

Air Liquide, DLVA and ENGIE are entering into an ambitious partnership to produce green hydrogen on an industrial scale

Air Liquide, the Durance, Luberon, Verdon urban area (DLVA) and ENGIE are signing a cooperation agreement to develop the “HyGreen Provence” project which aims at producing, storing and distributing green hydrogen.

Initiated in 2017, “HyGreen Provence” will make it possible to develop and validate the technico-economic conditions for the production of 1,300 GWh of solar electricity, equivalent to the annual residential consumption of about 450,000 people, together with the production of renewable hydrogen on an industrial scale through water electrolysis. The project will be developed in several stages with the first deliverables envisaged by the end of 2021 and a possible final step in 2027. **Eventually, several tens of thousands of metric tons of renewable hydrogen could be produced in this way every year to meet a very broad spectrum of uses.**

The DLVA urban area, which comprises 25 municipalities and 65,000 inhabitants, has considerable advantageous resources for this project, including one of France’s most favourable levels of sunshine (an average of 1,450 hours per year), substantial land availability and the presence of a salt cavity storage site able to accommodate the large-scale centralised production of renewable hydrogen.

Air Liquide and ENGIE, partners committed to the development of hydrogen solutions, have decided to join forces in the project, alongside the DLVA urban area, by combining their strengths:

- Air Liquide’s expertise in the field of hydrogen, spanning across the entire value chain, from production until final usage, and which includes in particular low-carbon production technologies including electrolysis
- ENGIE’s expertise in the implementation of zero-carbon solutions for its industrial customers and the regions, solutions that are based on fully renewable energy sources including hydrogen and incorporate the entire value chain (production, storage, distribution)
- And the commitment of the DLVA urban area to support the development of a project of a scale and nature unprecedented in France

This hydrogen will serve various uses with regards to mobility, energy and industry, both locally and regionally. As far as mobility is concerned, hydrogen can power all types of vehicle from light motor cars to buses, utility vehicles and trucks. On the energy front, the project plans to provide heat and cooling for an urban eco-district. Lastly, hydrogen can be used in industrial processes that will benefit the entire region.

The signature of this innovative public-private partnership has been made possible by the involvement of many stakeholders committed to the zero-carbon transition. It is fully aligned with the regional initiative being undertaken by DLVA and will contribute most substantially to the development of the hydrogen sector in France.

Guy Salzgeber, Executive Vice President and member of the Air Liquide Group Executive Committee supervising Industrial Merchant, Hydrogen and Innovation, said: **“We are pleased to contribute to this flagship project, which will demonstrate, in France, on an industrial scale, the key role that hydrogen will play in the energy transition. For more than 40 years, the Group has developed a unique know-how in the field of hydrogen. With expertise in all production technologies—including electrolysis—the Group is now a leading player in the world with regards to low-carbon hydrogen energy production. This project is in line with the Group’s climate strategy, the most ambitious in its sector.”**

Bernard Jeanmet-Péralta, the President of DLVA, said: *“First and foremost, HyGreen Provence is an ambitious and innovative regional project. It will embrace all those desiring consultation and dialogue, particularly the National Parks in Verdon and Luberon. We are involved in the dynamic that is the 'Vallée des Énergies' together with partners such as the Iter project, the Cadarache CEA, Géomethane and hydroelectricity in Durance. We are thereby contributing to the energy transition in France along with leading industrialists which, through their respective expertise, bring credibility and viability to the requirement for zero carbon emissions.”*

Gwenaëlle Avice-Huet, ENGIE’s Executive Vice President in charge of Renewables, said: *“Entering into the partnership heralds a ground-breaking alliance between large industrial groups in France, and a local authority, that will accelerate the emergence of massive renewable hydrogen production projects in France. ENGIE is convinced of the importance of renewable hydrogen in providing “zero carbon as a service” solutions to industrial customers and the regions.”*

Air Liquide’s commitment to hydrogen energy

In the past 50 years, Air Liquide has developed unique expertise enabling it to master the entire hydrogen supply chain, from production and storage to distribution and the development of applications for end users, thus contributing to the widespread use of hydrogen as a clean energy source, for mobility in particular. Air Liquide has designed and installed more than 120 stations around the world to date. Hydrogen is an alternative to meet the challenge of clean transportation and thus contributes to the improvement of air quality. Used in a fuel cell, hydrogen combines with oxygen in the air to produce electricity, emitting only water. It does not generate any pollution at the point of use: zero greenhouse gases, zero particles and zero noise. Hydrogen provides a concrete response to the challenges posed by sustainable mobility and local pollution in urban areas.

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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.