INNOVATE FOR TOMORROW
INNOVATE FOR THE PLANET...

The Group contributes to a more sustainable world by helping its industrial customers reduce their carbon emissions and by developing new technologies to support the environment.

INNOVATE WITH US

€317m €100m 30%

Innovation expenses (2019) of Innovation expenses to lower CO2 of Air Liquide and its customers This is the Group’s target for reducing the carbon intensity of its activities by 2025, as compared to 2015.

... WITH ECOSYSTEMS

The Group’s innovation strategy is part of an open ecosystem which is a prerequisite to efficiently innovate with its customers and all stakeholders.

4,300 employees contribute to innovation and experience new ways of working

More than 200 industrial and academic partnerships

Partner of Greentown Labs, Techstars Paris and Urban Lab incubator

Biomethane developer, data scientist, software engineer, UX designer, researcher, solution engineer; they all contribute to make innovation real at Air Liquide.

100 start-ups work with the Group

Accelair, our accelerator at Air Liquide Innovation Campus Paris, hosts deeptech startups

30 start-ups accelerated by ALIAD, Air Liquide’s venture capital arm

1 Kg of CO2 equivalent per euro earnings before depreciation, excluding the impact of IFRS 16, at 2015 exchange rates.
The complex memory manufacturing process involves up to 800 different steps and requires around 300 gases and advanced materials. EnScribe™, a family of advanced etching material, facilitates the manufacturing, while greatly reducing the environmental impact. When a major semiconductor customer adopts one of these molecules as a replacement to the baseline product, it has the potential to reduce the entire sector’s GHG emissions by up to 1%.

In North Europe, the Group contributes to different carbon capture and storage (CCS) initiatives which handle large volumes of CO₂ emissions from the Antwerp and Rotterdam industrial basins. The CO₂ emitted will be captured and shipped safely either by ship (liquid) or pipeline (gaseous) to offshore natural sinks.

To ensure supply of low-carbon hydrogen for both industry and mobility usage in North America, the Group is building the largest electrolyser in the world in Canada with a 20 megawatts (MW) capacity for the production of carbon-free hydrogen. This new production unit will significantly reduce carbon intensity, compared to the traditional hydrogen production process. Nearly 27,000 tons of CO₂ emissions per year, the equivalent of 10,000 sedan cars, will then be prevented.

To contribute to improving treatment compliance and quality of life of patients with chronic diseases, especially cardiac, Air Liquide Healthcare, a pioneer in remote medical surveillance, scaled up its Chronic Care Connect™ solution in France. Thanks to a connected device, patients are monitored at home on a daily basis, with caregivers and an individualized support using digital.

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The Group has developed Qlixbi in close collaboration with more than 700 European welding customers. Qlixbi is a new generation of gas cylinder with a suite of digital solutions. It improves the welders’ daily work thanks to an ergonomic design, information on the gas consumption and a digital app which supports better collaboration with welding shops.

The shipped Liquefied Natural Gas (LNG) tends to evaporate and emit CO₂. The technological solution developed by the Group allows the natural gas boil-off to be reliquefied in LNG vessels in order to significantly reduce greenhouse gases emissions during transport, making maritime transport more efficient and reducing its impact on the environment.

Inhabitants in the Oslo region, in Norway, enjoy the “Magic Factory”, a circular economy initiative, with the support of Air Liquide. A digester processes the household and agricultural waste of the region. This waste ferments and emits biogas, which is captured and purified thanks to Air Liquide technologies. Some of this biogas becomes a fuel for vehicles (-90% carbon footprint and -85% particles emissions compared to diesel). The rest, the digestate as well as the CO₂ removed from the biogas, is used as fertilizer to help fruits and vegetables to grow.

The Group drives, in six industrial basins, remote operations centers to harness its production units’ data. By combining big data and human intelligence, these remote operation centers adapt the workflow of each production unit to the changing needs of customers. For example, the center in Dubai drives plants whether they are 300 km away in Oman or 11,000 km away in South Africa. Each center leverages predictive maintenance to ensure reliability and to optimize energy consumption, thus reducing the connected plant’s carbon footprint.

When biomethane serves the circular economy, inhabitants in the Oslo region, in Norway, enjoy the “Magic Factory” a circular economy initiative, with the support of Air Liquide. A digester processes the household and agricultural waste of the region. This waste ferments and emits biogas, which is captured and purified thanks to Air Liquide technologies. Some of this biogas becomes a fuel for vehicles (-90% carbon footprint and -85% particles emissions compared to diesel). The rest, the digestate as well as the CO₂ removed from the biogas, is used as fertilizer to help fruits and vegetables to grow.

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