

Air Liquide partners with ArcelorMittal in pilot project to capture and recycle carbon

Air Liquide is partnering with ArcelorMittal in the first industrial scale demonstration plant to capture carbon gas from the steelmaking process and recycle it into chemicals, specifically advanced bioethanol*.

In this project, Air Liquide Engineering & Construction will **provide a technology solution that purifies the offgas coming from the blast furnace. These gases will then be injected into a bioreactor to produce bioethanol.** This technology leverages Air Liquide's extensive know-how and illustrates its capacity to develop sustainable solutions supporting its customers in the steel industry to reduce greenhouse gas emissions.

The project is led by the world-leading steel company ArcelorMittal together with its partner Lanzatech, and supported by EU Horizon 2020, the EU research and innovation program. Located at ArcelorMittal's steel plant in Ghent, Belgium, this **first industrial scale demonstration plant will produce advanced bioethanol from waste gases from the steelmaking process.** Construction of the facility is underway at the ArcelorMittal site in Ghent Belgium and the plant is planned to become operational at the end of 2020. It is expected to produce 80 million litres of bioethanol annually.

François Venet, Senior Vice President Strategy and member of the Air Liquide group's Executive Committee supervising the Large Industries Business Line and Engineering & Construction stated: **"This new partnership with ArcelorMittal demonstrates our shared commitment to contribute to reducing greenhouse gas emissions. This is also a clear illustration of the initiatives Air Liquide has committed to as part of its Climate Objectives. We strive to push the boundaries of innovation to lower the carbon footprint of the industry and develop technology solutions for our customers to contribute to the energy transition."**

*Advanced bioethanol is a second generation of biofuel manufactured from non-food biomass.

Air Liquide Engineering & Construction

Air Liquide Engineering & Construction builds Air Liquide Group production units (mainly air gas separation and hydrogen production units) and provides external customers with efficient, sustainable, customized technology and process solutions. Air Liquide Engineering & Construction's core expertise in industrial gases, energy conversion and gas purification, enables customers to optimize natural resources. This business unit covers the entire project life-cycle: license engineering services / proprietary equipment, high-end engineering & design capabilities, project management & execution services. As a technology partner, customers benefit from our research and development to contribute to energy transition. In 2018, revenues were €430 million.

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A world leader in gases, technologies and services for Industry and Health, Air Liquide is present in 80 countries with approximately 66,000 employees and serves more than 3.6 million customers and patients. Oxygen, nitrogen and hydrogen are essential small molecules for life, matter and energy. They embody Air Liquide's scientific territory and have been at the core of the company's activities since its creation in 1902.

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

Air Liquide's revenue amounted to 21 billion euros in 2018 and its solutions that protect life and the environment represented more than 40% of sales. Air Liquide is listed on the Euronext Paris stock exchange (compartment A) and belongs to the CAC 40, EURO STOXX 50 and FTSE4Good indexes.