set and the commitments made. Under this governance, Air Liquide always considers the impact of investment decisions on the Group's CO<sub>2</sub> emissions.

## **Sustainability: a commitment that is steered at the highest level**

The Board of Directors determines the orientations of Air Liquide's activities and ensures their implementation, in line with its corporate interest, taking into account the social and environmental stakes of its activity. As part of its missions, the Environment and Society Committee examines the Group's sustainability strategy and commitments as well as the Group's annual consolidated sustainability information published by the Company, and monitors the Group's sustainability actions and their deployment. It makes recommendations to the Board of Directors. The Committee meets, in principle, three times a year (see page 43).

**14** Climate Champions steer local decarbonization plans on a day-to-day basis

## **A dedicated internal committee to support the Group's Climate Strategy**

The "E-Enrisk" Committee manages the Group's main challenges in terms of energy and CO<sub>2</sub> emissions. Each month, it brings together representatives from the Large Industries World Business Line and the Group's Finance and Sustainable Development Functions, supervised by a member of the Executive Committee. The Committee reviews energy sourcing strategies in the main entities and ensures that commitments are aligned with the Group's Climate strategy, especially CO<sub>2</sub> emissions reduction goals.

## **CO<sub>2</sub> integrated in the investment decision-making process**

Carbon trajectory monitoring is fully integrated in the Group's steering process. Every Air Liquide entity is assigned an annual CO<sub>2</sub> budget that it is authorized to "spend" to grow its business. These figures are reviewed each quarter, taking into account not only annual emissions, but also emissions forecasts through to 2025 and 2035. Besides CO<sub>2</sub>, other parameters are also taken into account depending on the project in question, including physical and water-related risks, or the potential impact on biodiversity.

## **A network of Climate Champions and Sustainability Ambassadors**

To implement its sustainability strategy, the Group relies on different relay points within the organization. Climate Champions act as the Sustainable Development Department's contacts within the Group's clusters (groups of countries). They steer the deployment of the CO<sub>2</sub> trajectory within their scope by determining the operational measures needed to achieve the goals set for the clusters. Their tasks include deploying local decarbonization plans, monitoring indicators, and communicating on progress. Sustainability Ambassadors form a network of 500 volunteers who share best practices within the Group and raise their colleagues' awareness of sustainability questions.

# Upholding the Group's ethical commitments

**I**ntegrity and transparency are the cornerstones of Air Liquide's ethical approach, which governs the behavior and actions of all employees. These principles are set out in a program based around a specific organization and a code of conduct, as well as a whistleblowing system that is open to Group employees and stakeholders.

## **Ethics and Compliance Committee: ensuring exemplary governance**

The Ethics and Compliance Committee oversees Air Liquide's ethical approach. Its primary task is to monitor initiatives taken to prevent corruption and deviations from the Code of Conduct and to make recommendations in the event of non-compliance. The Committee also supervises issues relating to competition law, export control, due diligence, and the protection of personal data. It gathers the Human Resources, Group Control and Compliance, Sustainable Development, and Legal Departments, plus a member of the Executive Committee representing Operations. It meets at least twice a year.

## **Code of Conduct: working with confidence**

Respect for the law, individuals, Group stakeholders and our environment: these are the foundations of the Group's Code of Conduct, which was updated in 2021. It formally sets down Air Liquide's ethical commitments, particularly in the areas of protecting employees, business practices, and respect for the environment and human rights. Deployed worldwide, it is available in 28 languages and is supplemented by specific documents covering competition law and digital protection, as well as by a Suppliers Code of Conduct. Every year, each Group employee follows a dedicated e-learning module requiring them to individually adhere to Air Liquide's Code of Conduct.

## **Whistleblowing system: maintaining the highest ethical standards**

In 2015, Air Liquide set up EthicalCall, a whistleblowing system that is open to all Group employees, allowing them to report violations of the Code of Conduct, Group internal policies and procedures, or applicable laws, and any incident linked to human rights, health, safety, or the environment. Reports may be done confidentially, and will not result in disciplinary sanctions or retaliation measures if they are done in good faith.



**Available 24/7, in all  
languages used by the Group,  
EthicalCall was opened up to  
external stakeholders in 2021.**

# Our performance

**S**upported by our long-term strategy, Air Liquide reports solid results, giving us the means to invest in the future and continue the transition to a more sustainable model. Aware of the need to curb its environmental impact, the Group pays close attention to gathering and analyzing data that will allow it to grow responsibly.

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# Awards

The Group's Environment, Social and Governance (ESG) performance is regularly recognized and rewarded by various organizations. Among the awards received in 2024, here is a non-exhaustive list.

## ENVIRONMENT

### Europe

- The European Industrial Gases Association (EIGA) has awarded Air Liquide's Air Separation Unit equipped with Alive™ in Moerdijk (Netherlands) with an environmental recognition.
- Air Liquide has been shortlisted for the *Prix Pierre Potier des Lycéens*, with its technology Cryocap™ (France).
- Air Liquide has been shortlisted for the *Water Europe Innovation Awards 2024* under the category "Global Water Challenges".

### USA

- Air Liquide has received the ChemTreat *Power of Water Award* for its Bayport facility in Houston, Texas.

### China

- The Group received the *ESG Competitiveness Carbon Peak & Neutrality Pioneer Award* for its CSR practices and contributions to industrial decarbonization.
- The *GoldenBee CSR Cases 2024* was awarded to the Group for building the largest hydrogen filling center to facilitate energy transition in the Yangtze River Delta.

### Australia

- The *Gold Waterwise Business Award 2024* recognised Air Liquide Australia's outstanding commitment in Water Management.

## FINANCE

### Europe

- Extel (formerly Institutional Investor Research) awarded Air Liquide the *Best Corporate in Investor Relations* in its category, "Large Cap basic material Europe".

## HUMAN RESOURCES

### Spain

- The *Top 50 Diversity Company* certification was issued by Intrama Consultoria.

### France

- The *HappyIndex@Trainees* label was awarded by ChooseMyCompany.

### USA

- The Group received the North America Vets *Medallion Award*, for its commitment to veteran hiring.

### Mexico

- Air Liquide was distinguished for its commitment to the inclusion of persons with disabilities in the workforce by the Éntrale alliance, the Mexican Business Council (CMN), the Mexican Business Coordinating Council (CCE) and the Mexican Coalition for the rights of persons with disabilities (COAMEX).

## ETHICS & COMPLIANCE

### France

- Air Liquide received the *Jury Special Prize* from the Responsible Investment Forum (FIR) in the context of its Vigilance Plan Prize, which rewards the CAC 40 companies' efforts to adopt better practices.

## COMMUNITIES

### China

- Air Liquide received the *Public Welfare Impact Award* for its "Air Liquide Computer Classroom" project. Awarded by Shanghai Daily, it recognizes the enterprises' outstanding contributions to poverty alleviation, education, vulnerable groups and public welfare.

# Extra-financial ratings

In 2024, the Group responded to key extra-financial rating agencies and organizations presented here. These are known for their rigorous methodology and the quality of their reports. Ratings and distinctions obtained by the Group in 2024 for some key ESG assessments are as follows:

## CDP

Air Liquide scored A- in Water management and B in Climate change.

## MOODY'S ESG SOLUTIONS

Air Liquide beating sector average in all pillars and domains.



## ECOVADIS

Air Liquide ranks in the top 20% of the best-rated companies.

## SUSTAINALYTICS

Recognized as "ESG Industry Top Rated", Air Liquide received a "low risk" rating.

## ISS ESG

Air Liquide ranks in the top 20% of companies in the running, maintaining its ISS "Prime" status.

## S&P Dow Jones Indices

A Division of **S&P Global**

## S&P DOW JONES INDICES

For the third year running, Air Liquide has been included in the DJSI Europe index in recognition of its commitment to social and environmental responsibility. Air Liquide has also been included into S&P Sustainability Yearbook.

## FTSE4GOOD

Air Liquide remains a constituent of the FTSE4Good index series.

## MSCI

Air Liquide has maintained its A rating.

# Financial statements

As of December 31, 2024

## Consolidated income statement

(in millions of euros)	2023	2024
<b>Revenue</b>	<b>27,607.6</b>	<b>27,057.8</b>
Other income	233.9	234.0
Purchases	-11,146.8	-10,008.2
Personnel expenses	-5,099.5	-5,165.7
Other expenses	-4,045.2	-4,221.4
<b>Operating income recurring before depreciation</b>	<b>7,550.0</b>	<b>7,896.5</b>
Depreciation and amortization expenses	-2,482.0	-2,505.1
<b>Operating income recurring</b>	<b>5,068.0</b>	<b>5,391.4</b>
Other non-recurring operating income	242.3	64.8
Other non-recurring operating expenses	-738.8	-510.6
<b>Operating income</b>	<b>4,571.5</b>	<b>4,945.6</b>
Net finance costs	-265.5	-258.4
Other financial income	15.4	8.5
Other financial expenses	-166.1	-168.5
Income taxes	-971.8	-1,086.5
Share of profit of equity affiliates	4.9	-0.7
<b>Profit for the period</b>	<b>3,188.4</b>	<b>3,440.0</b>
Minority interests	110.4	133.9
<b>Net profit (Group share)</b>	<b>3,078.0</b>	<b>3,306.1</b>
<b>Basic earnings per share (in €)</b>	<b>5.35</b>	<b>5.74</b>

## Statement of changes in net debt

(in millions of euros)	2023	2024
<b>Net debt at the beginning of the period</b>	<b>-10,261.3</b>	<b>-9,220.9</b>
Net cash flows from operating activities	6,263.0	6,322.2
Net cash flows used in investing activities	-3,079.0	-3,583.4
Net cash flows used in financing activities excluding changes in borrowings	-2,041.6	-2,322.6
<b>Total net cash flows</b>	<b>1,142.4</b>	<b>416.2</b>
Effect of exchange rate changes, opening net debt of newly acquired companies and others	150.7	-134.2
Adjustment of costs and expenses related to net debt	-252.7	-220.3
<b>Change in net debt</b>	<b>1,040.4</b>	<b>61.7</b>
<b>Net debt at the end of the period</b>	<b>-9,220.9</b>	<b>-9,159.2</b>

## Consolidated Balance Sheet

Assets (in millions of euros)	12/31/2023	12/31/2024
Goodwill	14,194.2	14,997.4
Other intangible assets	1,631.3	1,691.5
Property, plant and equipment	23,652.2	25,538.7
<b>Non-current assets</b>	<b>39,477.7</b>	<b>42,207.6</b>
Non-current financial assets	696.7	746.3
Investments in equity affiliates	180.1	198.3
Deferred tax assets	225.2	335.0
Fair value of non-current derivatives (assets)	35.1	32.9
<b>Other non-current assets</b>	<b>1,137.1</b>	<b>1,312.5</b>
<b>Total non-current assets</b>	<b>40,614.8</b>	<b>43,520.1</b>
Inventories and work-in-progress	2,027.6	2,189.6
Trade receivables	2,993.7	2,996.7
Other current assets	862.7	1,068.2
Current tax assets	42.9	96.7
Fair value of non-current derivatives (assets)	70.7	77.3
Cash and cash equivalents	1,624.9	1,915.3
<b>Total current assets</b>	<b>7,622.5</b>	<b>8,343.8</b>
<b>Assets held for sale</b>	<b>95.1</b>	<b>3.6</b>
<b>Total assets</b>	<b>48,332.4</b>	<b>51,867.5</b>

Equity and Liabilities (in millions of euros)	12/31/2023	12/31/2024
Share capital	2,884.8	3,180.4
Additional paid-in capital	2,447.7	2,064.1
Retained earnings	16,063.7	18,534.2
Treasury shares	-152.7	-224.8
Net profit (Group share)	3,078.0	3,306.1
<b>Shareholders' equity</b>	<b>24,321.5</b>	<b>26,860.0</b>
<b>Minority interests</b>	<b>721.6</b>	<b>761.3</b>
<b>Total equity</b>	<b>25,043.1</b>	<b>27,621.3</b>
Provisions, pensions and other employee benefits	2,004.8	2,025.6
Deferred tax liabilities	2,329.0	2,527.1
Non-current borrowings	8,560.5	8,403.1
Non-current lease liabilities	1,046.3	1,133.8
Other non-current liabilities	454.7	642.8
Fair value of non-current derivatives (liabilities)	48.0	29.7
<b>Total non-current liabilities</b>	<b>14,443.3</b>	<b>14,762.1</b>
Provisions, pensions and other employee benefits	363.8	418.9
Trade payables	3,310.5	3,319.0
Other current liabilities	2,310.1	2,483.7
Current tax payables	236.4	273.1
Current borrowings	2,285.3	2,671.4
Current lease liabilities	219.7	239.8
Fair value of current derivatives (liabilities)	76.2	76.9
<b>Total current liabilities</b>	<b>8,802.0</b>	<b>9,482.8</b>
<b>Liabilities held for sale</b>	<b>44.0</b>	<b>1.3</b>
<b>Total equity and liabilities</b>	<b>48,332.4</b>	<b>51,867.5</b>

# Extra-financial reporting

## Summary of the Group's greenhouse gas emissions

### Scopes 1, 2 and 3

	2020	2021	2022	2023	2024
Scope 1: total direct greenhouse gas (GHG) emissions (in thousands of tonnes of CO <sub>2</sub> -eq.) <sup>(a)</sup> <sup>(b)</sup>	15,505	15,557	16,083	15,473	14,868*
Scope 2: total indirect GHG emissions (in thousands of tonnes of CO <sub>2</sub> -eq.) <sup>(a)</sup> <sup>(c)</sup>	23,784	23,961	22,771	21,504	20,064*
<b>Total Scopes 1 &amp; 2 emissions (in thousands of tonnes of CO<sub>2</sub>-eq.)</b> <sup>(a)</sup> <sup>(b)</sup> <sup>(c)</sup>	<b>39,289</b>	<b>39,518</b>	<b>38,854</b>	<b>36,977</b>	<b>34,933</b>
<b>Performance: Evolution of Scopes 1 &amp; 2 emissions vs. 2020</b>		<b>0.6%</b>	<b>-1.1%</b>	<b>-5.9%</b>	<b>-11.1%</b>
<b>Significant Scope 3 emissions (in thousands of tonnes of CO<sub>2</sub>-eq.)</b> <sup>(d)</sup>			<b>22,134</b>	<b>22,300</b> <sup>(e)</sup>	<b>23,244*</b>

<sup>(a)</sup> Restated Group emissions taking into account retroactively perimeter changes (upwards and downwards) having a significant impact on CO<sub>2</sub> emissions, in order to provide comparable figures with the restated 2020 baseline.

<sup>(b)</sup> Reporting taking into account a minimum of 95% of the Group's emissions. The methodology and reporting of excluded sources are subject to a continuous improvement process.

<sup>(c)</sup> Total of indirect GHG emissions generated by the production of electricity and steam purchased outside the Group. Emissions are reported using the "market-based" methodology.

<sup>(d)</sup> Does not account for significant perimeter changes retroactively.

<sup>(e)</sup> Includes a correction for part of the emissions related to sold products that were previously omitted by error in 2023.

\* Indicator verified by the independent verifier.

### Avoided emissions

	2020	2021	2022	2023	2024
Emissions avoided due to the optimization of our assets (in thousands of tonnes of CO <sub>2</sub> -eq.)	3,600	3,307	3,200	4,024	4,363
Emissions avoided to improve our customers' energy footprint (in thousands of tonnes of CO <sub>2</sub> -eq.)	11,200	11,827	10,065	8,180	8,119
<b>Total Avoided Emissions (in thousands of tonnes of CO<sub>2</sub>-eq.)</b> <sup>(a)</sup>	<b>14,800</b>	<b>15,134</b>	<b>13,265</b>	<b>12,204</b>	<b>12,482</b>
Emissions avoided due to the use of H <sub>2</sub> for desulfurization (in thousands of tonnes of CO <sub>2</sub> -eq.)	62,300	64,200	64,067	64,900	58,400
<b>Total Avoided Emissions including End Uses (in thousands of tonnes of CO<sub>2</sub>-eq.)</b>	<b>77,100</b>	<b>79,334</b>	<b>77,332</b>	<b>77,104</b>	<b>70,882</b>

<sup>(a)</sup> These avoided emissions cover only the avoided emissions directly attributable to the optimization of Air Liquide's assets and to the use of Air Liquide's solutions by its direct customers. They do not include avoided emissions induced at the level of end-use.

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

	2023 <sup>(d)</sup>	2024
Annual purchased power (in GWh) <sup>(a)</sup> <sup>(c)</sup>	38,049	38,568*
Percentage of power purchased by the Group which is renewable <sup>(c)</sup>	19.8%	23.1%
Percentage of power purchased by the Group which is renewable and nuclear <sup>(c)</sup>	35.7%	40.3%
Annual fuel consumption (in GWth <sup>(b)</sup> )	27,506	27,007*

<sup>(a)</sup> GWh: electrical GWh

<sup>(b)</sup> GWth: thermal GWh using LHV (Lower Heating Value), which includes the fact that energy from water vaporizing in fuel is not recovered.

<sup>(c)</sup> Includes electricity, steam, and compressed air purchased by the Group. Does not include power where it is supplied free of charge, nor auto-production.

<sup>(d)</sup> Recalculated values to align to CSRD definitions of purchased & acquired energy, renewable energy, and nuclear energy.

\* Indicator verified by the independent verifier.

## Water consumption

	2020	2021	2022	2023	2024
Annual water withdrawal (estimate in millions of m <sup>3</sup> )	257	950 <sup>(a)</sup>	973	944	885*
Annual water consumption (estimate in millions of m <sup>3</sup> ) <sup>(b)</sup>	90	82	91	89	100*

<sup>(a)</sup> In 2021, a new reporting tool was implemented and new collection criteria introduced; the increase in reported water quantities for both withdrawals and discharges compared with previous years results from the inclusion of more Open Cooling Circuits, enabled by more granular reporting.

<sup>(b)</sup> Net water consumption, calculated as the difference between the water withdrawn and the water returned to the source.

\* Indicator verified by the independent verifier.

# Extra-financial reporting

## Safety indicators for the entire Group

	2015	2016	2017	2018	2019	2020 <sup>(a)</sup>	2021	2022	2023	2024
Number of Group employee and temporary workers lost-time accidents of at least one day <sup>(a)</sup>	152	137	198	161	158	108	138	123	129	86*
Accident frequency of Group employees and temporary workers <sup>(b)</sup>	1.6	1.4	1.6	1.3	1.2	0.9	1.1	0.9	1.0	0.7*
Accident severity rate <sup>(c)</sup>	<0.1	<0.1	<0.1	0.17	<0.1	0.12	<0.1	<0.1	<0.1	<0.1
Number of accidents of subcontractors <sup>(d) (e)</sup>	94	91	90	93	109	67	83	73	62	51*
Frequency of accidents of subcontractors	2.2	2.0	2.1	2.2	2.4	1.4	1.6	1.5	1.3	1.1*
Frequency rate of serious avoidable accidents involving injuries (in millions of km traveled)	-	-	0.013	0.030	0.022	0.019	0.021	0.023	0.026	0.022

<sup>(a)</sup> Fatal work accidents since 2015: one in 2024, one in 2023, none in 2022, none in 2021, two in 2020, none in 2019, three in 2018, none in 2017, one in 2016, none in 2015.

<sup>(b)</sup> Number of accidents with at least one day's absence from work per million hours worked, involving Group employees and temporary workers. Accidents defined in accordance with the International Labor Office recommendation. Hours worked are defined according to local labor regulations.

<sup>(c)</sup> Average number of days off work per thousand hours worked. Accidents defined according to the International Labor Office recommendation.

<sup>(d)</sup> Employees working under a contract with Air Liquide, on a Group site, or on a customer site, or as drivers of a delivery vehicle.

<sup>(e)</sup> Fatal work accidents since 2015: two in 2024, none in 2023, one in 2022, four in 2021, one in 2020, two in 2019, five in 2018, none in 2017, one road accident in 2016, one road accident in 2015.

<sup>(f)</sup> With Airgas, the data for the previous years concerns Air Liquide exclusively.

\*Indicator verified by the independent verifier.

## Human Resources Indicators

	2020	2021	2022	2023	2024
Group employees <sup>(a)</sup>	64,445	66,436	67,109	67,778	66,657*
Women	17,242	18,324	18,739	19,074	19,475*
as a %	27%	28%	28%	28%	29%

<sup>(a)</sup> Employees under contract, excluding temporary employees.

\* Indicator verified by the independent verifier.

## Human Resources Indicators for the Group

	2020	2021	2022	2023	2024
<b>Parity and diversity</b>					
<b>Gender mix</b>					
% of women among managers and professionals	30%	31%	31.5%	32.0% <sup>(a)</sup>	33.1%*
% of women among employees at top management level	21%	24%	24.8%	24.7%	23.7%*
<b>Number of nationalities</b>					
Among expatriates	51	48	65	52	47
Among senior executives	34	35	35	34	34
Number of nationalities among top management/ Number of countries where the Group is present	44%	47%	48%	47%	56.7%

<sup>(a)</sup> The share of women among "Managers and Professionals" is rounded off in increments of 0.5%.

\* Indicator verified by the independent verifier.

# Explore more

You are...

An investor or shareholder, read:



The Universal  
Registration  
Document


The Vigilance Plan

The Shareholder's  
Practical Guide



The Climate  
Transition Plan

Curious, discover:

Our stories 

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A world leader in gases, technologies and services for Industry and Health, Air Liquide is present in 60 countries with approximately 66,500 employees and serves more than 4 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.

Digital version



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