Air Liquide

PRESS RELEASE
AND ACTIVITY REPORT

Paris, October 22, 2021

Third quarter 2021:

- **Strong sales growth**
- **High momentum in development projects for the energy transition and in Electronics**

Key Figures (in millions of euros)	Q3 2021	2021/2020 as published	2021/2020 comparable (a)
Group Revenue	**5,834**	*+17.2%*	*+7.1%*
of which Gas & Services	*5,585*	*+16.9%*	*+6.5%*
of which Engineering & Construction	*81*	*+36.9%*	*+35.1%*
of which Global Markets & Technologies	*168*	*+16.9%*	*+15.9%*

(a) Change excluding the currency, energy (natural gas and electricity) and significant scope impacts, see reconciliation in appendix.

Commenting on 3rd quarter sales for 2021, Benoît Potier, Chairman and CEO of Air Liquide, stated:

"The third quarter confirms the continued sales growth observed in the first half-year. ***All activities are increasing: Gas & Services in all regions of the world****,* ***Engineering & Construction*** *and* ***Global Markets & Technologies****, in a* ***more favorable market*** *environment.*

Revenue in the third quarter amounted to 5.8 billion euros, i.e. +17.2% as published and ***+7.1%*** *in comparable terms.* ***This good performance illustrates Group's strong positioning*** *on its* ***markets and the robustness of its business model****, in the context of a* ***strong surge in energy prices.***

Within Gas & Services, which accounts for ***96%*** *of sales, activity is particularly supported by* ***the momentum of the Electronics*** *industry, the continued* ***recovery of the Industrial Merchant*** *business and the* ***robustness of Healthcare activities. Mobilization of teams*** *continued this quarter in fighting the pandemic in several regions of the world, particularly in the supply of* ***medical oxygen****. Geographically****, activity levels are particularly strong in the Americas and Europe,*** *and more contrasted in Asia.*

The Group continues its momentum of ***improving its operating margin****, driven by* ***operational efficiencies of 314 million euros*** *over the first nine months, in line with the annual target of more than 400 million euros, and* ***active price management*** *taking into account the inflationary context.* ***Cash flow*** *remains high* ***above 23% of sales excluding energy impact****.*

12-month ***investment opportunities*** *are* ***increasing, now reaching 3.3 billion euros****, with more than 40% related to the energy transition. In this context, the Group approved* ***investments*** *of nearly* ***900 million euros*** *this quarter, notably in Large Industries and Electronics.* ***One third of industrial investment decisions will contribute to the energy transition****. The robust and diversified* ***investment backlog****, currently running at* ***3.1 billion euros****, is particularly promising for future growth.*

True to its ***growth model combining financial performance and societal performance,*** *Air Liquide has multiple* ***initiatives*** *this quarter to promote* ***hydrogen*** *as a key solution to fight global warming.*

In 2021, Air Liquide is confident in its ability to further increase its operating margin and to deliver recurring net profit[1] growth at constant exchange rates."

[1] Excluding exceptional and significant items that have no impact on the operating income recurring. Excluding the impact of a possible US tax reform in 2021.

Highlights of the 3rd quarter 2021

■ **Hydrogen and the energy transition**:
- Many partnerships to develop hydrogen and decarbonize industry:
  - Launch of **the world's largest clean hydrogen infrastructure fund** on October 1 with **TotalEnergies, VINCI** and several international companies.
  - Memorandum of Understanding with **Borealis, Esso S.A.F., TotalEnergies and Yara International ASA** to develop **an infrastructure for CO_2 capture and storage** that will contribute to the decarbonization of the Normandy industrial basin.
  - Cooperation project with **TotalEnergies** to **decarbonize hydrogen production** on the TotalEnergies platform in Normandy**.**
  - Partnership with **Airbus and VINCI Airports** to develop **the use of hydrogen** and accelerate **decarbonization in the aviation sector.**
  - Construction project in **Germany** of an **industrial-size renewable hydrogen production unit** that will be **linked to the existing local Air Liquide pipeline** infrastructure**.**
  - Project to invest in a large-scale **hydrogen and carbon monoxide** production unit that includes **CO_2 recycling**.
- Signing of **a long-term renewable electricity purchase** contract in Belgium to reduce the carbon footprint of our production plants.
- Increased support to the **Energy Observer**, becoming a **main partner** for four years, of this laboratory vessel that demonstrates the key role of hydrogen in the energy transition.
- Equipment and services provided to the **world's largest hydrogen station** in Beijing, China.
- **Long-term contract** with **Shagang in China** for the construction and operation of a low-carbon air separation unit.

■ **Healthcare**:
- **Continued mobilization of teams** in the fight against the pandemic, worldwide.

■ **Corporate**:
- Successful launch of a long-term **bond issue** for a total of **500 million euros**.

Group revenue for the 3rd quarter of 2021 totaled **5,834 million euros**. The momentum in the first half-year continued this quarter, with sales up **+7.1% on a comparable basis** with the 3rd quarter of **2020** and about **+6%** compared to the 3rd quarter of **2019**[2]. Consolidated sales of **Engineering & Construction** grew **+35.1%** relative to lower activity level due to the pandemic-induced slowdown in 2020. **Global Markets & Technologies** continued double-digit growth: sales increased **+15.9%** in the 3rd quarter, buoyed by the strength of the biogas market and equipment sales for hydrogen mobility. The impact of energy this quarter was particularly strong at +8.9%, on top of positive currency (+0.5%) and significant scope (+0.7%) impacts. All in all, the Group reported a **very robust +17.2% growth in as published revenue**.

3rd quarter 2021 revenue for **Gas & Services** rose by **+6.5%** to **5,585 million euros**, confirming the upward trend recorded in the first half-year, despite a less favorable basis of comparison. **As published revenue** for Gas & Services was up **+16.9%** in the 3rd quarter, benefiting from a strong **energy effect** (**+9.3%**) and positive currency (+0.4%) and significant scope (+0.7%) impacts.

- Gas & Services revenue in the **Americas** totaled **2,144 million euros** in the 3rd quarter, an increase of **+8.2%**. Large Industries sales rose +7.4% driven by high demand and the ramp-up of new units. The Industrial Merchant business continued to recover, with a +7.5% increase in revenue. Electronics sales gained +6.6% in a thriving market. Lastly, Healthcare grew +14.5% and remains heavily involved in the fight against Covid-19.

- In the 3rd quarter, revenue in **Europe** rose by **+5.8%** to **2,038 million euros.** Large Industries sales (+7.6%) expanded on strong demand in the Steel and Chemicals sectors and on increasing volumes in Refining. Up +7.2%, the Industrial Merchant business pursued its pick-up in sales across all markets and countries.

[2] See remark in the text box page 4.

Healthcare revenue increased +2.6%, despite exceptional high sales of ventilators in the 3rd quarter of 2020 to meet pandemic needs. It benefited from sustained sales of medical oxygen to hospitals and strong demand in Home Healthcare.

- Revenue in **Asia-Pacific** rose **+4.1%** in the 3rd quarter to **1,197 million euros**. Large Industries revenue declined (-5.5%) due to the impact of China's Dual Energy Control and customer maintenance turnarounds. The upward trend in the Industrial Merchant business continued with a +8.3% increase in sales, fueled by strong activity in China and the recovery in the rest of Asia. Electronics sales were up +10.8% in a very dynamic market with double-digit growth in sales of Carrier gases and high revenue generated by Equipment & Installations.

- Revenue in the **Middle-East and Africa** rose **+10.4%** to **206 million euros** in the 3rd quarter. The sales of hydrogen in Saudi Arabia continued to recover, driven by the customer demand in the Yanbu basin. The surge in air gas volumes was very substantial as the 16 Sasol air separation units made their first contribution (an acquisition finalized in June). These sales were recognized as part of the significant scope effect, hence excluded from the comparable growth. In the Industrial Merchant business, sales continued to rise and are above the levels of the 3rd quarter of 2019. The Healthcare business stayed very buoyant supplying very large volumes of medical oxygen in pandemic-hit countries.

Large Industries sales rose **+3.4%**, despite the measures imposed in China to limit energy consumption at some customer plants. The **Industrial Merchant** business recovered further, with sales increasing **+7.5%** as gas sales were above 2019 levels and pricing impact accelerated significantly. **Healthcare** also recorded a strong performance: sales rose by **+6.2%**, despite a very high basis of comparison in 2020. **Electronics** posted strong sales growth of **+10.4%** in a very dynamic market.

Consolidated revenue from **Engineering & Construction** gained **+35.1%** to **81 million euros** in the 3rd quarter.

Global Markets & Technologies posted a **+15.9%** increase in sales to **168 million euros** in the 3rd quarter. Biogas retained strong momentum with new units ramping up and significant price impacts related to energy price increase. Revenue also includes hydrogen refueling station sales for mobility in Asia.

Efficiencies amounted to **314 million euros** over the first nine months of the year, a slight increase of **+0.9%** compared with 2020, in line with the annual objective fixed at more than 400 million euros.

Cash flow from operating activities before changes in net working capital amounted to **3,701 million euros** at the end of september 2021, an increase of +1.4% and of **+4.6% excluding currency impact**. This corresponds to a high level of 22.2% of sales and of **23.4% excluding energy impact**. When including changes in working capital, the **net cash flows from operating activities** increased by +5.1% and **+7.9% excluding currency impact**.

Industrial investment decisions reached **866 million euros** in the 3rd quarter, totaling more than **2.2 billion euros** since the beginning of the year. Development momentum remained strong within **Large Industries**, particularly with the project to invest in a large-scale hydrogen and carbon monoxide production unit with integrated CO_2 recycling. Momentum was also strong for investment decisions within the **Electronics** business with Carrier gases contracts signed in the United States and in China.

The 12-month portfolio of **investment opportunities** increased by more than 200 million euros to reach the very high total of **3.3 billion euros** during the 3rd quarter.

The **additional contribution to revenue** of unit start-ups and ramp-ups remained high at **100 million euros** during the 3rd quarter of 2021, including the acquisition of 16 air separation units from Sasol in South Africa. Thus, at the end of September, this figure amounted to 230 million euros, in line with the **estimated contribution of 320 million euros for 2021**.

Analysis of 3rd quarter 2021 revenue

Unless otherwise stated, all variations in revenue outlined below are on a **comparable basis**, excluding currency, energy (natural gas and electricity) and significant scope impacts.

Due to the exceptional impact of the pandemic in the 3rd quarter of 2020, a comparison with 2019 3rd quarter sales has been introduced for context in reviewing 3rd quarter 2021 performance. **The comparisons between 2021 and 2019 are calculated by adding 2020 and 2021 comparable effects**. They are given as a reference point and do not constitute an alternative performance measure. The comparable growths mentioned below are calculated compared to the same period of 2020 except when 2019 is mentioned.

REVENUE

Revenue *(in millions of euros)*	**Q3 2020**	**Q3 2021**	**2021/2020 published change**	**2021/2020 comparable change**
Gas & Services	4,777	5,585	+16.9%	+6.5%
Engineering & Construction	60	81	+36.9%	+35.1%
Global Markets & Technologies	143	168	+16.9%	+15.9%
TOTAL REVENUE	**4,980**	**5,834**	**+17.2%**	**+7.1%**

Revenue by Quarter *(in millions of euros)*	**Q1 2021**	**Q2 2021**	**Q3 2021**
Gas & Services	5,103	5,247	5,585
Engineering & Construction	76	93	81
Global Markets & Technologies	155	172	168
TOTAL REVENUE	**5,334**	**5,512**	**5,834**
2021/2020 Group published change	**-0.7%**	**+12.4%**	**+17.2%**
2021/2020 Group comparable change	**+3.8%**	**+15.2%**	**+7.1%**
2021/2020 Gas & Services comparable change	**+2.8%**	**+13.7%**	**+6.5%**

Group

Group revenue for the 3rd quarter of 2021 totaled **5,834 million euros.** The momentum in the first half-year continued this quarter, with sales up **+7.1% on a comparable basis** with the 3rd quarter of **2020** and about **+6%** compared to the 3rd quarter of **2019**. Consolidated sales of **Engineering & Construction** grew **+35.1%** relative to lower activity level due to the pandemic-induced slowdown in 2020. **Global Markets & Technologies** continued double-digit growth: sales increased **+15.9%** in the 3rd quarter, buoyed by the strength of the biogas market and equipment sales for hydrogen mobility. The impact of energy this quarter was particularly strong at +8.9%, on top of positive currency (+0.5%) and significant scope (+0.7%) impacts. All in all, the Group reported a **very robust +17.2% growth in as published revenue**.

Gas & Services

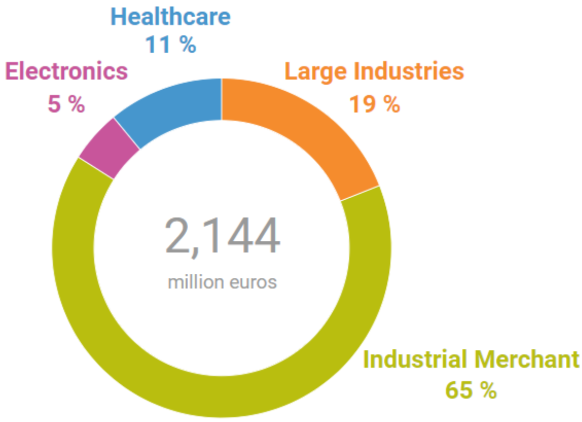
3rd quarter 2021 revenue for **Gas & Services** rose by **+6.5%** to **5,585 million euros**, confirming the upward trend recorded in the first half-year, despite a less favorable basis of comparison. **Large Industries** sales rose **+3.4%**, despite the measures imposed in China to limit energy consumption at some customer plants. The **Industrial Merchant** business recovered further, with sales increasing **+7.5%** as gas sales were above 2019 levels and pricing impact accelerated significantly. **Healthcare** also recorded a strong performance: sales rose by **+6.2%**, despite a very high basis of comparison in 2020. **Electronics** posted strong sales growth of **+10.4%** in a very dynamic market. **As published revenue** for Gas & Services was up **+16.9%** in the 3rd quarter, benefiting from a strong **energy effect** (**+9.3%**) and positive currency (+0.4%) and significant scope (+0.7%) impacts.

Revenue by geography and business line *(in millions of euros)*	**Q3 2020**	**Q3 2021**	**2021/2020 published change**	**2021/2020 comparable change**
Americas	1,916	2,144	+11.9%	+8.2%
Europe	1,615	2,038	+26.2%	+5.8%
Asia-Pacific	1,101	1,197	+8.7%	+4.1%
Middle East & Africa	145	206	+42.2%	+10.4%
GAS & SERVICES REVENUE	**4,777**	**5,585**	**+16.9%**	**+6.5%**
Large Industries	1,212	1,743	+43.9%	+3.4%
Industrial Merchant	2,217	2,384	+7.5%	+7.5%
Healthcare	866	921	+6.3%	+6.2%
Electronics	482	537	+11.5%	+10.4%

Americas

Gas & Services revenue in the Americas totaled **2,144 million euros** in the 3rd quarter, an increase of **+8.2%**. Large Industries sales rose +7.4% driven by high demand and the ramp-up of new units. The Industrial Merchant business continued to recover, with a +7.5% increase in revenue. Electronics sales gained +6.6% in a thriving market. Lastly, Healthcare grew +14.5% and remains heavily involved in the fight against Covid-19.

Americas Gas & Services Q3 2021 Revenue



- Revenue for **Large Industries** rose **+7.4%** during the 3rd quarter on strong demand in the Steel, Chemicals and Refining markets, as well as the contribution of start-ups and ramp-ups in the United States, Canada and Latin America. Hurricane Ida had only a limited impact.
- The **Industrial Merchant** business continued to recover. Sales grew **+7.5%** in the 3rd quarter. In the United States, gas sales were solid, even with supply chain pressures, since it was critically important to supply hospitals with oxygen in those states affected by the pandemic. Sales of Hardgoods increased, but remained under their level in the 3rd quarter 2019. Sales were up in practically all end markets, but the non-residential Construction market in the United States remained low. **Price effects** increased markedly on a sequential basis, from +3.2% in the 2nd quarter to **+5.0%** in the 3rd quarter.
- **Healthcare** revenue rose **+14.5%** in the 3rd quarter on a combination of fast-growing sales of medical oxygen to cope with Covid-19 needs and the gradual pick-up in the Home Healthcare and the hospital business. In the United States, medical oxygen volumes were high, especially in the states hardest hit by the pandemic this quarter, and business was also strong in proximity care. Sales increased sharply in Latin America, in both Hospital care and Home Healthcare, notably oxygen therapy in Brazil and Argentina, and for the treatment of sleep apnea in Brazil.
- **Electronics** sales rose **+6.6%**, fueled by a steep increase in Carrier gases volumes benefiting from a new unit ramp-up. Equipment and Installation sales were lower than the high level recorded in the 3rd quarter of 2020.

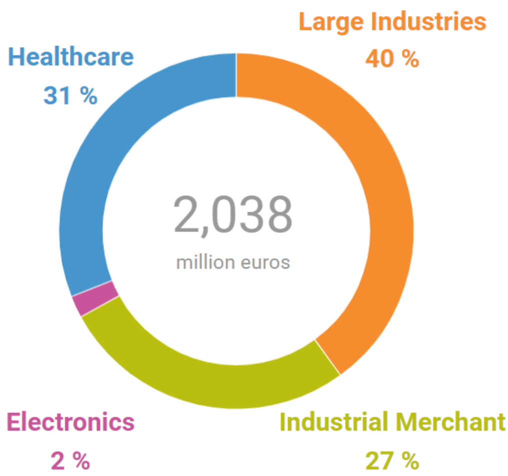
Europe

In the 3rd quarter, revenue in Europe rose by **+5.8%** to **2,038 million euros.** Large Industries sales (+7.6%) expanded on strong demand in the Steel and Chemicals sectors and on increasing volumes in Refining. Up +7.2%, the Industrial Merchant business pursued its pick-up in sales across all markets and countries. Healthcare revenue increased +2.6%, despite exceptional high sales of ventilators in the 3rd quarter of 2020 to meet pandemic needs. It benefited from sustained sales of medical oxygen to hospitals and strong demand in Home Healthcare.

- **Large Industries** sales rose **+7.6%** benefiting from strong demand in the Steel and Chemicals industries. Hydrogen volumes for Refining were up as activity increased and the new unit in Kazakhstan ramped up. A start-up of a new unit in Russia also boosted air gases.
- **Industrial Merchant** revenue rose **+7.2%**, lifted by a dynamic recovery in activity. Sales of liquid gases enjoyed strong growth in all countries, especially in Italy, Germany and Iberian Peninsula. Cylinder gas sales, which had proved more resilient to the pandemic, were also up in all countries. The recovery was even more pronounced in Eastern Europe, particularly in Poland, Russia and Turkey, with liquid gas sales growing more than +25% (excluding the divestiture of activities in Greece). All major markets are trending upward, primarily Metal Fabrication, Materials and Energy. **Pricing impact** improved steadily sequentially and stood at **+2.2%** in the 3rd quarter.

- **Healthcare** posted sales growth of **+2.6%** on a very high basis of comparison in the 3rd quarter of 2020 (which included exceptional ventilator sales related to the pandemic). Growth in sales of medical oxygen was sustained throughout the region especially in Russia, which was hit hard by the Covid-19 and where 4 additional air separation units were certified for the supply of medical oxygen to hospitals. Activity remained robust in the Home Healthcare business, notably for the treatment of diabetes. Sales of Specialty Ingredients were particularly buoyant in the 3rd quarter, especially for the cosmetic and vaccine adjuvant markets.

Europe Gas & Services Q3 2021 Revenue



Europe

- Air Liquide has signed a **long-term Power Purchase Agreement (PPA)** with TotalEnergies, for a total capacity of **15 megawatts of offshore wind** electricity in **Belgium**. Following PPA agreements in the United States, Spain, and the Netherlands, this PPA signed by the Group in Belgium illustrates Air Liquide's commitment to **lead the way in the energy transition** and to lower its carbon footprint, in line with its Sustainability Objectives.

- Air Liquide is planning to build a **renewable hydrogen production plant by electrolysis** in Oberhausen, **Germany**. With a total capacity to reach **30 megawatts** (MW), a first phase of the project is expected to be operational by **early 2023**. What is unique about this project is that the electrolyzer will be **integrated into the existing local pipeline infrastructure of Air Liquide** to supply key industries and mobility with renewable hydrogen in one of the most industrialized regions of Germany. To accelerate the implementation of this project, **public funding has been granted** by the German Federal Ministry of Economic Affairs and Energy. This worldscale electrolyzer will be the first to be **built in the framework of the partnership between Air Liquide and Siemens Energy**.

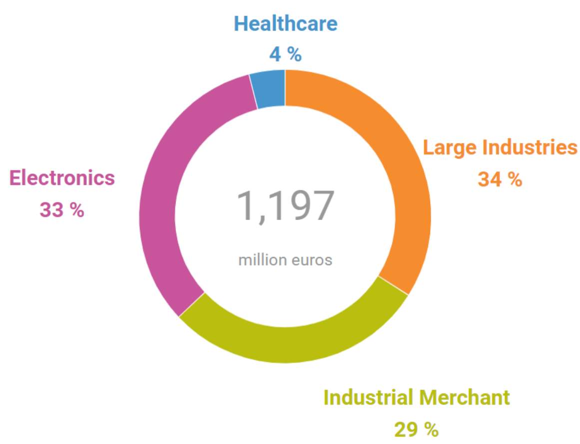
- Air Liquide and TotalEnergies have joined forces to **decarbonize hydrogen production** at TotalEnergies' platform in **Normandy**. The project* first stage is to acquire TotalEnergies' existing hydrogen production plant and connect it to Air Liquide's pipeline system. The next stage will see Air Liquide invest in a new CO_2 capture unit at the production plant purchased from TotalEnergie. The Group has also announced an investment in an electrolyzer in the basin. This spending is part of the plan to **develop the world's first low-carbon hydrogen pipeline network**, which will provide the industrial infrastructure for the development of hydrogen mobility. An agreement was also signed with other industries operating in the basin to **develop a carbon capture and storage solution (CCS)**.

**This project is subject to the legal requirement to inform and consult with the employee representative bodies at TotalEnergies-Plateforme Normandie, and to approval by the competent authorities.*

Asia-Pacific

Revenue in Asia-Pacific rose **+4.1%** in the 3rd quarter to **1,197 million euros**. Large Industries revenue declined (-5.5%) due to the impact of China's Dual Energy Control and customer maintenance turnarounds. The upward trend in the Industrial Merchant business continued with a +8.3% increase in sales, fueled by strong activity in China and the recovery in the rest of Asia. Electronics sales were up +10.8% in a very dynamic market with double-digit growth in sales of Carrier gases and high revenue generated by Equipment & Installations.

Asia-Pacific Gas & Services Q3 2021 Revenue



- **Large Industries** sales fell **-5.5%** in the 3rd quarter, impacted by customer maintenance turnarounds in China and Singapore, and measures imposed in China to limit energy consumption. Indeed, 5 customers were forced to stop production, and 3 of these were back to full capacity by mid-October. The strong demand from Steel customers in Japan partially offset these impacts.
- **Industrial Merchant** sales grew **+8.3%** over the quarter, driven by strong activity in China and the recovery across the rest of Asia. In China, the sales increase was supported by small on-site gas production units and cylinder gas. In the rest of Asia, revenue was close to 2019 level. High-growth markets are mainly Metal Fabrication, Materials, Energy and Technology. Pricing impacts were +0.3% and +0.8% excluding the adverse effect of helium.
- **Electronics** revenue increased **+10.8%**. Sales of Carrier gases benefited from a dynamic market, the ramp-up of existing units and start-up of two new plants in China and in Singapore. Equipment and Installation sales were very strong.

Asia-Pacific

- South Korea is a global leader in developing a low-carbon hydrogen-based economy and clean transport. Based on demand from industry and its expertise across the entire hydrogen value chain, Air Liquide is **actively contributing to the rapid development of low-carbon hydrogen production in South Korea** by partnering with local industry and institutions.
  - We recently signed an agreement with SK E&S, a global clean energy and solutions provider, to **supply the world's largest hydrogen liquefaction plant** with a capacity of **90 tons per day** of liquid hydrogen to serve the **mobility market**.
  - Air Liquide and LOTTE Chemical have signed a Memorandum of Understanding (MoU) to **co-invest in new hydrogen refueling stations**.
  - Air Liquide Korea is also helping to develop the hydrogen ecosystem through its participation in the **two Korean hydrogen mobility consortiums**, HyNet and KOHYGEN, dedicated respectively to the **deployment of hydrogen stations** for light commercial vehicles and HGVs. Air Liquide is the only industrial gas company participating in both consortiums.

Middle East and Africa

Revenue in the Middle-East and Africa rose **+10.4%** to **206 million euros** in the 3rd quarter. The sales of hydrogen in Saudi Arabia continue to recover, driven by the customer demand in the Yanbu basin. The surge in air gas volumes was very substantial as the 16 Sasol air separation units made their first contribution (an acquisition finalized in June). These sales were recognized as part of the significant scope effect, hence excluded from the comparable growth. In the Industrial Merchant business, sales continued to rise and are above the levels of the 3rd quarter of 2019. The Healthcare business stayed very buoyant supplying very large volumes of medical oxygen in pandemic-hit countries.

Engineering & Construction

Consolidated revenue from Engineering & Construction gained **+35.1%** to **81 million euros** in the 3rd quarter.

Order intake totaled **300 million euros** holding to the positive trend seen in the first half-year. The bulk of the projects are in Asia with several oxygen production plants, as well as Electronics or hydrogen production projects. Group orders accounted for about two-thirds of the total.

Global Markets & Technologies

Global Markets & Technologies posted a **+15.9%** increase in sales to **168 million euros** in the 3rd quarter. Biogas retained strong momentum with new units ramping up and significant price impacts related to energy price increase. Revenue also includes hydrogen refueling station sales for mobility in Asia.

Order intake for Group projects and third-party customers totaled **185 million euros**, up +80% compared with 2020. These are mainly new Turbo-Brayton LNG reliquefaction projects and hydrogen refueling stations.

Global Markets & Technologies

- Airbus, Air Liquide and VINCI Airports are working together to **develop the use of hydrogen at airports** and build the European airport network to accommodate future hydrogen aircrafts. The airport of Lyon-Saint Exupéry (France) will host the first installations as early as **2023**. This partnership reflects the three groups' shared ambition to combine their respective expertise to **support the decarbonization of air travel**.
    - From 2023: deployment of a gaseous hydrogen distribution station at Lyon-Saint Exupéry airport. This station will supply both land vehicles (runway buses, trucks, handling equipment, etc.) at the airport and those of its partners, but also trucks circulating in the vicinity
    - Between 2023 and 2030: deployment of liquid hydrogen infrastructure that will allow hydrogen to be loaded into the tanks of future aircraft.
- Air Liquide and Faurecia announced the signature of a **joint development agreement** to **design and produce on-board liquid hydrogen storage systems** for the **automotive industry**. Through this technology partnership, the two companies will accelerate the deployment of zero-emission heavy-duty mobility. The partnership will leverage the companies' complementary competencies from their respective core businesses which will be fundamental to accelerate the technology's time-to-market.
    - **Air Liquide** will bring its recognized expertise across the **entire liquid hydrogen value chain**, including extreme cryogenics, storage technologies, recharging interfaces and its infrastructure knowledge.
    - **Faurecia** will bring its expertise in **architectures** and **systems integration**, its recognized competencies in testing and simulation, its know-how and its presence in the global automotive industry, as well as its privileged relationships with vehicles manufacturers.

INVESTMENT CYCLE

INVESTMENT DECISIONS AND INVESTMENT BACKLOG

Industrial and financial investment decisions reached the high level of **873 million euros** in the 3rd quarter of 2021**.** They account for **2.8 billion euros** year to date including the acquisition of Sasol's 16 Air Separation Units in South Africa, compared to 2.1 billion at the end of September 2020.

Industrial investment decisions reached **866 million euros** in the 3rd quarter, totaling more than **2.2 billion euros** since the beginning of the year. Development momentum remained strong within **Large Industries**, particularly with the project to invest in a large-scale hydrogen and carbon monoxide production unit with integrated CO_2 recycling. Momentum was also strong for investment decisions within the **Electronics** business with Carrier gases contracts signed in the United States and in China.

Financial investment decisions totaled **7 million euros** for the quarter, corresponding mainly to three small acquisitions in the Industrial Merchant business in China.

The **investment backlog** remained high at **3.1 billion euros**, evenly distributed across various business sectors and geographies. The Chemicals market represented around one third of the investment backlog, the Electronics market around one quarter, and the Steel market just over 15%. Investment backlog in the Oil & Gas market remained limited at 6% of the total. The **future contribution to annual revenue** after full ramp-up of the units is expected to be **1.1 billion euros**.

Investment

- Air Liquide, TotalEnergies and VINCI, have combined forces with other large international companies to sponsor **the creation of the world's largest fund exclusively dedicated to clean hydrogen infrastructure solutions**. The first commitments have already reached 800 million euros, on a target of 1.5 billion. With the announced support of public policies and the use of debt financing, the fund should be able to **participate in the development of hydrogen projects for a total amount of around 15 billion euros**.

START-UPS

In **Large Industries,** two large-scale air separation units were commissioned during the 3rd quarter of 2021 in Russia and the United States. Moreover, from the 3rd quarter, the **Electronics** business supplied all the Carrier gases to a customer site in China and to a Semiconductor megafab in Singapore.

The **additional contribution to revenue** of unit start-ups and ramp-ups remained high at **100 million euros** during the 3rd quarter of 2021, including the acquisition of 16 air separation units from Sasol in South Africa. Thus, at the end of September, this figure amounted to 230 million euros, in line with the **estimated contribution of 320 million euros for 2021**.

INVESTMENT OPPORTUNITIES

The 12-month portfolio of **investment opportunities** increased by more than 200 million euros to reach the very high total of **3.3 billion euros** during the 3rd quarter.

Energy transition projects represented **42% of the portfolio of opportunities.** These notably included projects for hydrogen production by electrolysis, hydrogen liquefaction and carbon capture and storage ("CCS"). The share from the **Electronics** business also remained high.

Europe accounted for more than one third of opportunities, owing to the numerous projects linked to the **energy transition**, followed by **Asia** with opportunities in **Electronics**. Then came the **Americas**, which had opportunities in **Electronics** and **Large Industries,** followed by the **Middle-East & Africa**.

Operating Performance

Efficiencies amounted to **314 million euros** over the first nine months of the year, a slight increase of **+0.9%** compared with 2020, in line with the annual objective fixed at more than 400 million euros. These efficiencies represent cost savings of 2.9%, to be compared with 2.6% in 2020. **Industrial efficiencies** accounted for a little more than 50% of total efficiencies and were, in particular, the result of **supply chain optimization** projects in the Industrial Merchant and Healthcare business lines, and of **energy efficiency** improvements and **maintenance operation optimizations** in Large Industries. The implementation of **digital tools** aimed at the Group's **transformation** continued, with, in particular, the acceleration of the roll-out of remote operation centers for Large Industries production units (Smart Innovative Operations, SIO) and new optimization tools for delivery routes in Industrial Merchant (Integrated Bulk Operations, IBO). The **shared service centers** are developing and efficiencies related to **procurement** are being pursued.

Cash flow from operating activities before changes in net working capital amounted to **3,701 million euros** at the end of September 2021, an increase of +1.4% and of **+4.6% excluding currency impact**. This corresponds to a high level of 22.2% of sales and of **23.4% excluding energy impact**. When including changes in working capital, the **net cash flows from operating activities** increased by +5.1% and **+7.9% excluding currency impact**.

At the end of September 2021, **gross industrial capital expenditure** amounted to **2,180 million euros**, an increase of **+12.8%** compared with 2020. They represented **13.1% of sales**.

Portfolio management was very active during the first 9 months of the year, particularly with the **acquisition of 16 air separation units from Sasol in South Africa**. The Group also finalized 5 divestitures, including its activities in Greece, and carried out several small acquisitions in the Healthcare and Industrial Merchant business lines in North America, Europe and Asia.

Net debt totaled **11,552 million euros**, a strong decrease compared with 12,013 million euros at June 30, 2021, benefiting mainly from high cash flow from operating activities. The **net debt-to-equity ratio**, adjusted for the seasonal effect of the dividend payment, reached **53.6%,** representing a decrease compared with December 31,2020 (55.8%).

Outlook

The third quarter confirms the continued sales growth observed in the first half-year. **All activities are increasing: Gas & Services in all regions of the world, Engineering & Construction** and **Global Markets & Technologies**, in a **more favorable market** environment.

Revenue in the third quarter amounted to 5.8 billion euros, i.e. +17.2% as published and **+7.1%** in comparable terms. **This good performance illustrates Group's strong positioning** on its **markets and the robustness of its business model**, in the context of a **strong surge in energy prices**.

Within Gas & Services, which accounts for **96%** of sales, activity is particularly supported by **the momentum of the Electronics** industry, the continued **recovery of the Industrial Merchant** business and the **robustness of Healthcare activities. Mobilization of teams** continued this quarter in fighting the pandemic in several regions of the world, particularly in the supply of **medical oxygen**. Geographically, **activity levels are particularly strong in the Americas and Europe**, and more contrasted in Asia.

The Group continues its momentum of **improving its operating margin**, driven by **operational efficiencies of 314 million euros** over the first nine months, in line with the annual target of more than 400 million euros, and **active price management** taking into account the inflationary context. **Cash flow** remains high **above 23% of sales excluding energy impact.**

12-month **investment opportunities** are **increasing, now reaching 3.3 billion euros**, with more than 40% related to the energy transition. In this context, the Group approved **investments** of nearly **900 million euros** this quarter, notably in Large Industries and Electronics. **One third of industrial investment decisions will contribute to the energy transition**. The robust and diversified **investment backlog**, currently running at **3.1 billion euros**, is particularly promising for future growth.

True to its **growth model combining financial performance and societal performance**, Air Liquide has multiple **initiatives** this quarter to promote **hydrogen** as a key solution to fight global warming.

In 2021, Air Liquide is confident in its ability to further increase its operating margin and to deliver recurring net profit[3] growth at constant exchange rates.

[3]Excluding exceptional and significant items that have no impact on the operating income recurring. Excluding the impact of a possible US tax reform in 2021

Appendices - Performance indicators

Performance indicators used by the Group that are not directly defined in the financial statements have been prepared in accordance with the AMF position 2015-12 about alternative performance measures.

The performance indicators are the following:

- Currency, energy and significant scope impacts
- Comparable sales change
- Efficiencies

Definition of Currency, energy and significant scope impacts

Since industrial and medical gases are rarely exported, the impact of currency fluctuations on activity levels and results is limited to euro translation impacts with respect to the financial statements of subsidiaries located outside the euro zone. **The currency effect** is calculated based on the aggregates for the period converted at the exchange rate for the previous period.

In addition, the Group passes on variations in the cost of energy (electricity and natural gas) to its customers via indexed invoicing integrated into their medium and long-term contracts. This indexing can lead to significant variations in sales (mainly in the Large Industries Business Line) from one period to another depending on fluctuations in prices on the energy market.

An energy impact is calculated based on the sales of each of the main subsidiaries in Large Industries. Their consolidation allows the determination of the energy impact for the Group as a whole. The foreign exchange rate used is the average annual exchange rate for the year N-1. Thus, at the subsidiary level, the following formula provides the energy impact, calculated for natural gas and electricity respectively:

Energy impact =
Share of sales indexed to energy year (N-1) x (Average energy price in year (N) - Average energy price in year (N-1))

This indexation effect of electricity and natural gas does not impact the operating income recurring.

The significant scope effect corresponds to the impact on sales of all acquisitions or disposals of a significant size for the Group. These changes in scope of consolidation are determined:

- for acquisitions during the period, by deducting from the aggregates for the period the contribution of the acquisition,
- for acquisitions during the previous period, by deducting from the aggregates for the period the contribution of the acquisition between January 1 of the current period and the anniversary date of the acquisition,
- for disposals during the period, by deducting from the aggregates for the previous period the contribution of the disposed entity as of the anniversary date of the disposal,
- for disposals during the previous period, by deducting from the aggregates for the previous period the contribution of the disposed entity.

COMPARABLE SALES CHANGE

Comparable changes for sales **excludes the currency, energy and significant scope impacts** described above.

For the 3rd quarter 2021 the calculations are the following:

(in millions of euros)	Q3 2021	Q3 2021/2020 Published Growth	Currency impact	Natural gas impact	Electricity impact	Significant scope impact	Q3 2021/2020 Comparable Growth
Revenue							
Group	5,834	+17.2%	24	342	99	34	+7.1%
Impacts in %			*+0.5%*	*+6.9%*	*+2.0%*	*+0.7%*	
Gas & Services	5,585	+16.9%	22	342	99	34	+6.5%
Impacts in %			*+0.4%*	*+7.2%*	*+2.1%*	*+0.7%*	

(in millions of euros)	YTD 2021	YTD 2021/2020 Published Growth	Currency impact	Natural gas impact	Electricity impact	Significant scope impact	YTD 2021/2020 Comparable Growth
Revenue							
Group	16,680	+9.4%	(474)	646	213	(237)	+8.5%
Impacts in %			*-3.1%*	*+4.3%*	*+1.4%*	*-1.7%*	
Gas & Services	15,935	+8.4%	(464)	646	213	(237)	+7.5%
Impacts in %			*-3.2%*	*+4.4%*	*+1.5%*	*-1.8%*	

EFFICIENCIES

Efficiencies represent a sustainable cost reduction resulting from an action plan on a specific project. Efficiencies are identified and managed on a per project basis. Each project is followed by a team composed in alignment with the nature of the project (purchasing, operations, human resources...).

Year to date revenue

By Geography

Revenue *(in millions of euros)*	**YTD 2020**	**YTD 2021**	**YTD Published change**	**YTD Comparable change**
Americas	5,891	6,203	+5.3%	+7.6%
Europe	5,055	5,695	+12.6%	+6.9%
Asia-Pacific	3,337	3,523	+5.6%	+7.1%
Middle East & Africa	414	514	+24.5%	+15.9%
GAS & SERVICES REVENUE	**14,697**	**15,935**	**+8.4%**	**+7.5%**
Engineering & Construction	164	250	+52.8%	+54.7%
Global Markets & Technologies	392	495	+26.2%	+27.9%
GROUP REVENUE	**15,253**	**16,680**	**+9.4%**	**+8.5%**

By Business Line

Revenue *(in millions of euros)*	**YTD 2020**	**YTD 2021**	**YTD Published change**	**YTD Comparable change**
Large Industries	3,642	4,659	+27.9%	+6.0%
Industrial Merchant	6,726	6,979	+3.7%	+8.2%
Healthcare	2,825	2,756	-2.5%	+8.3%
Electronics	1,504	1,541	+2.5%	+6.6%
GAS & SERVICES REVENUE	**14,697**	**15,935**	**+8.4%**	**+7.5%**

The slideshow that accompanies this release is available as of 9:00 am (Paris time) at www.airliquide.com.
Throughout the year, follow Air Liquide on Twitter: @AirLiquideGroup.

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UPCOMING EVENTS

2021 Full Year results:
February 16, 2022

Capital Markets Day:
March 22, 2022