

Partners in the GRHYD project inaugurate France's first Power-to-Gas demonstrator

Monday, June 11, 2018. Patrice Vergriete (Mayor of Dunkirk and President of the Dunkirk Urban Community), Léon Devloies (Mayor of Cappelle-la-Grande and Vice President of the Dunkirk Urban Community), Isabelle Kocher (Chief Operating Officer of ENGIE) and Fabrice Boissier (Managing Director of ADEME) have inaugurated in Cappelle-la-Grande (Nord department) the first Power-to-Gas demonstrator in France, in the presence of the partners involved in the project. The GRHYD* project, launched in 2014, tests the injection of hydrogen into the region's natural gas distribution grid to meet residents' needs in terms of heating, domestic hot water and cooking. This innovative initiative is earmarked for reducing greenhouse gas emissions by 20% by 2020, as wished by the French government. GRHYD is a tangible illustration of the Hydrogen Plan, which the government launched on June 1, 2018.

The GRHYD project has a key role in the strategy of the Hauts-de-France region's 3rd industrial evolution, under the coordination of ENGIE, represented by its ENGIE Lab CRIGEN research center linked up with 10 other partners: AREVA H2Gen, CEA, CETIAT, Dunkirk Urban Community, ENGIE Ineo, GNVERT, GRDF, INERIS, McPhy, and STDE. The demonstrator receives the support of the French state as part of the Future Investments Program run by ADEME (French Environment and Energy Management Agency), and accredited by the Tenerrdis competitive industry cluster. Its inauguration marks the start of the demonstration with the injection of the first hydrogen molecules into the local natural gas grid, at a level of 6% to begin with (and up to a maximum of 20%), for supplying the 100 households and the health center's boiler in the "Petit Village" district of Cappelle-la-Grande. The aim of this two-year phase is to validate the technical and economic relevance of converting electricity into a new gas via a combination of hydrogen and natural gas.



Power-to-Gas is a solution for the future for transforming electricity from renewable energy into hydrogen gas. Once converted, this energy can be stored and transported in the natural gas grid. And it has enormous potential: ADEME assesses the potential energy of hydrogen produced from electricity via Power-to-Gas in France by 2035 at around 30 TWh per year.

*GRHYD (*Gestion des Réseaux par l'injection d'Hydrogène pour Décarboner les énergies*)
[grid management through the injection of hydrogen for energy decarbonization]

By helping to bring about the emergence of a new way of recovering and storing renewable energy, the demonstrator exemplifies the hydrogen plan launched June 1, 2018 by Nicolas Hulot [French Environment Minister], and the importance of scaling up the business sector in France. The country benefits from cutting-edge industrial players right across technologies where the demonstrators are essential. The innovative aspect of the GRHYD project lies in the rates of incorporation for injecting hydrogen into gas distribution grids compared with those of other projects: hydrogen injection into gas grids is also being tested in Fos-sur-Mer and other European countries, such as in Germany and soon in the United Kingdom.

GRHYD in key figures

1st Power-to-Gas demonstrator in France / **11 partners** / budget of **15 million euros** / **5 years** of study, authorization and demonstration / **3 containers** installed containing cutting-edge technologies: one for **electrolysis**, one for **storage**, and one for **injection** into the hydrogen grid / **100 homes** and **the health center boiler** supplied by a new gas made up of hydrogen and natural gas.

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