

A photograph of a woman with dark hair in a ponytail, wearing a white long-sleeved shirt, lifting a young child into the air. The child is wearing a beige and white checkered shirt and has a joyful expression with their mouth open and arms raised. The background shows a city skyline at dusk or dawn, with a prominent skyscraper and other buildings visible against a blue and orange sky. A yellow curved line frames the left side of the image.

# Performing for what matters

Sustainability Report 2023

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Access  
the digital  
version



Air Liquide is a world leader in gases, technologies and services for Industry and Health.

72 countries

67,800 employees

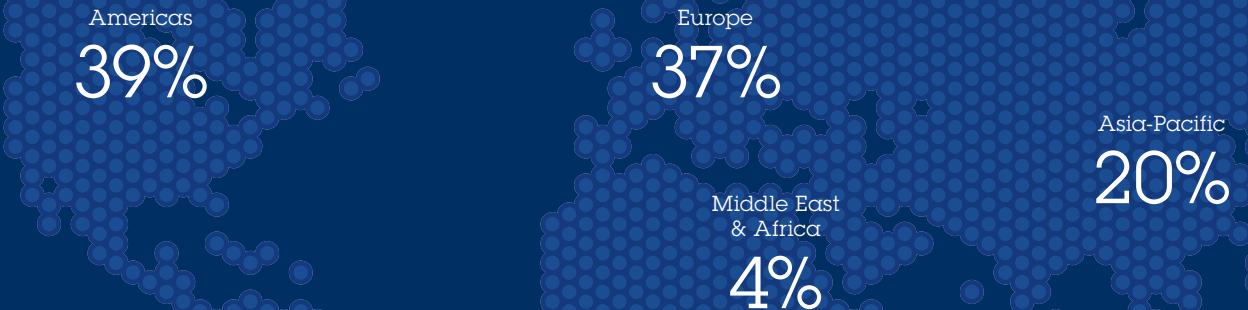
4M customers and patients

~800,000 individual shareholders

€27.6bn Group revenue

€3.1bn Net profit (Group share)

2023 Gas & Services revenue by geography



Gas & Services



There are many global societal challenges that call for immediate – and collective – responses.

At Air Liquide, we are ready.

**Climate, health, energy, mobility, sovereignty, the digital revolution...** There are many global societal challenges that call for immediate – and collective – responses.

At Air Liquide, we are ready. **Ready to deploy our solutions wherever they are needed**, and ready to accelerate whenever the situation requires it. Whether it is supporting our customers on their decarbonization journey, working alongside caregivers and patients faced with an evolving healthcare sector, deploying hydrogen to make mobility more sustainable, or contributing to the growth of digital technologies, we offer concrete solutions to help society move forward.

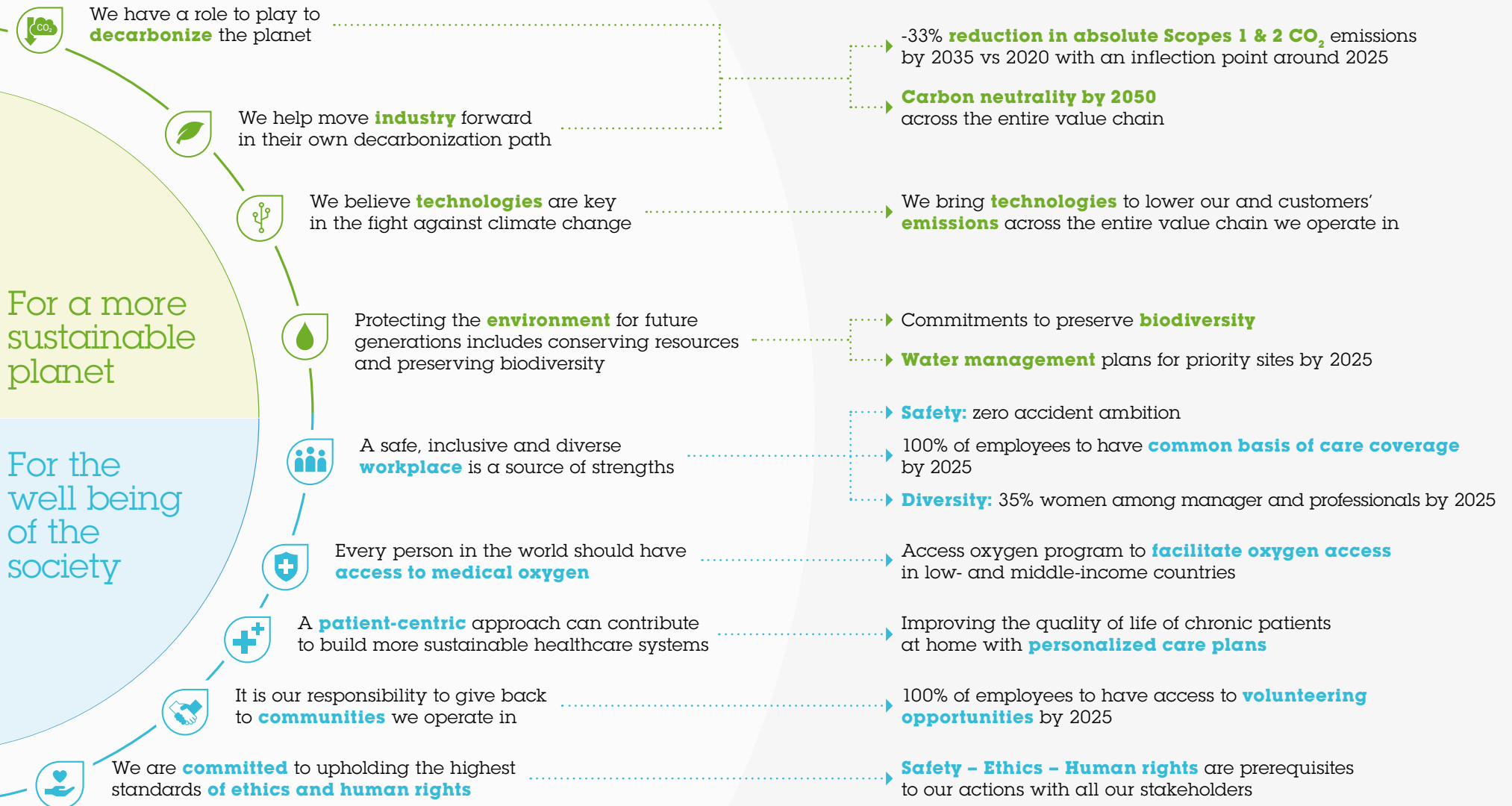
Our quest to provide ever more useful solutions for the world is made possible by the **ingenuity of our employees**, our **technological expertise**, and the infinite potential of our **essential small molecules**. It is by putting these strengths to work for society that our Group contributes, in its own way, to human, social, and environmental **progress**.

It is with this vision, with the commitment of our teams and the confidence of our stakeholders, that we are moving forward and taking action to **create a more sustainable future today**.

# Air Liquide: a positive global impact

## Our convictions

## Our commitments





# Performing for what matters

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*Francois Jackow*

Chief Executive Officer of Air Liquide

“

We address challenges with concrete actions that have a clear end goal: to make an **impact**.

”

**Performing for what matters:** in other words, achieving superior and sustainable results as a way to provide ourselves with the means to act with impact and in the long run for our people, our customers, our patients and, more widely, for the wellbeing of society.

Whether fighting climate change, giving access to low-carbon and affordable solutions, helping the industry to transform, advancing patient care or creating a more inclusive society, Air Liquide can make a difference. In a world that is increasingly uncertain on many fronts, it is our responsibility as a global company to address environmental and societal challenges with concrete actions that have a clear end goal: to make an **impact**.

In this report, you will discover how at Air Liquide, *performing for what matters* means, for instance, **caring for our people:** building a safe and inclusive work environment where they can draw strength, thrive and innovate. We have therefore taken action in the fields of safety, diversity, equal care coverage and by giving our teams the opportunity to serve their local communities. Beyond our own people, we must consider fairness for all our stakeholders in the transition to a more sustainable economy.

“

Where is the mechanism that creates the proper incentives for innovative companies to develop solutions delivering net reduction for the planet and thus reflects the significantly wider contribution they make?

”

Performing for what matters also means **improving the quality of life of our patients** and building resilient, sustainable healthcare systems. In our role as a major healthcare player, we care for patients living at home, focusing on what matters most in their daily lives while opening up access to medical oxygen in low- and middle-income countries.

Performing for what matters demands **acting now to accelerate the pace of the energy transition.** Far from opposing energy transition and industry, at Air Liquide, we are convinced that we will only succeed if we act in lockstep together, with our customers and stakeholders. Addressing climate change requires determination, speed and, as importantly, a focused collective will. We are ready to move fast but it cannot be done alone. We urgently need all stakeholders – customers, governments, investors – to come together to make change happen.

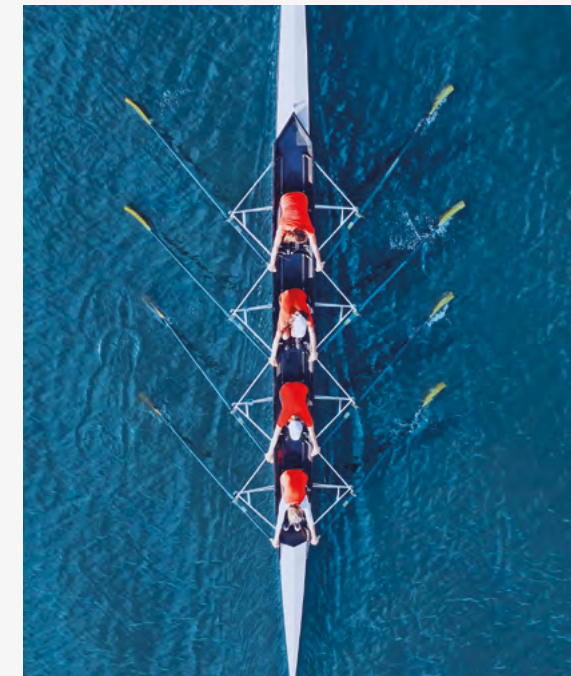
I also strongly call for a global standard to address the **question of “avoided emissions”**. This metric is the only genuine measure of positive impact on a planet-wide scale. At Air Liquide, we know this first-hand: we go well beyond reducing our own emissions, creating solutions that enable our customers to decrease theirs as well. This may lead to additional emissions attributable to Air Liquide in delivering the net reduction for the planet. Where is the mechanism that creates the proper incentives for innovative companies to develop such solutions and thus reflects the significantly wider contribution they make?

Our essential small molecules and technologies have always contributed to advancing industry and society and we will continue to advance further. All our innovations are opportunities which have one common point: they contribute to **collective progress**.

I know that the 67,800 employees around the world share my belief: we are part of the solution to build a more sustainable future.

## Air Liquide, Official Hydrogen Supporter of the Olympic and Paralympic Games Paris 2024 to contribute to reducing the Games' carbon emissions

This partnership will help accelerate the wide-scale adoption of hydrogen to decarbonize transport.



# Air Liquide: our molecules deliver benefits across a very broad range of sectors

## Inputs

## Assets

## Molecules

## Markets

Air  
Electricity



Air Separation Units



O<sub>2</sub>  
N<sub>2</sub>  
Argon, other Rare Gases

Natural Gas/BioGas



SMR/HyCO



H<sub>2</sub>, CO

Water  
Electricity



Electrolyzers



O<sub>2</sub>, H<sub>2</sub>

Organic waste  
Electricity



Biogas Plants



Biomethane

Recovered CO<sub>2</sub> from industrial processes



CO<sub>2</sub> Capture Plant



CO<sub>2</sub>

Natural Gas  
Water



Cogeneration Units



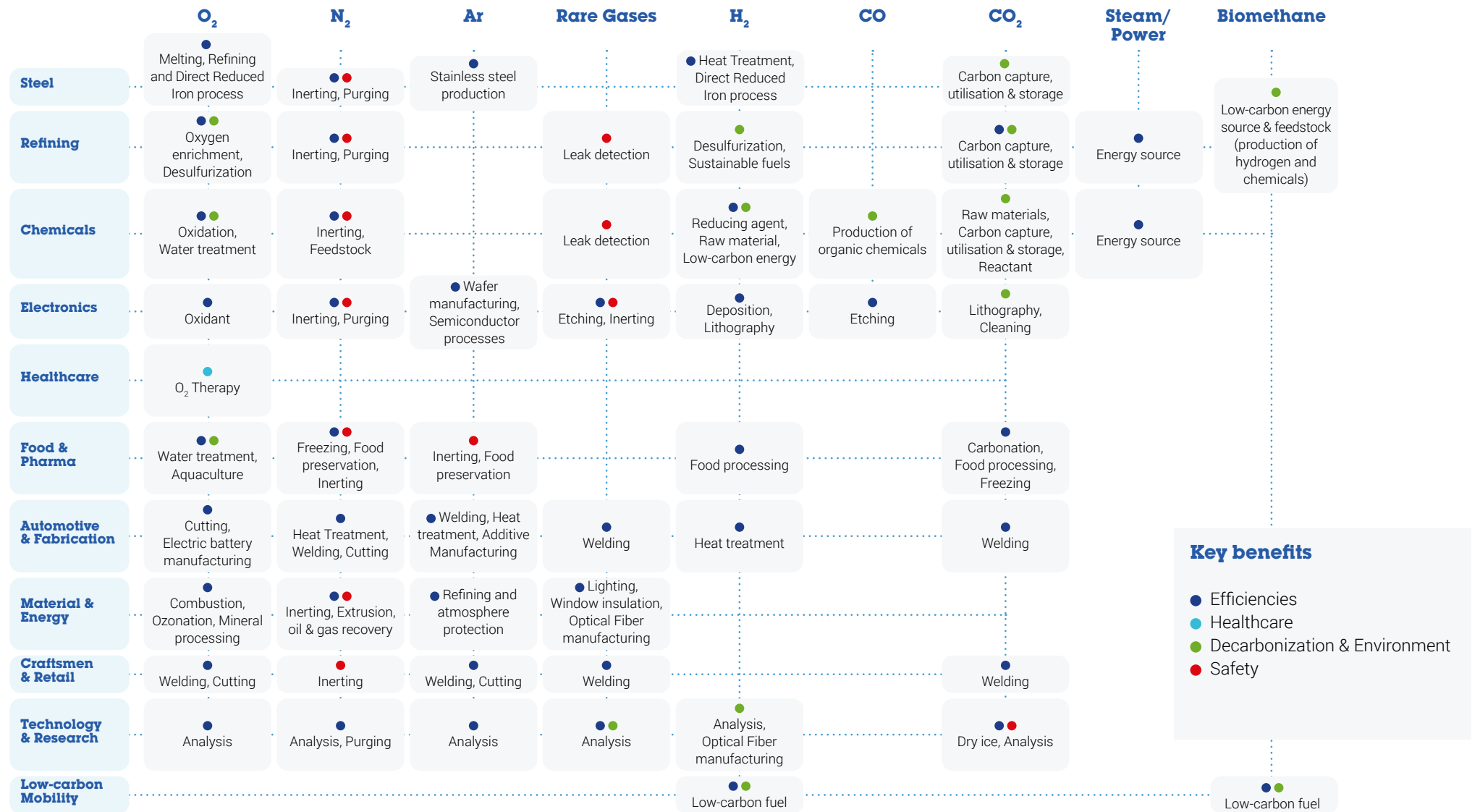
Steam/power

We serve all areas of the economy

- Steel
- Refining
- Chemicals
- Electronics
- Healthcare
- Food & Pharma
- Automotive & Fabrication
- Material & Energy
- Craftsmen & Retail
- Technology & Research
- Low-carbon Mobility
- Others



Our products\* and solutions contribute both directly and indirectly to a healthier society, and a more sustainable planet.



\*Only major products are shown here.

# Conversation with Diana Schillag

Member of the Executive Committee, overseeing Healthcare, Group Sustainable Development and Procurement.



## **Diana, you stepped into supervising Sustainable Development in 2023. How do you see this mission?**

I was very honoured to take on the role and I have been very impressed by the collective determination of our teams to bring the Group's commitments to life. Like in Healthcare: both share the same purpose of contributing to a better society and we have an active role to play.

## **To what extent does sustainability sit at the heart of Air Liquide's strategy?**

It is central to what we do and is firmly embedded in our governance. Sustainability is more than a stated ambition, it is a commitment with concrete actions. As such, it is fully integrated in our investment process: we manage CO<sub>2</sub> just like we manage investments. These objectives are also integrated in our variable compensation, mobilizing the organisation to deliver on the commitments. A CEO-chaired committee reviews all strategic sustainability topics, ensuring the implementation of a sustainability-focused strategy across the Group.

## **What would you say about your 2023 environmental performance?**

Our work is bearing fruit. Our absolute CO<sub>2</sub> emissions have decreased two years in a row, and this will gain momentum with projects initiated in 2023 in areas such as sourcing renewable energy, decarbonization and strategic partnerships.

The Group also made significant progress to protect water resources and our biodiversity commitments were validated by Act4nature. Leading extra financial rating agencies

continue to recognize the progress we are making, and we remain in the top quartile of rankings in our sector.

## **And socially?**

We are building a safe and inclusive environment, inside and out. Employees benefiting from common care coverage is up sharply to 78%, and we are targeting 100% of the Group by 2025. By then, we also want to see 35% of women among our managers and professionals and we recognise there is still work to be done. 73% of our workforce now has access to volunteering opportunities through the Citizen at Work program, with the aim of giving back to the communities in which we operate.

Besides caring for our own teams, we strive to be useful to society as a whole. In Healthcare, we are seen by our ecosystem as pioneers driving change, with our Value-based Healthcare approach which focuses on the value we bring to patients, at the best cost for society. In rural areas in Africa, we are facilitating access to oxygen, through our Access Oxygen program. And the Air Liquide Foundation, which celebrated 15 years of actions, has provided remarkable support to more than 70,000 Ukrainian refugees and facilitated the integration of people facing long-term unemployment.

## **What would you say about the challenges on the road to net zero?**

It is no exaggeration to say this is one of the biggest challenges the world is facing. We take a proactive stance to move the whole ecosystem and we strive to propose innovative solutions to accelerate decarbonization. However we need to recognize that the ramp up pace is not fully under our control. Our environment needs to evolve as well at a sufficient speed, accelerating the demand for low-carbon solutions while setting in parallel supportive policy frameworks and infrastructure build up for a low-carbon market to become viable over the long term.

## **Looking forward, what are your priorities for 2024 and beyond?**


The new Corporate Sustainability Reporting Directive (CSRD) takes effect this year and we see the value of creating standardization and adding transparency to Sustainability reporting. But reporting – however important – will not replace our efforts on actually making an impact and it is the focus of everything we do. Challenges often reveal opportunities and Air Liquide has always contributed to driving the industry forward. So we will continue to shape the markets of the future where our technologies create intrinsic value for our customers and also for society and the planet.

# Advancing for a sustainable future

By combining financial and non-financial performance in its ADVANCE 2022-2025 strategic plan, Air Liquide has opened a new chapter in its history. As a major player, it is our responsibility to take concrete action to meet the environmental and societal challenges we all face, and thus invent a sustainable future.

Air Liquide’s Sustainable Development strategy is based on commitments for the environment, for health, and for all.

## Our Sustainability Priorities

For the...  
**Environment** 

**Contribute to a low-carbon society and the environment as a whole.**

---

**Reducing our CO<sub>2</sub> emissions**


- by 2035, a -33% reduction in absolute Scopes 1 & 2 emissions, with an inflection point around 2025
- by 2025, -30% reduction in Carbon Intensity
- by 2050, reach carbon neutrality across the entire value chain

**Water management**

- Implement a water management plan by 2025 for high water use sites in high water stress areas.
- Define a Group standard for all operations related to the quality of discharged water

**Biodiversity preservation**

- Reinforce biodiversity assessment criteria in the investment process in 2024
- Implement an aggregated biodiversity indicator in 2025

For...  
**Health** 

**Improve the quality of life of patients and access to medical oxygen.**

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**Improving the quality of life of patients with chronic diseases at home in mature economies**

**Facilitating access to medical oxygen in low- and middle-income countries**

For...  
**All** 

**Strive to act as a trusted partner with all our stakeholders.**

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**Engaging with our employees: creating a safer, more collaborative and inclusive work environment**

- by 2025, 35% women among Managers and Professional population
- by 2025, 100% of employees to have common basis of care coverage
- By 2025, 100% of employees to have access to volunteering opportunities through the Citizen at Work program

**Building a best-in-class governance to create close relationships with stakeholders**

# Delivering results in 2023

With our ADVANCE strategic plan, we view our sustainability and financial performance as equally important.

Our 2023 results showed that Air Liquide's determination to act for the environment, for health and for all is already bearing fruit. And many projects initiated in 2023 will continue to feed this trajectory, paving the way for a meaningful future.

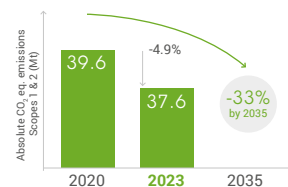
\* Air Liquide has been a signatory of the United Nations Global Compact (UN Global Compact) since 2014. Through its activities, its engagement and its environmental and social actions, Air Liquide contributes to certain Sustainable Development Goals (SDGs) that the United Nations has set up to eradicate poverty, protect the planet and guarantee prosperity for all by 2030.

For the... **Environment**

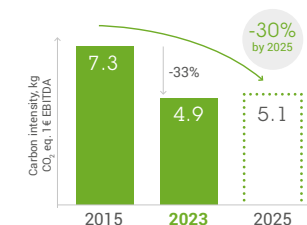
Read more: [pages 16-29](#)

## CO<sub>2</sub> Trajectory

**Our commitment:** by 2035, a **-33% reduction in absolute Scopes 1 & 2 CO<sub>2</sub> emissions** vs 2020 with an inflection point around 2025.



**Our commitment:** by 2025, a **-30% reduction in Carbon Intensity<sup>(1)</sup>** vs 2015.



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

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



## Water management

### Our commitments:

- Implement a **water management plan by 2025** for high water use sites in high water stress areas.
- Define a **Group standard** for all operations related to the **quality of discharged water**.

### 2023 achievements

- Priority sites identified  Under implementation.
- Group Standard defined  Under implementation.
- Over 90% of water returned to source.

## Biodiversity preservation

### Our commitments:

- Reinforce **biodiversity assessment criteria** in the investment process for all new projects by 2024.
- Develop and implement an **aggregated biodiversity indicator** by 2025.

### 2023 achievement

- Commitments validated by Act4nature.



(1) In kg CO<sub>2</sub>-equivalent/euro of operating income before depreciation and amortization and excluding IFRS 16 at 2015 exchange rates on Scopes 1 and 2 of greenhouse gas emissions on a "market-based" methodology.

For... **Health**



Read more: **pages 30-35**

**In mature economies**



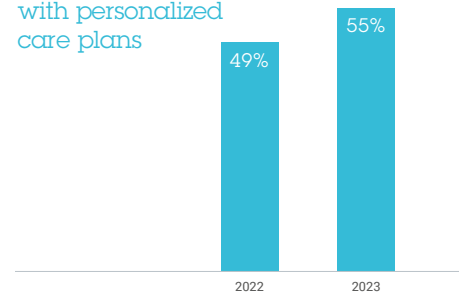
Improving the **quality of life of chronic patients at home**

**2023 achievements**

**120**

patient-centric initiatives developed.

Percentage of patients with personalized care plans



**In low- and middle-income countries**

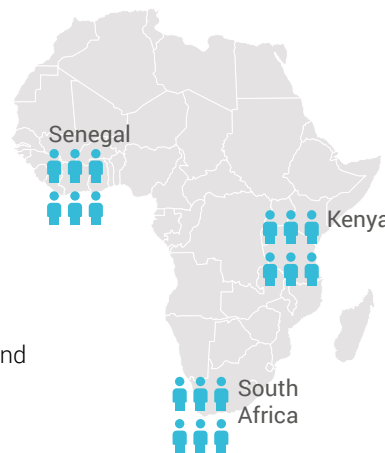


Facilitating **access to medical oxygen in rural communities**

**2023 achievements**

**~2 million**

people in Africa facilitated with access to oxygen.



**~260**

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



For... **All**



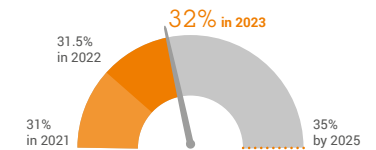
Read more: **pages 36-43**

**For our employees and communities**

**Our commitments:**



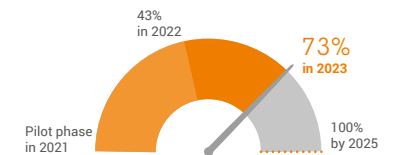
By 2025, **35% women** among Manager and Professional population. **Continued acceleration of efforts in 2023 toward 2025 target.**



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



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



**Additional key achievements in 2023**

**Safety**

**1** Lost-Time Accident Frequency Rate.<sup>(1)</sup>

**Air Liquide Foundation**

**500** projects in **50** countries in **15** years.

Environmental and medical research, access to employment, solidarity.

(1) Number of accidents with at least one day's absence per million hours worked.

# Extra-financial ratings

In 2023, 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 2023 for some key ESG assessments are as follows:



## CDP

Air Liquide remained a Level A leader in its category, scoring an **A-** on both climate and Water performance.



## MSCI

Air Liquide has maintained its **A rating**, ranking in the top 26.5% of companies in terms of social responsibility.



## EcoVadis

In 2023, Air Liquide once again ranks in the **top 10%** of the best-rated companies.



## Sustainalytics

Recognized as **“ESG Industry Top Rated”**, Air Liquide received a “low risk” rating.



## Moody's ESG Solutions

Air Liquide ranked in the **top 3%** of assessed companies.



## FTSE 4Good

Air Liquide remains a constituent of the FTSE 4Good index series in 2023.



## ISS ESG

Air Liquide ranks in the **top 10%** of companies in the running, earning ISS “Prime” status.



## S&P Dow Jones Indices

For the second year running, Air Liquide has been included in the DJSI Europe index in recognition of its commitment to social and environmental responsibility.

# Awards

The Group's performance in Environment, Social and Governance are regularly recognized and rewarded by various organizations. Among the awards received in 2023, here is a non exhaustive list:

## Environment

### CHINA:

- Best Responsible Care® Company Award and Carbon Footprint Award from AICM

### USA:

- Airgas received 2023 Compressed Gas Association (CGA) Awards for Environmental Excellence – Cylinder Pallet Strap Recycling Program and ECO ORIGIN™ offer
- S&P Global Commodity Insights' Platts Global Energy Award in the "Sustainable Chemicals – Best Product" category
- Chemtreat Power of Water Award

### FRANCE:

- Grand Prize for "Transition Environnementale Socialement Responsable" for its innovation Cryocap FG™ awarded by the Institut du Capitalisme Responsable

## Finance

### FRANCE:

- Responsible Investment Award for Best ESG approach among all CAC 40 and SBF 120 companies from Boursorama

## HR

### SPAIN & PORTUGAL:

- Great Place to Work

### FRANCE:

- #HappyIndex® Trainees label awarded by ChooseMyCompany

### USA:

- Airgas named Newsweek America's Greatest Workplaces
- Airgas named Newsweek America's Greatest Workplaces for Diversity

## Ethics & compliance

### FRANCE:

- Transparency Awards Ethics & Compliance In the "Vigilance Plan" category from LABRADOR and the Eco Label

### USA:

- Airgas named to Newsweek's list of America's Most Trustworthy Companies 2023

### MEXICO:

- Recognized for best practices for people with disabilities in the workplace

## Responsible procurement

### EUROPE:

- Trophée des Achats Silver Award for its approach with Handiprint
- Trophée des Achats Silver Award for its approach to strengthen the resilience of the supply chain

## Healthcare

### SWEDEN:

- Value-based Healthcare Dragons Grant and Endorsement Award for its care management program for Parkinson Patients

## Communities

### USA:

- Bronze 2023 President's Volunteer Service Award for the volunteer time that employees have donated to the Houston Food Bank





# In the front line of environmental progress

We never forget that the actions we take today will shape how future generations will live tomorrow. This demands that we make a difference – and at scale. For years now, we have been making strong commitments on CO<sub>2</sub> reduction. Despite being a tough call for an energy-intensive industry like ours, we are delivering. We are also taking that same determination to manage water sustainability and preserving biodiversity. But we can't do this alone – this mission requires the collective efforts of all stakeholders.





### We are proud to play our part

We have the scale, the technologies and the know-how to make a real impact and offer more sustainable options where they are most needed. We work on the front line of environmental progress, playing a decisive role in the transition to a low-carbon society.

### Carbon neutrality needs carbon capture

It is not always feasible to modify hard-to-abate processes, but we can deploy technologies to create sustainable alternatives. We believe carbon capture is an essential tool for emissions reduction to stay on a 1.5°C pathway, as outlined by the IEA<sup>(1)</sup> and IRENA<sup>(2)</sup>. Air Liquide not only has the technologies, but is also located in the major industrial basins to act as an aggregator for the CO<sub>2</sub> streams to be captured. As a long-term partner, we are a natural choice to support industry on its low-carbon journey.

### Scope 3 & Avoided emissions

Our drive to carbon neutrality not only focuses on our own Scope 1 & 2 emissions. We are tackling the broader challenge of Scope 3 emissions along the entire value chain by engaging with stakeholders, and especially suppliers and customers to identify levers and reduce our Scope 3 emissions.

Our contribution goes well beyond reducing our own emissions. We have a key role to play to enable others – primarily our customers – to reduce their emissions and move to new and efficient processes. As an illustration, some large scale decarbonization projects shift the residual emissions to Air Liquide while these “avoided emissions” reduce the CO<sub>2</sub> footprint of our customers. So, although there is a net benefit to the planet, this results in a facial increase in our CO<sub>2</sub> emissions inventory. So how do we correctly assess the value of such solutions

and the wider contribution we make? Today, there are no definitive standards to address this question, which is on the top of mind for many industrial players.

### Responsibilities, but also opportunities

We provide molecules and services to address the challenges of many major industries such as steel and chemicals. Helping them to make sustainable progress is part of our expertise. This is why we see energy transition as an opportunity to tap into new markets, attract conscientious consumers and strengthen long-term resilience.

### We will act with society as a whole

Today, with lack of harmonized carbon pricing, it is still less expensive to emit than to abate. The world is not yet on the much needed 1.5°C trajectory, and decarbonization efforts must be significantly accelerated. But the pace of the ramp-up needed is not always in our control. There are many challenges to surmount, including access to affordable renewable energy in many geographies, and access to carbon sinks for CO<sub>2</sub> capture and storage, which will require rapid development of infrastructure and supportive policy frameworks. So, although Air Liquide can only decarbonize at the speed of society, we will always strive to accelerate new solutions across the entire ecosystem, while decarbonizing our own assets.

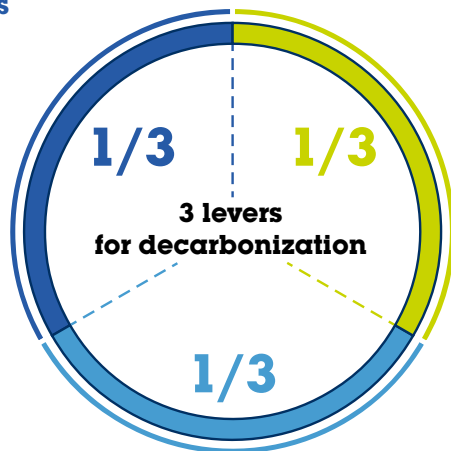
### 2023 key decisions

#### Carbon Capture Usage / Storage



#### Asset Management

Normand'Hy 200MW electrolyzer  
ASUs electrification in China



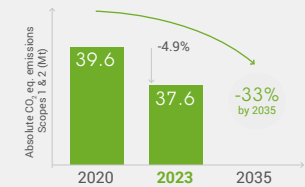
#### Low-Carbon Electricity Sourcing

2,600 GWh per year of renewable electricity secured in 2023 (PPAs and certificates)

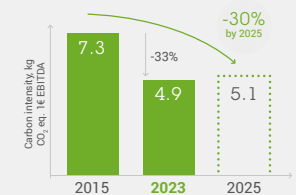
### Our commitments and associated progress



**Our commitment:** by 2035, a **-33% reduction in absolute Scopes 1 & 2 CO<sub>2</sub> emissions** vs 2020 with an inflection point around 2025.



**Our commitment:** by 2025, a **-30% reduction in Carbon Intensity\*** vs 2015.



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

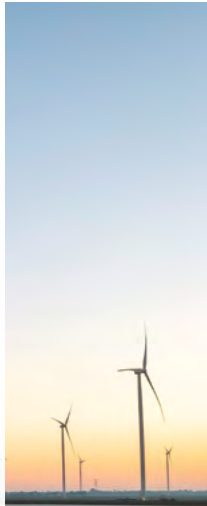
(1) International Energy Agency.  
(2) International Renewable Energy Agency.

# Renewable electricity: boosting power supplies

## Vision

Using renewable electricity to produce low-carbon industrial and medical gases is part of Air Liquide's commitment to achieving carbon neutrality by 2050. While the production of oxygen and nitrogen generates no CO<sub>2</sub> emissions, it does require large quantities of electricity, which needs to be decarbonized. The challenge is to secure long-term supply from renewable energy suppliers. Air Liquide relies on Power Purchase Agreements (PPAs) – contracts which can run for up to 25 years – providing the Group with long-term renewable electricity.

The year 2023 saw considerable development in this area, with Air Liquide nearly doubling its supply reaching 2,600 GWh of renewable electricity per year for the coming years in many different countries, 60% of which is secured through PPAs.



**2,600 GWh**  
per year of renewable electricity secured by the Group in 2023 through long-term contracts

"Many players are looking to source renewable electricity, making the PPA<sup>(1)</sup> market very tight. Our long-term commitments and solid business model make Air Liquide a preferred customer for renewable energy suppliers."

*Raphaëlle Imbault,*

Director of Energy Management at Air Liquide

(1) Power Purchase Agreements.



## Action

In South Africa, where the Group operates the world's largest oxygen production site at Secunda, Air Liquide has teamed up with its customer, Sasol, a leading global chemicals Group, to source renewable electricity. Several PPAs were signed since 2022 with various local energy suppliers, now representing 580 MW of renewable electricity. This newly installed capacity will contribute to Air Liquide's objective of reducing CO<sub>2</sub> emissions linked to oxygen production at Secunda by 30 to 40% by 2031.

In Europe, where Air Liquide is stepping up plans to decarbonize its production units, the Group has once again signed a PPA with Vattenfall, one of Europe's leading electricity producers and distributors, for an installed capacity of 115 MW. This second PPA in Benelux significantly strengthens Air Liquide's supply of renewable electricity in the region. Concluded for a 15-year

period starting in 2026, it will bring Air Liquide's total installed renewable electricity generation capacity in Benelux to around 270 MW. This capacity allows to supply over 70% of the Group's current electricity consumption in the region.

In China, the Group signed its first long term PPA for supply of renewable electricity from solar farms with a total capacity of 200 MW. This amount secured by Air Liquide for the production of industrial and medical gases in China is equivalent to the electricity consumption of 300,000 Chinese households.

These new PPAs mark an important step in Air Liquide's drive to secure renewable energy. The Group will be able to offer low-carbon molecules and solutions to its customers, supporting them in their decarbonization efforts.

**1st long term PPA**

signed in China

**580 MW**

of renewable electricity secured in South Africa

**70%**

per year of renewable electricity secured in 2023 in Benelux

# Decarbonizing our assets with efficiencies

## Electrification of two oxygen production units in China

### Vision

Tackling climate change requires action on many fronts. Air Liquide is committed to developing cutting-edge sustainable technologies while – at the same time – reducing CO<sub>2</sub> emissions of its existing operations. And the first action is to draw out every efficiency we can. In order to act now, Air Liquide is modernizing its units to enhance their energy efficiency and lower their carbon footprint.

### Action

Air Liquide has successfully operated in China's Tianjin basin for more than 20 years. The Group owns and operates four production sites there, as well as a large pipeline system to supply industrial gases to healthcare and industry. In 2023 we announced a €60 million revamp program to modernize and lower the carbon footprint of two air separation units (ASUs), so they can run on electrical power instead of steam, as part of a long-term contract renewal with our strategic customer.

This major upgrade will enable the plant to avoid emitting 370,000 tonnes of CO<sub>2</sub> per year, equivalent to the electricity-related emissions of more than one million Chinese households.

In parallel, we are also investigating low-carbon Power Purchase Agreements (PPAs) to further drive down the emissions related to these plants.

**370,000 tonnes**

anticipated annual CO<sub>2</sub> emission reduction

**€60m**

dedicated to two major revamp programs

**4,000 tonnes**

oxygen and other gases produced every day by the revamped plant

## Electronics: In Singapore, a new cutting-edge on-site plant and upgrades of existing units in the U.S.

### Vision

The semiconductor industry is rapidly evolving, with increasing demand for more energy-efficient semiconductor chips for AI applications, Electric Vehicles etc. To meet the specific needs of our electronics customers, we develop innovative solutions that bring significant energy efficiencies as well as sustainability benefits.

### Action

Air Liquide has been a trusted partner and experienced provider for customers in the semiconductor industry for a long time. Being close to customers – including our “on sites” plants that produce high purity gas at the customer site – is essential, as it allows for better collaboration, uninterrupted supply and decarbonization by avoiding the need to transport molecules. One of our customers, GlobalFoundries, is a leading manufacturer in semiconductors, whom Air Liquide has supplied ultra-pure carrier gases, such as ultra-pure nitrogen, for over two decades. Our newest project with them takes efficiency to the next level. We are building a new state-of-the-art plant on GlobalFoundries' site in Singapore, a new state-of-the-art plant, replacing two old ones, resulting in significant energy efficiency savings, thus reducing the amount of electricity required, leading to a reduction of the customer's carbon footprint.

A saving of this magnitude could power the annual energy needs of more than 3,650 typical Singaporean households. Additionally, Air Liquide has extended its partnership with GlobalFoundries' existing units at its Malta, New York state site for the next 15 years. In this context, the units in New York will be upgraded via energy efficiency projects in order to support the site's efficiency and sustainability needs over this period.



# Capturing CO<sub>2</sub>: an essential solution for decarbonizing industry

## Vision

More than 20% of the world's CO<sub>2</sub> emissions come from industry. Today, the challenge is to rapidly deploy concrete solutions that will significantly reduce these emissions. Among the technologies already available, carbon capture and storage (CCS) is a key solution for decarbonizing the existing plants of industries with the highest emissions and those most difficult to decarbonize, such as cement, metallurgy, refining, and chemicals. These are also the sectors where this technology will have the greatest impact, as CO<sub>2</sub> concentrations are the highest. The principle consists in capturing CO<sub>2</sub> emissions at the source, treating and purifying them, and then recycling or sequestering them in permanent geological storage. Large-scale CCS projects are being developed around the world, particularly in Europe and the United States, which together account for over 70% of global projects. Air Liquide is one of the leaders in this field, with its proprietary Cryocap™ technology, which captures, purifies, and liquefies CO<sub>2</sub> before it is transported to the sequestration site.



"To best meet our customers' needs, we draw on more than 15 years of our experience in this field. As a result, we can offer a portfolio of innovative technologies guaranteeing very high capture rates while optimizing the energy efficiency of installations."

*Florian Gautier,*

Director of Energy Transition for Large Industries activity at Air Liquide



## Action

Air Liquide is involved in a number of large-scale CCS projects, particularly in Europe.

In the Netherlands, the Group is participating in the "Porthos" project, Europe's largest program to reduce CO<sub>2</sub> emissions. For Air Liquide, this means decarbonizing its own facilities by installing a Cryocap™ unit at its hydrogen production site in Rozenburg, near Rotterdam. The project also includes the construction of a pipeline which, from 2026, will transport the CO<sub>2</sub> emitted by several local plants through the port of Rotterdam to the North Sea, 20 km off the coast, where it will be sequestered. In all, the Porthos project will contribute to reducing the emissions by 2.5 million tonnes of CO<sub>2</sub> per year, which represents about 10% of the CO<sub>2</sub> emitted by industrial activities in Rotterdam.

Air Liquide is also involved in the K6 project, a partnership with cement manufacturer EQIOM. The aim is to make the Lumbres factory in northern France the first carbon-neutral cement plant in Europe, by capturing almost 8 million tonnes of CO<sub>2</sub> in the first 10 years of operation, thanks in particular to the Cryocap™ technology. In the same spirit, and in order to pool investments on a regional scale, Air Liquide will also contribute to decarbonizing the Lhoist lime production plant in Réty close to Lumbres.

As part of the D'Artagnan project, the CO<sub>2</sub> captured at the two plants will be transported to the port of Dunkirk for storage in the North Sea. By 2027-2028, the D'Artagnan project will contribute to the reduction of emissions by 1.5 million tonnes of CO<sub>2</sub> per year.

12

CCS projects in which Air Liquide is involved in Europe

Up to 98%

CO<sub>2</sub> captured thanks to the Cryocap™ technology

According to the GIEC, the French intergovernmental panel on climate change, no single technology is a miracle solution, but CCS is an essential technology for limiting global warming to 1.5°C or 2°C by 2100.

# Helping our customers reduce their carbon footprint

## ATR-based low-carbon ammonia and hydrogen technologies

### Vision

Air Liquide offers its customers a range of technologies tailored to their needs, enabling them to decarbonize their own operations. At Air Liquide we believe that competitively producing low-carbon hydrogen and ammonia at scale is key to decarbonize the economy. Therefore, among our portfolio of technologies, we can leverage seven decades of experience with our proprietary Autothermal Reforming Technology (ATR) that represents an area of interest for many industrial partners.

### Action

Combined with carbon capture, ATR enables industrial scale low-carbon hydrogen or ammonia production, with key advantages such as high carbon capture rate of up to 99%, a high energy efficiency and is considered as a cost-effective solution with ease of operation.

In 2023, Air Liquide's technology was selected for Japan's first ATR demonstration project by INPEX to enable the efficient production of large scale, low-carbon hydrogen and ammonia.

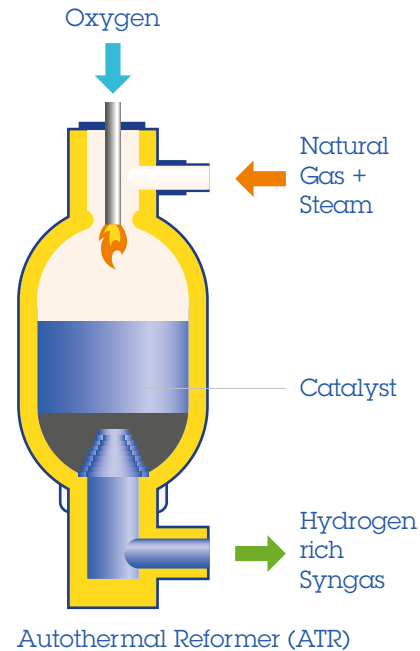
## ECO ORIGIN™: certified low-carbon molecules

### Vision

Many sectors of industry use industrial gases such as oxygen, nitrogen, argon or carbon dioxide in their manufacturing processes. Air Liquide actively supports its customers in their transition to a more sustainable economy by offering low-carbon gas options through its ECO ORIGIN™ offer produced using renewable feedstock and energy.

### Action

For our customers, this offer helps to significantly reduce their Scope 1 and Scope 3 emissions without impacting either the quality of the supplied gas or their processes. The emissions associated with our ECO ORIGIN™ gases are traced right from production to delivery, and their low-carbon footprint is certified to an international ISO standard by an independent certification body.



18

Number of countries deploying the ECO ORIGIN™ offer

100%

ECO ORIGIN™ gases produced from 100% renewable energy sources

# Renewable Hydrogen Production: an **electrolyzer gigafactory** to accelerate the movement

## Vision

An energy vector that currently meets just 3%<sup>(1)</sup> of the world's needs could, by 2050, meet 20%<sup>(2)</sup> of the demand. This is the remarkable prospect for hydrogen, a potentially pivotal molecule in the energy transition. A hydrogen future depends on competitive, large-scale production of low-carbon hydrogen – and, therefore, a mass supply of electrolyzers: a production technology that uses electricity to separate purified water molecules (H<sub>2</sub>O) into hydrogen and oxygen.

Air Liquide is playing a leading role in the entirely new industrial and economic ecosystem needed to drive the future of hydrogen. We are partnering with major industrial and technology enterprises, including a joint venture with Siemens Energy. And these are not merely plans: together, we closed 2023 with the inauguration of a world-first hydrogen gigafactory of PEM<sup>(3)</sup> electrolyzers in operation.

(1) According to the International Energy Agency.  
(2) According to the Hydrogen Council.  
(3) Proton Exchange Membrane.




## Action


On November 8, 2023, production began at the new Air Liquide Siemens Energy Joint Venture gigafactory in Berlin. The cutting-edge, 2,000 m<sup>2</sup> plant, highly automated with robotics, is producing electrolysis stacks that use proton exchange membrane technology.


Initial manufacturing capacity is 1 GW per year, with ramp-up plans targeting at least 3 GW per year of output by 2025. In terms of hydrogen production capacity, this would translate into 1,200 tonnes per day of hydrogen.

The project also builds on real-world knowledge from our operations to continuously hone and optimize the potential of mass-scale electrolyzers.

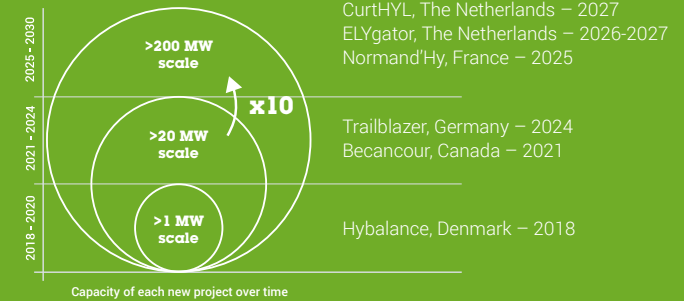
This strategic joint venture will serve a portfolio of current hydrogen projects, including notably:

 Our 20 MW hydrogen production unit in Oberhausen, Germany, contributing to accelerate the decarbonization of the Rhine-Ruhr industrial basin, with a focus on steel, chemicals, refineries and transport sectors.

 The Normand'Hy project in Port-Jérôme, France, with a capacity of 200 MW – the largest PEM electrolyzer under construction, which will integrate equipment produced in the framework of the joint venture. It will avoid the emission of 250,000 tonnes of CO<sub>2</sub> each year.

 In the Netherlands, two other large scale electrolyzer facilities will provide low-carbon hydrogen to various industrial and mobility market customers. With individual capacities of 200 MW, these projects are set to collectively produce approximately 30,000 tonnes of low-carbon hydrogen annually, without generating CO<sub>2</sub> emissions.

### Scaling up our electrolysis capacity over time



**3 GW**

Air Liquide's electrolysis capacity by 2030

**20%**

Share of hydrogen in the world energy mix by 2050

**250,000 tonnes of CO<sub>2</sub>**

will be avoided each year with the Normand'Hy electrolyzer

# Collective energies to accelerate hydrogen

## Vision

Transportation is essential to our daily life but it comes at an environmental price. Around 25% of Europe's total CO<sub>2</sub> emissions originate on its roads, with heavy duty vehicles accounting for a major share. Society at large is pushing for alternatives to decarbonize transportation and Air Liquide is contributing to intensify the use of hydrogen as a decisive low-carbon solution for mobility.

To actively participate in this crucial momentum, the Group is forming partnerships with major players worldwide to establish a low-carbon and viable hydrogen ecosystem in the U.S., Europe and Asia.

## Action

In 2023, Air Liquide joined forces with TotalEnergies to create **TEAL Mobility**, a joint venture to facilitate access to hydrogen for trucks on Europe's main road corridors.

TEAL Mobility aims to develop more than 100 hydrogen refueling stations over the next decade, forming the first transnational European network of this significant step toward reaching a minimum viable network for trucks.

The joint-venture is responsible for the investment, construction and operation of these stations (which will be under the

TotalEnergies brand), as well as the supply of hydrogen to the market and its marketing to the transport players.

In addition to a lower CO<sub>2</sub> footprint, the immediate advantages of hydrogen for truck operators are quick refueling, an extended range and a preserved payload capacity. The equally held joint venture combines the expertise of its two founding companies: the technologies and mastery of the entire hydrogen value chain of Air Liquide, and the operation and management of station networks and the distribution of energy to BtoB customers of TotalEnergies.

In line with the EU ambition to decarbonize road transportation (2030: -45% carbon emissions for trucks entering the market compared with 2019 levels), TEAL Mobility will contribute to the massive adoption of hydrogen for heavy duty mobility.

This strategic and innovative partnership will bring access to hydrogen in industrial quantities and act as a catalyst to activate the hydrogen mobility market with a strong signal to manufacturers, transport fleets and public bodies.

25%

Share of emissions caused by road traffic in Europe

50-50

Joint venture: Air Liquide and TotalEnergies

100

Number of hydrogen stations to be built over the next decade

20

hydrogen refueling stations by the end of 2024

### Low-carbon hydrogen made in USA

Many countries are initiating efforts to accelerate the establishment of a solid hydrogen market. For instance, in the United States, the hydrogen hubs program was created within the Bipartisan Infrastructure Law and further enabled by the Inflation Reduction Act, creating a total of 8 billion dollars in incentives. This massive investment plan aims to support the transition to a low-carbon energy system, including the creation of a reliable national low-carbon hydrogen network. In this context, the U.S. Department of Energy has made Air Liquide a partner in a record six out of seven Clean Hydrogen Hubs. Located in 16 states, these hubs will produce 3 million metric tonnes of low-carbon hydrogen per year, reaching nearly a third of the 2030 U.S. production target while abating 25 million tonnes of CO<sub>2</sub> per year – the equivalent of 5.5 million gasoline-powered automobiles – and creating thousands of jobs.



# Biomethane: a promising energy source

## Vision

According to the International Energy Agency, biogas production is set to quadruple by 2030. Naturally emitted by the decomposition of organic waste, biogas is composed of biogenic CO<sub>2</sub> and biomethane. This biomethane can be used as a substitute for natural gas in industrial processes such as hydrogen production, or as an energy source or renewable raw material for industries such as chemicals, thereby reducing CO<sub>2</sub> emissions by up to 80%<sup>(1)</sup>. Air Liquide, which first entered this market with its cryogenic purification and liquefaction technologies, has been a part of the massive growth of the global biomethane industry for more than 10 years. Convinced that this energy will play a key role in decarbonizing heavy mobility and industry, we are investing in new production units as part of our virtuous circular economy model.



“Initially used as energy for transport, biomethane is now an effective solution for the decarbonization of industry. It’s a key alternative to fossil-based natural gas for producing heat, as well as a raw material for producing renewable hydrogen and biogenic carbon monoxide that are essential molecules for our petrochemicals customers.”

*Jérémie Lallemand,*

Director of Sales at Air Liquide Biogas Solutions

26

biomethane production units

1.8 TWh

of annual production capacity

## Action

Present in Europe, and in particular in France, Italy, the United Kingdom, and the Nordic countries, Air Liquide continues to develop its biomethane business. In Italy, for example, the Group is enhancing its offering by equipping its new production unit at Covo, near Milan, with a biogenic CO<sub>2</sub> purification and liquefaction system to serve its industrial customers (greenhouse agriculture, metal fabrication, chemicals) in the region. In China, Air Liquide has launched its first production unit, with a capacity of 75 GWh per year, to produce biomethane to supply homes via the city gas network. It will also be used to generate electricity for the production unit and the local power grid. Air Liquide is also expanding its biomethane production capacity in the United States, where a new unit in Rockford, Illinois, is about to come on line.

With a capacity of 380 GWh per year, it will be the Group’s largest biomethane unit.

With five production units already in operation, Air Liquide is becoming a significant player in biomethane production in the country, a position the Group has strengthened with the recent start of construction of two new units in Pennsylvania and Michigan. By increasing its biomethane production, the Group is pursuing its ambition to support the energy transition of its transportation and industrial customers.

With 26 operational units worldwide, a capacity of 1.8 TWh per year, and its mastery of the entire value chain, Air Liquide is contributing to the growth of biomethane as a renewable energy source and thus to the development of a low-carbon society.

211,000

tonnes of CO<sub>2</sub> avoided in 2023 thanks to the 1.8 TWh of biomethane produced by the Group every year

(1) Source: Carbone 4.



# Driving the ecosystem: engaging our suppliers to reduce Scope 3 emissions

## Carbon Neutrality, inside and out

Scope 3 emissions, though not directly caused by our company, still contribute to our overall carbon footprint across the value chain of our operations. To achieve our Carbon Neutrality ambition, it is crucial to measure and reduce these emissions. Air Liquide assesses its carbon footprint along the full value chain of its products and is committed to working with the different stakeholders (suppliers, customers, partners, employees...) to identify levers and reduce its Scope 3 emissions. While challenges exist, we can effectively manage our supply chain emissions through collaborative efforts with our customers, partners and suppliers. Enlightened procurement practices can help us achieve our Carbon Neutrality objective.

## Procure to Neutrality

What we buy, and who we buy it from, can have a significant environmental impact. This is why the Group Procurement Department initiated a climate roadmap in 2021, titled "Procure to Neutrality", which is based on four pillars:

- As an essential first step, since no effort can be tracked nor any commitment assessed as long as the calculation relies

on statistical parameters, it is important to: **Measure**: to enhance the methodology for calculating Scope 3 where relevant and feasible;

- **Engage** the procurement community, through dedicated trainings on Sustainable Procurement topics, and engage with suppliers to share our expectations and coordinate for a better understanding on their carbon footprint and subsequent action plans to reduce their emissions;
- **Leverage** our procurement activities to effectively reduce emissions across the entire value chain; and
- **Reduce**: define a Scope 3 reduction objective, aiming to align with the Group's Carbon Neutrality ambition.

## Our award-winning TCO<sub>2</sub> tool

By including sustainability criteria in our supplier selection process for key categories, we strive to boost supplier awareness on climate-related topics. Thus, catalysing the decarbonization of the entire value chain.

Our TCO<sub>2</sub> tool makes our CO<sub>2</sub> reduction objectives tangible by integrating them into three supplier selection criteria: the TCO (total cost of ownership), the risk assessment and the TCO<sub>2</sub> (total CO<sub>2</sub> emissions). The tool:

- Gauges the maturity of a supplier's net zero activity;
- Measures the projected carbon footprint of a supplier's offer;
- Applies criteria weighting tailored to the category being procured;
- Sets a minimum required TCO<sub>2</sub> score to be eligible to tender from 2024, and onwards; and
- Will progressively raise the bar for supplier selection, setting the pace for ever-higher standards for our value chain.

## Improvement, at scale

As of today, 78% of our procurement community have completed the first dedicated Procurement and Climate module and 45% of buyers have been trained on how to "engage" suppliers on Climate topics.

# €13.8 billion

Goods and services bought each year by Air Liquide, from 100,000 vendors

# 2050

Carbon neutrality targeted by 2050 across the entire value chain



## Our Commitments

- **Establish a water management plan** for water-intensive operations in areas of high water stress, aimed at reducing water withdrawal and use risks.
- **Define and implement a Group-wide standard** for all operations that goes beyond existing local processes and procedures and will guarantee that the quality of discharged water meets or exceeds applicable local criteria.

## 2023

>90% of water returned to source

## 2025

Water management plan implemented for 76 priority sites

# Water management: a responsible commitment

## Vision

It is estimated that, by 2050, 60% of the world's population, around 6 billion people, will be living in water-stressed areas and experiencing water shortages. Air Liquide is committed to improving its water management wherever we use water in the Group's processes for two essential purposes: to produce steam for customers and for cooling equipment. The challenge for the Group is to achieve no negative impacts for the environment, local communities, or its industrial processes.

## Action

The Group has identified 76 priority sites where we will accelerate the implementation of our water management plan by 2025. These are areas of high water consumption and are located in areas projected to be in high water stress in the future. We will integrate quantitative and qualitative criteria to limit the amount of water consumed and preserve its quality. To achieve this, Air Liquide is working together with local communities and customers, who are all stakeholders in our water management.

Air Liquide is going beyond local regulations and existing processes, by developing standards for wastewater and integrating them into our industrial management system. We are also applying them worldwide to guarantee the quality of discharged water wherever we operate.

The levers for action are known, sustainable and replicable: we will adopt new technologies that limit water consumption, combined with water recycling to create a virtuous circle. For future facilities, the Group will integrate new technologies for improved water management in the early design stage of plants.

"We are working with all stakeholders to optimize our water consumption and maintain water quality at our facilities. At the same time, water management is integrated into the design of our future sites and, true to our DNA, we use the best available technologies for sustainable water consumption."

*Cédric Colin,*

Sustainable Development – Environment Manager



## Water: managing quantity and quality

### Quality (water treatment)

Committed to returning water of at least the same quality as that taken from source

### Quantity

Water taken from source

944 Millions  
m<sup>3</sup>\*

**Air Liquide  
factory**



Lever

- Best available technology
- High efficiency

Water returned  
to source

>90%

Not returned  
to source

\* 2023 figures



#### France: Frais-Marais

Our Frais Marais site – Europe’s second-largest producer of medical gases – has invested in technology to clean water ready for re-use in the production cycle. The result: a 10-fold reduction in the volume of water discharged. Only 700 tonnes of water are discharged today, compared to 7,000 tonnes before the project. Air Liquide has therefore recovered 6,300 tonnes for use internally or externally in customer processes.



#### Turkey: Kartepe Plant

This site, which produces air gases for industrial and health sectors, has developed two complementary projects to reduce the plant’s water consumption: reusing condensed water and recovering rainwater for the cooling circuit system.

The result: a near 10% reduction in water consumption, with scope to enhance quality standards with additional control systems.



# Preserving biodiversity

## Vision

Beyond fighting climate change, Air Liquide is also extending its actions to consider the whole spectrum of its impact on the planet. In most of its activities, Air Liquide has limited impact on biodiversity. Seppic – an Air Liquide subsidiary – is fully aware of the impact that its activities could have on the environment, in particular on biodiversity and is taking action.

## Action

### Case study: Seppic

Seppic is an 80-year-old business providing specialty ingredients for the health and beauty sector. More than half of Seppic's raw materials are from plant origins including seaweeds and botanicals used to produce active ingredients. Seppic is therefore conscious of its role in respecting ecosystems and biodiversity throughout its value chain (from its sourcing, operations, and manufacturing sites to product end-of-life).

The analysis of these main impacts led to formalizing a biodiversity program on four pillars, collectively known as 'RICE':

- **Reduce** the pressures on biodiversity generated by our sourcing activities;
- **Integrate** biodiversity into our industrial processes and facilities;
- **Control** the impacts of products throughout their lifecycle;
- **Engage** and empower our stakeholders in support of biodiversity.

For example, from its Pontrioux site in Brittany, which is member of the Union for Ethical BioTrade (UEBT) (along with Lons site), seaweed is either harvested by hand on the foreshore or at sea by seaweed harvesters approved by the French government authorities. Similarly, in Madagascar, the precise amount of the Centella Asiatica plant is ordered annually before the start of the harvest season to ensure the collection of reasonable quantities.

By 2025, 100% of Seppic's new cosmetic, pharmaceutical, and nutraceutical ingredients manufactured in the Lons & Pontrioux sites will be sourced according to its Ethical Sourcing System\*.

\* Ethical Sourcing System: a set of policies and procedures that promote Ethical BioTrade practices.

### Air Liquide's biodiversity commitments recognized by Act4nature

In 2023 Air Liquide's commitments were validated by the Act4nature International initiative. Specifically, it recognized the Company's commitments to:

- Reinforce biodiversity criteria in the investment process of all new projects from 2024;
- Implement an aggregated biodiversity indicator;
- Raise awareness among our people; and
- Reaffirm the Group's climate and water ambitions.

100%

of Seppic's new ingredients manufactured in Lons & Pontrioux's sites by 2025 will be sourced according to its Ethical Sourcing System

100%

of Seppic's new products will be developed using their eco-design approach by 2024





# Better health, every step of the way

Healthcare systems face different dynamics as a result of socio-economic heterogeneity. In mature economies they are challenged by demographics and rising costs, while developing economies are looking for long lasting, tailored solutions to find their own sustainable model.

Both at the hospital and at home, in person or remotely, in large cities or in medical deserts, we work to improve patient outcomes by being there at every step of the care pathway.



**Medical gases whenever, wherever**

Medical gases are essential to care for people and save lives, whether in the operating theatre, intensive care, in an ambulance or at a patient's bedside. Every day, we guarantee the availability, reliability and safety of the supply of medical gases and associated services in hospitals and care facilities. We play an essential role in helping caregivers to devote themselves fully to their medical mission.

**Home healthcare: wanted by patients, needed by the ecosystems**

Care delivered at home makes sense from every angle. With rising chronic diseases and an ageing population, patients' preference for home healthcare is also more cost-efficient for the payer. At home, we provide daily personalised support for patients to help them comply with their treatment and thus, aim at improving their quality of life.

**Value-based healthcare & personalization: our commitment in mature economies**

In a world of rising patient numbers, sustainable healthcare needs to start with the patients, understanding their clinical and personal objectives. We need to ask: what do they feel is the optimum outcome? By collecting and processing this information, we can personalize the support we provide to each individual, ensuring the best care at the best cost. This is where the added 'value' for patients comes in, and what guides us. This is how we can contribute to a more efficient and virtuous healthcare system for all.

“ In a world of rising patient numbers, sustainable healthcare needs to start with the patients, understanding their clinical and personal objectives. This is where the added 'value' for patients comes in, and what guides us. ”

**Access to oxygen: our commitment in low- and middle-income countries**

Every person on the planet should have access to medical oxygen, and we can help to make that happen. We have started our work in Africa, where pneumonia is the leading cause of death in children under 5 – despite the fact that such deaths can be prevented with antibiotics and oxygen.

In South Africa, Senegal and Kenya, we have given an estimated two million people access to oxygen, via more than 260 primary care facilities.

**Our commitments and associated progress**



Improving the **quality of life of chronic patients at home** in mature economies.

120

new patient-centric initiatives developed.

55%

patients with personalized care plans.



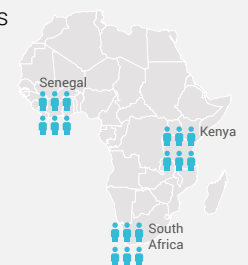
Facilitating **access to medical oxygen for rural communities** in low- and middle-income countries.

~2 million

people in Africa facilitated with access to oxygen.

~260

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



# Improving the quality of life of patients

## Vision

In home healthcare, we aim at providing everyday personalized support for people living with chronic diseases, with the objective to make it easier for them to achieve their therapy goals and improve their quality of life. We believe in the combination of the most suitable treatment and the most adapted support, both are key components in supporting chronic diseases. At Air Liquide, we are convinced that we can contribute to better outcomes through a focus on personalization of care.



120  
patient focused  
initiatives  
since 2021

“If you take 100 people with Type 1 diabetes, you’re looking at 100 different variations of the disease.”

*Sofia Segersson,*

Patient Community Manager, in partnership with Air Liquide



## Action

### Listening to patients to implement services that matter to them

“If you take 100 people with Type 1 diabetes, you’re looking at 100 different variations of the disease.” Those are the words of Sofia Segersson, who is a patient community manager working with Air Liquide, and who also lives with the condition herself. She is leading a Patient Advisory Board, a new forum for 54 patients living in Sweden, with ages ranging from 17 to 30, all of whom have Type 1 diabetes. It was initiated by Sofia Segersson and Daniel Stjern, Diabetes Business Development & Innovation at Air Liquide, following a common vision to incorporate a deep understanding of patients’ needs into the development of Air Liquide’s diabetes services.

In recent years, technology has made giant strides in helping to manage the condition with more advanced connected devices. Such technologies, together with the appropriate training and support, help improve patients’ clinical results and outcomes. While this is good news and often liberating for them, an aspect may be going largely untreated: their emotional wellbeing.

Sofia Segersson comments: “A patient may meet a physician perhaps once or twice a year. But what we need is not just ‘how are you?’ but more ‘how really are you?’ This need can be particularly acute when a young adult leaves paediatric care and, possibly, the daily support of parents. To transition from child to adult in the healthcare system can be a lonely experience.”



## Action

### Listening, then acting to empower

Our Patient Advisory Board is a unique opportunity for Air Liquide to delve into how patients actually are, and to talk beyond their clinical data related to glucose rate for instance. It is a space where the patients can explain in their own words what their pain points are and even suggest solutions to fix them, based on their own experience, expectations and expert knowledge of the disease.

With the board's sessions, Air Liquide is guided in building tailored services that meet patient needs, for example what a personalized care plan for a young adult with diabetes should consist of in terms of content and support level.

The success of the board will be assessed in various ways. We will be gauging how people living with diabetes react to the content of the personalized care plan we propose, as well as how satisfied they feel with their experience of the Patient Advisory Board from the satisfaction surveys we send after each session. Most importantly, we will assess how this more patient-centered approach translates into better management of their blood glucose.

Sofia Segersson concludes: "I'm really happy that the patient's voice is being properly listened to. As patients, we are the experts!"

### Enhancing personalization care plans in South Korea

In Air Liquide Healthcare, our objective to transform our model of care toward value materializes in the implementation of personalized care plan offers. Our basic personalized care plan offer is driven by the data coming from the medical device we install at patient's home to support their treatment. However, our target is to move beyond, by personalizing the care plans based on the monitoring of outcomes (clinical outcomes and/or outcomes that matter to patients). In this instance, if the monitoring of outcomes does not show the results expected, an action is taken to remedy the situation, such as additional interactions with the patient through phone, visit or message, additional educational support or technical support and coordination with the prescriber.

The patients' outcomes are collected by surveys or through a mobile app: in that case, it allows patients to give more precise feedback at any time. They are actively involved in discussing outcomes that matter most to them, which places them at the center of their care.

A key example of the personalization of care through outcomes measurement is South Korea. This entity has been actively deploying personalized care plans in 2023. The proportion of patients with sleep apnea adhering to the outcome-centric personalized level rose from 0 to 37% between 2022 and 2023. Thanks to that, we expect a better rate of patient empowerment, a better compliance to treatment and in particular at the initiation of the treatment.

A successful care plan, closely adhered to by the patient, aims to enhance the chances of success of the therapy are higher – and that the patient may be less likely to develop comorbidities associated with sleep apnea disease. This has benefits for the patient, the physician and the healthcare system.



# Making medical oxygen more accessible

## Vision

Oxygen saves lives – yet half of the world's population has no access to medical oxygen.

As a major player in the healthcare sector worldwide for 60 years, Air Liquide has leveraged its long-term expertise in medical oxygen supply to create a social impact program – Access Oxygen™ – to make medical oxygen available in rural areas in low- and middle income countries. Since the launch of the program, 2 million people in Senegal, South Africa and Kenya have gained access to oxygen.

And the work continues: our ultimate goal is to expand access to oxygen in low- and middle-income countries, focusing today on Africa, Asia and Latin America.



~260

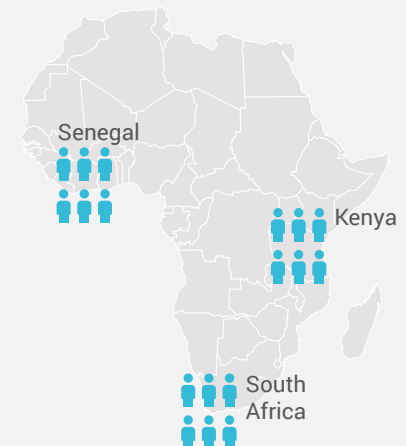
Primary healthcare structures in Africa benefiting from Access Oxygen™

800,000

Number of children under five dying from childhood pneumonia each year

~2 million

people in Senegal, South Africa and Kenya have been facilitated with access to oxygen since launch of the program in 2017



## Conversation with Dr Bernard Olayo, founder of Center for Public Health and Development (CPHD), Kenya



### Doctor, what is CPHD and what is your role?

CPHD is an NGO and our mission is to address the main health challenges that can be fatal for women and children. We bring innovative solutions to public health challenges in the Eastern African region and work with partners with whom synergies exist toward this goal.

### Can you give us an example of when medical oxygen is vital in saving lives?

A particularly dangerous illness is childhood pneumonia. Each year it kills around 800,000 children under the age of five worldwide<sup>(1)</sup>. Most deaths are concentrated in countries where incomes are low. That includes Kenya, where tragically we lose up to 6,000 children to the disease each year.

### What lies behind that statistic?

In many cases, the medical issue is a lack of oxygen. Even when seriously ill children receive hospital treatment and the necessary antibiotics, around half of them will still die if oxygen is not available. Oxygen is also important for deliveries by Caesarian section and other maternal health services we need to deliver every day.

(1) WHO Mother-Child Epidemiology Estimate (WHO-MCEE) 2018

### How has Access Oxygen™ made a difference?

While other programs serve some of the larger hospitals, Access Oxygen™ fills a vital gap because it is tailored to the needs of primary care – for example, the clinics serving small and often remote communities. Once these smaller facilities have oxygen, they can administer life-saving treatment to a sick child more quickly, without losing vital time traveling to a bigger facility.

### And in practical terms, what does the support of Access Oxygen™ look like?

It means that these small primary care facilities can be equipped with a complete solution. So that comprises the oxygen cylinders, concentrators, pulse oximeters and regulators. And as importantly, Access Oxygen™ provides training for the healthcare givers, and supports the equipment with maintenance programs to ensure accuracy and reliability.

### Why did you choose Access Oxygen™?

We have partnered with Access Oxygen™ teams because of their excellent work they had already done in Senegal. They bring valuable real-world experience of providing this support in other places and we have continuous interaction and share learnings. Their track record, and the equipment and materials they share, also means we can approach potential funders with a high degree of credibility. It was through leveraging their experience that we were able to make the solution in Kenya a reality."

### What makes you most proud about this partnership?

The program has been transformative and we are saving the lives of many more seriously ill children. It is also inspiring to see health workers equipped to provide such a higher standard of care than I could, many years ago, as a doctor in rural areas.



# Acting for all, equally and fairly

Acting as a socially responsible company and increasing Air Liquide's positive impact on society means first creating a safe, ethical and engaging environment for all our employees. We also strive to foster a more inclusive society and support the local ecosystems wherever we operate.



### Our way to protect people

At Air Liquide, we promote well-being in a safe and ethical working environment where all our people can thrive.

Everything starts with safety. It is a fundamental value and governs everything we do. We are committed to remove or minimize professional and industrial risks for all our employees and stakeholders.

We are committed to the well being of our employees outside the workplace. As a global company present in more than 70 countries, 78% of our employees are already covered by our common basis of care coverage, on track to achieve 100% by 2025. This goes beyond local legislation and includes life insurance, health coverage and 14 weeks of paid maternity leave.

### A Just transition leaving no one behind

The Group recognizes that the transition to a carbon-neutral economy may have significant social and societal implications. This must take all stakeholders into consideration, such as workers, customers, suppliers, and local communities to ensure a Just Transition that mitigates negative impacts while amplifying positive ones.

### Being diverse and inclusive

Within the organization, we seek to reflect the world we serve, and Air Liquide welcomes people from all walks of life, backgrounds and life experiences. This rich and diverse culture makes us stronger and is a source of motivation, performance and innovation.

Inclusion means that everyone has the same opportunities, and we particularly seek to enhance this for women in areas such as engineering and science, where they are still under-represented. We want them to be as likely as their male peers to succeed in these fields. Science sits at the heart of innovation and has never been more important to tackle the challenges the world faces now. At Air Liquide, innovation is in our DNA, and women in science and technology play a key role in our technical stewardship.

### Making an impact

At Air Liquide we are determined to use our expertise as a force of good in society. We have a dedicated organisation, the Air Liquide Foundation, which supports scientific and developmental projects, suggested by our employees, across its three missions of focus: environmental and medical research, job integration and solidarity.

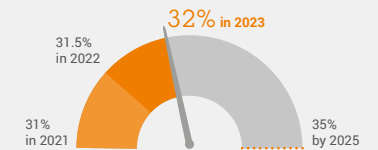
In addition, our people are making an impact on society through our multiple actions such as our Citizen at Work program, which enables them to support their local communities through volunteering.

We strive for best in class governance, and that includes aligning the interests of our business with those of employees, stakeholders and the needs of society.

### Our commitments and associated progress



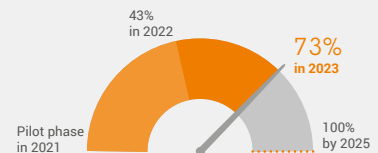
By 2025, **35% women** among the Manager and Professional population.



By 2025, **100% of employees to have common basis of care coverage.**



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



# Two Air Liquide ways of caring about people

## 1.0

lost-time accident frequency rate

## 20-year

best performance in lost-time frequency rate

## 78%

of employees benefited from the common basis of care coverage in 2023, with a target of 100% coverage by 2025

“Going into the field of our operations is a way to keep connected with our people and field realities. Sharing with them helps understanding daily challenges, and learning about safety good practices we may replicate in other places.”

*Alexandre Morainville*

HSEQ & Risk Management Director for Healthcare in North & Central Europe at Air Liquide

### Vision

At Air Liquide, performance means first developing our employees’ ability to engage and go the extra mile for our customers, our patients and for society as a whole. That’s why our aim is to offer our 67,800 employees the right support, wherever they are and whatever may be happening in their lives, by creating a safer work environment and providing social protections, so that they can unlock their full potential.



### Action

#### Safety, our license to operate

Safety is a fundamental value for the Group with a strong ambition: “zero accidents, on every site, in every region, in every entity”. As a responsible industry player, Air Liquide is therefore committed to efficiently, and under all circumstances, reducing the exposure of its employees, subcontractors, customers, patients and suppliers to professional and industrial risks.

That is why the Life-Saving Rules which apply to everyone and cover Individual, Road and Process safety were edicted.

They are enforced first through trainings in safety and risk prevention for both employees and partners, as well as through regular exchanges of experience and on site visits to make sure that the facilities comply with our high standards.

In 2023, the Group focused particularly on road safety for our drivers and subcontractors. In addition to training and constant reminders of the basic principles of safe driving, 60% of

our heavy vehicles fleet is now equipped with technology to assist or protect drivers.

#### A common basis of care coverage for all employees

Protecting our teams also means offering them peace of mind. Present in 72 countries with diverse cultures, Air Liquide historically faces very different situations in care coverage for employees. As a social responsible employer, the Group is committed to providing a common basis of care coverage to all of our 67,800 employees so that they can rely on:

- a one-year insurance plan to provide income and support in case of an accident or disease, notably if they can not work;
- health insurance cover to pay for inpatient and outpatient treatment;
- a minimum of 14 weeks’ paid maternity leave.

Today, 78% of our teams benefit from the Common Care Coverage policy, and the goal is to reach 100% by 2025.

# Diversity & Inclusion: Supporting careers in STEM, especially for women

## Vision

From Marie Curie, the pioneer of radioactivity, to Dr Katalin Kariko, who co-devised the technology behind the Covid-19 vaccines, women have a long history of extraordinary achievements in Science, Technology, Engineering and Mathematics (STEM).

Women in STEM bring diverse perspectives, innovative problem-solving, and a unique blend of skills that enhance creativity and drive progress in science and technology. That is why, at Air Liquide, we are committed to harness the talents of many more women in senior roles.

The Group has thus set for itself the objective of reaching 35% of women in management & professional (M&P) positions by the end of 2025. This requires an environment where women will be as likely to join and to stay with the company as their male colleagues. Air Liquide is thus actively recruiting and empowering women.

## Action

A significant initiative is Women in TCL (Technical Community Leaders), which allows female employees in technical areas to gain more expertise and visibility. A cornerstone of this initiative is the establishment of a robust mentoring program that facilitates knowledge exchange and skill development between mentees and their mentors.

Another program is MORE, aiming at supporting gender diversity within the Group's Innovation and Development Division. The program, launched in 2023, is based on three main actions: ensure that as many women as men are recruited, a referral program to encourage employees to recommend external female profiles to the Group and a set of initiatives to support women at early stages of their career in their professional development including facilitating access to their first management position.

Around the world, the Group also reaches out externally to bring on board female talents in multiple ways. For example:

- In Asia, Europe and North-America regions, we are building strong relationships with universities and colleges to reach women. We break down stereotypes, communicate the rich variety of opportunities open to them and create a well-qualified pipeline of future applicants.
- More specifically, in Europe, we launched in Poland a campaign to break gender biases and promote our inclusive culture for women in STEM. Similarly, in Germany, a recruitment campaign using gender-neutral language and innovative channels generated a 15% increase in applications from women.

Worldwide, the message is the same: women in STEM are valued, respected and will find an inspiring platform for their talents at Air Liquide.

# 32%

of women in management and professional roles within the Group in 2023 with a target of 35% by 2025

# 20

years of support of technical careers through our TCL network

*"The most important message is not: you are standing here because you are a woman. But you are standing here because you are excellent in what you are doing."*

*Justyna Tyson*

Process Manager,  
TCL International Expert



For All

# Our people are **Citizen at Work**



## *Vision*

Air Liquide's success relies on the dedication and expertise of its 67,800 employees worldwide, whose professionalism and innovative spirit drive the company's continuous growth and global leadership in the gas industry. This represents a remarkable reservoir of talent, energy and willingness to give back to their communities.

We are actively leveraging this shared commitment to empower our people to volunteer through a structured and engaging program called Citizen at Work. Our target: by 2025, to empower 100% of our employees to dedicate a portion of their working hours to lend a helping hand to their local communities.

# 73%

of our people can already access the Citizen at Work program

# 100%

Every Group employee will be able to volunteer through the Citizen at Work by 2025



Citizen at Work was launched in 2022 and, already, 73% of our people have access to the program. It focuses on areas that are in line with the company's sustainability objectives and the teams' expertise, with a particular emphasis on healthcare, safety, the environment, professional development and education: an initiative that not only contributes to the development of local communities but also enhances employees' sense of purpose in their daily lives.



## Action

### Airgas: volunteering at its best

Airgas, one of Air Liquide's U.S. subsidiaries, is not only a leading supplier of industrial, medical and specialty gases, it is also one of the largest supplier of welding hard goods and personal protective equipment in the United States.

Caring for people is clearly in their DNA, and when the Citizen at Work program was launched, their employees seized the opportunity to get more involved. They gave their time across education, skills development, the environment, and healthcare and safety – all four of the program's main focus areas.

In 2023, 1,027 employees at Airgas rolled up their sleeves and got involved with their local communities, giving an amazing 3,870 hours of their time to 56 volunteer activities.

### First skills, then jobs

A major project in the education and skills development area is the Airgas High School Welding Education Initiative launched five years ago to prepare students for careers in welding as the industry faces a shortage in skilled labor. According to projections from the American Welding Society, 336,000 new welding professionals will be needed by 2026, a challenge that Airgas contributes to address. Since 2018, the High School Welding Education Initiative has assisted 117 schools, 8,178 welding students and nearly 560 instructors across the country. In addition, over 1,071 students obtained jobs directly after graduating. In 2023, with the help of the Citizen at work program, Airgas expanded the initiative, supporting 56 schools from 23 states thanks to the involvement of 113 employees.

Airgas

# 3,870

hours given by a total of 1,027 employees of Airgas in the US



# Air Liquide Foundation: 15 years of actions

## Vision

Air Liquide is committed to supporting local communities in the countries it operates in. Since its creation in 2008, the Air Liquide Foundation has taken action in three areas: environmental and medical research, access to employment and solidarity. This action is driven by the ambition to make a positive impact by providing on-the-ground support and leveraging the skills and commitment of the Group's teams to support local projects.

The very origin of Air Liquide Foundation is based on direct involvement of the Group's employees. This is still one of its distinctive characteristics today. Each and every project is initiated by an employee and is followed by a colleague based locally, close to the project.

500 projects  
50 countries  
15 years

## Action

2023 was particular as the Foundation celebrated 15 years of impactful initiatives, supporting over 500 projects across 50 countries since its creation. Notable actions supported last year included:

- **In France: Research into the respiratory system with Institut Pasteur**

A fundamental of life – the ability to breathe naturally and easily – is not a given to everyone. This project led by a team from Institut Pasteur in Paris, is researching the treatment of pulmonary bacterial infections that affect patients with cystic fibrosis, and more generally patients with antibiotic-resistant infections.

- **In Spain: Access to employment through the Fundación Tomillo**

This project supported 20 young people from disadvantaged backgrounds to embark on comprehensive training in warehouse management and, as importantly, courses and mentoring in interpersonal skills in the business environment. Additionally, they could join a two-month internship at Air Liquide or one of five partner companies.

- The program has clear goals, and 100% of the participants qualified for certification at the end of the course.

- **In Asia and Africa: Solidarity**

Giving access to Education and Training is part of the Foundation's Solidarity action. This year, it supports 4 projects worldwide in order to offer young people from particularly disadvantaged backgrounds access to education:

- **In the Philippines**, the *Enfants du Mekong* project helps 53 young students from Cebu by providing them with quality education and a conducive learning environment to prepare them for their future work.
- **In Burkina Faso**, *Zinado 2000* association's project consists of building 3 additional classes at the Daguintoèga primary school, offering a total of 6 classes to distribute pupils by level.
- **In Mali, (Zougoumè)**, the *Relais* association is helping to build 3 additional classrooms for disadvantaged children (especially young girls) to allow greater access to school and improved quality education.

"I recommended the Air Liquide Foundation, an association in which my husband does volunteer work. I believe that it is important to bring something personal to my community, in particular to children, thanks to my company's support."

*Lina Feudi,*

Air Liquide Italy employee,  
sponsor of the Dynamo Camp's project





# The Board and its specialized committees

Air Liquide's governance is historically defined by an effort to remain relevant to the Group's challenges, to respect Shareholders' rights, to balance powers and to ensure that best practices evolve.

## Board of directors in 2023

Board of directors

---

**14**  
*members*

including:

- The Chairman,
- The CEO,
- 1 Lead independent Director,
- 9 Independent Directors,
- 2 Directors representing the employees

Audit & Accounts Committee

---

**3** *members*

Appointment & Governance Committee

---

**3** *members*

Remuneration Committee

---

**3** *members*  
(including 1 Director representing the employees)

Environment & Society Committee

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**3** *members*  
(including 1 Director representing the employees)

## BOARD OF DIRECTORS as of 31st December 2023

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**83%**  
Independent Directors

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**2**  
Directors representing the employees

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**42%**  
Women

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**5**  
Nationalities

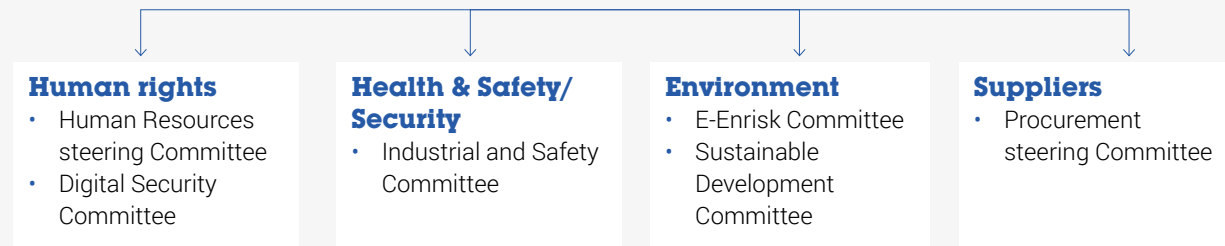
# Sustainability fully embedded in strong governance and processes

Sustainability topics are at the heart of the Group's concerns and come under the direct management of the Executive Committee up to the Board of Directors.

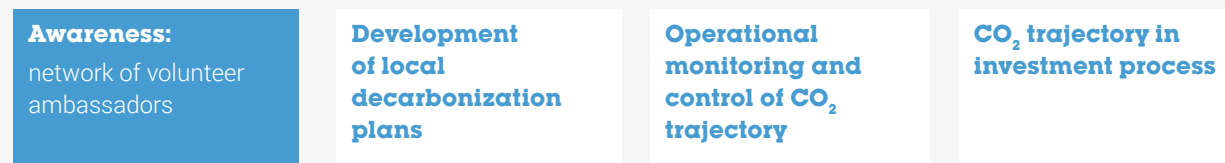
**Board of directors:**



**Executive committee:**



**Deployment:**



**Supervisory bodies**

**Control bodies**

**Operational steering bodies**

**Example for CO<sub>2</sub> Trajectory Management:**  
Deployment of trajectory and monitoring

**Ethics: a specific organization**

The Group's ethics program aims to help employees develop their activities with integrity and transparency in compliance with our rules of conduct. It is based on a specific organization, the Group Code of Conduct and a whistleblowing system (EthiCall) available to all.

**100%**

Code of conduct: mandatory annual training for all employees and available in 20 languages

## Reporting

### Summary of the Group's Greenhouse gas emissions

#### Scopes 1, 2 & 3

	2019	2020	2021	2022	2023
Scope 1: total direct greenhouse gas emissions (GHG) (in thousands of tonnes of CO <sub>2</sub> -eq.) <sup>(a)</sup>	16,239	15,345	15,536	16,273	<b>16,107*</b>
Scope 2: total indirect GHG (in thousands of tonnes of CO <sub>2</sub> -eq.) <sup>(a)(b)</sup>	16,927	17,184	20,829	23,033	<b>21,510*</b>
<b>Total emissions as reported (in thousands of tonnes of CO<sub>2</sub>-eq.)</b>	<b>33,166</b>	<b>32,529</b>	<b>36,364</b>	<b>39,306</b>	<b>37,617<sup>(c)*</sup></b>
<b>Total restated emissions (in thousands of tonnes of CO<sub>2</sub>-eq.)<sup>(d)</sup></b>		<b>39,564</b>	<b>40,085</b>	<b>39,464</b>	<b>37,617</b>
<b>Performance: restated CO<sub>2</sub> emissions vs. 2020</b>			<b>1.3%</b>	<b>-0.3%</b>	<b>-4.9%</b>
<b>Total scope 3 emissions (in thousands of tonnes of CO<sub>2</sub>-eq.)</b>				<b>22,134</b>	<b>21,075</b>

<sup>(a) (b) & (c)</sup> Actual Group emissions taking into account significant perimeter changes (upwards and downwards) having an impact on CO<sub>2</sub> emissions during the year as of their effective date.

<sup>(a)</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>(b)</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>(c)</sup> Corresponding emissions using "Location Based" methodology are 36,923 thousand tonnes of CO<sub>2</sub>-eq.

<sup>(d)</sup> 2020 and following years emissions restated to include in each year's emissions figures the emissions of the assets for the full year, taking into account (upwards and downwards) changes in scope that have had a significant impact on CO<sub>2</sub> emissions, in order to provide comparable figures with the restated 2020 baseline.

\* Indicator verified by the independent verifier.

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

	2019	2020	2021	2022	2023
Annual electricity consumption (in GWh) <sup>(a)</sup>	35,687	36,089	40,731	42,994	<b>41,469*</b>
Percentage of electricity consumed by the Group which is renewable	15.8%	16.5%	16.8%	17.5%	<b>18.1%</b>
Percentage of electricity consumed by the Group which is low-carbon or renewable	62.0%	62.3%	61.1%	59.5%	<b>58.6%</b>
Annual thermal energy consumption (in LHV terajoules) <sup>(b)</sup>	307,022	295,235	300,545	310,257	<b>304,494<sup>(c)*</sup></b>

<sup>(a)</sup> Includes a share of steam and compressed air purchased by the Group. Does not include power where it is supplied free of charge.

<sup>(b)</sup> LHV: Lower Heat Value, which includes the fact that energy from water vaporizing in fuel is not recovered. 2022 and earlier data include entities in Russia. 2023 data is lower mostly thanks to lower steam consumption due to efficiency gains in South Africa and customer outages in China, as well as Russia withdrawal impact.

<sup>(c)</sup> Approximately 84,582 GWh LHV.

\* Indicator verified by the independent verifier.

### Water consumption

	2019	2020	2021	2022	2023
Annual water withdrawal (estimate in millions of m <sup>3</sup> )	270	257	950 <sup>(a)</sup>	973	<b>944*</b>
Annual water consumption (estimate in millions of m <sup>3</sup> ) <sup>(b)</sup>	94	90	82	91	<b>89*</b>

<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.

Access  
the full  
reporting



## Safety indicators for the entire Group

	2014	2015	2016	2017	2018	2019	2020 <sup>(a)</sup>	2021	2022	2023
Number of Group employee and temporary workers lost-time accidents of at least one day <sup>(a)</sup>	144	152	137	198	161	158	108	138	123	<b>129*</b>
Accident frequency of Group employees and temporary workers <sup>(b)</sup>	1.6	1.6	1.4	1.6	1.3	1.2	0.9	1.1	0.9	<b>1.0*</b>
Accident severity rate <sup>(c)</sup>	<0.1	<0.1	<0.1	<0.1	0.17	<0.1	0.12	<0.1	<0.1	<b>&lt;0.1</b>
Number of accidents of subcontractors <sup>(d) (e)</sup>	92	94	91	90	93	109	67	83	73	<b>62*</b>
Frequency of accidents of subcontractors	2.3	2.2	2.0	2.1	2.2	2.4	1.4	1.6	1.5	<b>1.3*</b>
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	<b>0.026*</b>

<sup>(a)</sup> Fatal work accidents since 2015: 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: 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

	2019	2020	2021	2022	2023
Group employees <sup>(a)</sup>	67,200	64,445	66,436	67,109	<b>67,778*</b>
Women	17,500	17,242	18,324	18,739	<b>19,074*</b>
as a %	26%	27%	28%	28%	<b>28%</b>

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

\* Indicator verified by the independent verifier.

## Human resources indicators for the Group

	2019	2020	2021	2022	2023
<b>Parity and diversity</b>					
<b>Gender mix</b>					
% of women among managers and professionals	29%	30%	31%	31.5%	<b>32.0%*(a)</b>
% of women among managers and professionals hired during the year	38%	36%	38%	38%	<b>41%*</b>
% of women among employees considered high-potential	41%	43%	46%	47%	<b>50%*</b>
% of women in positions defined as "Executives"	19%	21%	24%	24.8%	<b>24.7%</b>
<b>Number of nationalities</b>					
Among expatriates	55	51	48	65	<b>52</b>
Among senior executives	34	34	35	35	<b>34</b>
Among employees considered high-potential	55	55	53	57	<b>56</b>
Number of nationalities among senior executives/ Number of countries where the Group is present	43%	44%	47%	48%	<b>47%</b>

<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.

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A world leader in gases, technologies and services for Industry and Health, Air Liquide is present in 72 countries with approximately 67,800 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.

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