**GET H2 initiative gives go-ahead for Germany-wide hydrogen infrastructure**

* First project takes part at the "Reallabore der Energiewende" ideas competition
* Core element is a power-to-gas plant with 105 MW capacity, transport, storage and hydrogen utilization

April 9th, 2019

**Using hydrogen to advance the energy transition is the goal of the GET H2 initiative, in which the companies RWE Generation SE, Siemens, ENERTRAG, Stadtwerke Lingen, Hydrogenious Technologies, Nowega as well as Forschungszentrum Jülich and IKEM - Institute for Climate Protection, Energy and Mobility - have now joined forces. As a first sub-project, the partners are planning to set up a hydrogen infrastructure located in the Emsland that links the energy, industry, transport and heat sectors along the entire value chain. The core elements are the construction of a power-to-gas plant with a capacity of 105 MW, which converts electricity from wind power into "green hydrogen", the transport and storage of pure hydrogen in existing infrastructures and the use of hydrogen.**

With this first project, the companies are taking part in the "Reallabore der Energiewende" (Living Labs of the Energy Transition) ideas competition organized by the Federal Ministry of Economics. They submitted a project proposal to the Federal Ministry of Economics and Technology on April 5th. A decision is expected by the end of June. In two years' time, the companies want to go into the concrete implementation of the project.

"Renewable energy, electricity and gas grids, gas storage facilities and conventional liquid fuel infrastructure, right up to the customers for hydrogen and waste heat in the chemical industry: all this already exists in the region, so that the ideal conditions are in place for this innovative technology and fast project implementation. In Lingen, we can demonstrate the entire value chain on an industrial scale and have considerable synergy potential thanks to the existing infrastructure," explains Roger Miesen, CEO of RWE Generation.

Hydrogen is an important component for a successful energy transition. A key role will be played by electrolysis based on renewable energy. When water is separated by electricity from wind and photovoltaic it becomes "green hydrogen", an energy carrier that can make a significant contribution to reducing CO2 emissions far beyond the electricity sector. For energy-intensive industries such as the steel and chemical industries, hydrogen can be a decisive step towards climate compatibility. Hydrogen also opens the possibility of storing large quantities of renewable energy in existing cavern storage facilities.

"The decisive factor now is not only to test the technology in small R&D projects, but also to bring it to series maturity with larger projects in a holistic approach. The project has the potential to give the go-ahead for a hydrogen infrastructure for Lower Saxony and North Rhine-Westphalia, which can provide decisive impulses for a Germany- and Europe-wide hydrogen infrastructure," describes Jörg Müller, Managing Director of ENERTRAG, the future perspective.

"This is a worldwide unique project to show the way to a sector coupling with green hydrogen on an industrial scale. In particular, the economical use of existing infrastructures as well as the re-electrification of 100% hydrogen in a gas turbine of the 60 MW class make this a unique demonstration project for power generation," adds Prof. Dr. Thomas Thiemann, head of the Energy Transition Team at Siemens.

The realization of the project is under the condition of economic efficiency.

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**GET H2 project partner:**

***RWE Generation SE***

RWE Generation SE, Essen, is responsible within the RWE Group for generating electricity from gas, hard coal, hydropower and biomass. The company combines the expertise of some 2,700 employees in Germany, the UK, the Netherlands and Turkey under one roof. Together, they operate power plants with a total capacity of around 25 gigawatts. With their reliable and flexible output, the plants always contribute to ensuring that the supply of electricity to the European grid functions reliably, even with the steadily growing contribution of naturally volatile renewable energies.

***Siemens***

Siemens Gas and Power (GP) is a global pioneer in the energy sector and, together with its customers, is addressing the evolving requirements of industry and society. GP covers a broad spectrum of competencies across the entire energy value chain and offers a comprehensive portfolio for utilities, independent power generators, transmission system operators and the oil and gas industry. With its products, solutions and services, Siemens Gas and Power addresses the production, processing and transportation of oil and gas as well as power generation in centralized and decentralized thermal power plants and power transmission. Siemens Gas and Power is headquartered in Houston, USA. With more than 64,000 employees, GP is represented in more than 80 countries worldwide and has been a successful technology leader for the energy systems of today and tomorrow for more than 150 years.

***ENERTRAG***

ENERTRAG provides all services related to renewable energies. We efficiently combine electricity, heat and mobility in all areas of life. As an energy producer with an annual production of 1.5 TWh and a service network with over 1120 wind turbines, we know from our own experience what is important for our customers. With over two decades of experience in Europe, our approximately 540 employees combine all the skills required for successful operation and efficient maintenance, but also for citizen-oriented planning and reliable construction of energy plants and grids right through to complete integrated power plants.

We are always one step ahead - be it in sector coupling, participation models or needs-based night-time identification.

***Stadtwerke Lingen***

Stadtwerke Lingen GmbH is a regional energy supplier with the divisions electricity, gas, water and heat. We supply around 62,000 residents with energy. Another focus is the operation of a citizen wind farm and our own wind turbines in Lower Saxony. We are service providers for our customers and guarantee security of supply. With the energy transition, climate protection and sector coupling are declared goals for us.

***Hydrogenious Technologies***

Hydrogenious Technologies GmbH is a global leader in hydrogen storage technologies based on liquid organic hydrogen carriers (LOHC) and builds plants for the hydrogen logistics industry and hydrogen filling stations. The LOHC technology allows to use the infrastructure for conventional liquid fuels for hydrogen storage and transport. Hydrogenious Technologies was founded in 2013 as a spin-off of the Friedrich-Alexander-University Erlangen-Nürnberg. Thanks to AP Ventures' investments and partnerships with companies such as Framatome, Clariant, Sasol and MAN, Hydrogenious Technologies has a wealth of economic and strategic resources. The Erlangen-based company employs 65 people.

***Nowega GmbH***

Nowega GmbH is a long-distance pipeline network operator based in Münster. The subsidiary of Erdgas Münster GmbH operates, maintains and markets around 1,500 kilometers of high-pressure gas pipelines. The pipeline network extends from the Dutch border across Lower Saxony and parts of North Rhine-Westphalia to the Wendland region and is part of the inner-European transport routes for natural gas.

***Forschungszentrum Jülich***

Forschungszentrum Jülich makes effective contributions to solving major social challenges in the fields of information, energy and bioeconomy. With around 5,900 employees and around 800 visiting scientists from more than 75 countries every year, it is one of the largest interdisciplinary research centers in Europe.

With more than 100 employees, the IEK-3 has the scientific and technical core competencies of electrochemistry, energy process engineering and systems analysis. With an application-oriented focus, the IEK-3 researches and develops fuel cells, fuel gas generation systems, gas separation membranes, water electrolyzers and batteries. This includes the modelling, realization, experimental investigation and system analysis of energy systems, their components as well as electrochemical processes and process control.

***IKEM – Institut für Klimaschutz, Energie und Mobilität e.V.***

The IKEM - Institut für Klimaschutz, Energie und Mobilität e.V. (Institute for Climate Protection, Energy and Mobility), based in Berlin, Greifswald and Stuttgart, has existed since November 2009 as a non-profit and independent research institute and is a recognized non-governmental organization at the United Nations. At the IKEM, around 50 scientists conduct research on the most important issues of the energy and mobility transformation, with the main focus on the interactions between regulation, climate protection and economics. One of the focal points is energy law, where the IKEM conducts legal analyses to identify regulatory obstacles to energy system transformation and develops concepts for the further development of the legal framework.