HYDROGEN HOME

First Home in Stad Aan 'T Haringvliet Heated with Hydrogen, The Netherlands

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Hydrogen is flowing for the first time to a home in Stad aan 't Haringvliet in South Holland. In this so-called Inspiration House, in the middle of a residential area, residents of Stad aan 't Haringvliet can see how a house is heated with hydrogen.

In the Stad Aardgasvrij project, Stedin is working with the municipality of Goeree-Overflakkee and residents of Stad aan 't Haringvliet, among others, to be completely natural gas-free by 2025. The condition is that at least 70% of the inhabitants, entrepreneurs and social organizations in Stad aan 't Haringvliet want to get rid of natural gas by 2025.

That is why later this year there will be a support measurement among the inhabitants and entrepreneurs in the village from Stad Aardgasvrij. As an alternative to natural gas, Stad aan 't Haringvliet is looking at sustainable hydrogen.

It has been agreed in the Climate Agreement that by 2050 7 million homes and 1 million buildings will be powered by natural gas. Hydrogen is one of the possible heat solutions, especially if all-electric and heat networks are not a good option. We now need to gain experience to heat houses and buildings with hydrogen.

City Natural gas-free is an important demonstration project for Stedin. In this project, Stedin is working together with the municipality of Goeree-Overflakkee, Remeha, GasTerra and Nefit-Bosch, which supply the hydrogen-powered boilers, energy consultant DNV, installer Kievit Warmte and housing association Oost West Wonen, which has made the house available.

All safety requirements are secured with the local fire brigade, DCMR and the Rotterdam-Rijnmond Safety Region.

> **In 2020, we will have heated 14 demolition homes in Uithoorn with hydrogen and have demonstrated that it is possible to convert the existing natural gas network to hydrogen.**

"In Stad aan 't Haringvliet, we conduct the research in a terraced house where neighbors live on the left and right. This shows that our gas network is in practice suitable for switching from natural gas to hydrogen. If there is sufficient support, it is then possible that all homes in the village will be heated with hydrogen by 2025."

"For Stedin, this project is important to show that we can transport hydrogen through the existing gas network for heating homes."

"I am very proud of this project, especially because of the cooperation with the residents of Stad aan 't Haringvliet.

"Because that is what makes the Stad Aardgasvrij project so special, says alderman Tea Both-Verhoeven (Sustainability and Innovation) of the municipality of Goeree-Overflakkee."

"A group of city residents, together with the municipality and experts from the business community, investigated how their village can best get rid of natural gas, and hydrogen turned out to be a good option. We produce a lot of green energy on our island, which means that hydrogen can be produced here in a sustainable way."

"And we will continue to work closely with the residents of the City and will also ask them for their vote. If at least 70% ultimately support the plan, we will continue."

THE CONVERSION TO HYDROGEN

Since no hydrogen is yet available via the existing natural gas network, hydrogen is being used for the conversion trial in Stad aan 't Haringvliet, which is stored in a container. From the hydrogen container, the hydrogen goes through the existing underground gas pipeline to the Inspiration House.

During the conversion to hydrogen, the gas pipeline was carefully checked for leaks. By first flushing the pipe and testing it with nitrogen and then with hydrogen, it has been established that the pipes are leak-tight. Thanks for staying up to date with Hydrogen Central.

There are three central heating boilers that run on hydrogen in the Inspiration House. These boilers have been installed on the first floor in one of the rooms and have been extensively tested. The house will be heated with hydrogen for the next two months.

ROLE OF HYDROGEN IN THE BUILT ENVIRONMENT

Before 2030, Stedin does not expect hydrogen to play a major role in the built environment, but an important one. In order to be able to use hydrogen as a fully-fledged alternative after 2030, it is therefore important to gain knowledge and experience and to discover what role hydrogen can play.

Innovating and experimenting, as is currently the case in Stad aan 't Haringvliet, helps us to ensure that we are ready for the period after 2030. The existing natural gas network is of great value here and is given a second life.

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EERSTE WONING IN STAD AAN 'T HARINGVLIET VERWARMD MET WATERSTOF, February 24, 2022

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