



An innovative project with VEGA measurement technology showed: Heating with hydrogen mixtures via existing natural gas pipelines is feasible

How can excess renewable electricity be stored and used sensibly? One possible answer to this question was provided by the groundbreaking project “NETZlabor Hydrogen Island Öhringen” – supported by precision instrumentation from VEGA.

One promising approach to storing surplus electricity is to use it to produce hydrogen, which can be delivered as a fuel gas for heating systems. But is the utilisation of hydrogen or natural gas-hydrogen mixtures via existing gas pipelines technically feasible? A large-scale test carried out on the Netze BW site in Öhringen has provided much more clarity in answering this research question. Hydrogen produced in a Hydrogenics electrolyser was mixed with natural gas and distributed through the existing pipeline network. The high-precision VEGA measurement technology played a key role here: Sensors like VEGABAR 82, equipped with robust ceramic measuring cells, monitored the pressure and flow rate of the hydrogen. This technology guarantees both the safety and the efficiency of the system.

Only minimal effort

“The project showed that existing gas infrastructures can be adapted to operation with hydrogen with little cost and effort,” explains project engineer Daniela Wieland. It also provided important insights into the behaviour of hydrogen mixtures in pipes and as a fuel gas.

Consequential findings

One key achievement of the project: The tests proved that a hydrogen and natural gas mixture can be

used to heat buildings with no problem. The “NETZlabor Hydrogen Island Öhringen” is thus paving the way for the sustainable use of renewable energies and a step-by-step development of the hydrogen economy. Findings from this groundbreaking project could point the way for the energy transition and the future utilisation of existing gas infrastructures.

The company

VEGA Grieshaber KG has been developing innovative level and pressure measurement technology since 1959. As the world market leader in radar, the company is driving forward new technologies, doing research and developing state-of-the-art sensors for many different sectors, such as drinking water supply, energy generation and the pharmaceutical industry. VEGA employs more than 2,500 people worldwide – around half of them at company headquarters in Schiltach. Together with its subsidiaries and sales partners, VEGA is active on the market in more than 80 countries.

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