



# Press release

## A global first: Alliander heats homes using hydrogen through the existing gas grid

**A global first in the Dutch town of Lochem. As of today, twelve occupied homes in Lochem's Berkeloord district are the first homes to be heated using hydrogen transported over the existing natural gas grid. In this pilot, at the request of the people living in these historic properties, Alliander is looking into whether hydrogen might be a good alternative to natural gas for heating homes. Alliander is partnering with various companies on this pilot, including LochemEnergie, Remeha and Westfalen Gassen Nederland B.V.**

The Dutch [Climate Agreement](#) states that 7 million homes and 1 million buildings will be weaned off natural gas by 2050. This will change the energy system and that is what Alliander is preparing for. Hydrogen is one of the alternatives to natural gas for heating homes and buildings. It is potentially a good alternative in particular for homes that are hard to insulate and for which, as a result, an electric heat pump is not a viable option, or in districts that are not suited for a district heating network. An added benefit is that the gas pipelines that are already in the ground can be used to transport hydrogen to the homes.

### Unique pilot

Alliander CTO Daan Schut: 'Renewable gases such as hydrogen are much needed to make our energy supply sustainable, because we can't do that with electricity alone. Major manufacturing companies already have concrete plans to switch to hydrogen to power their production processes. In the future, hydrogen will also be a feasible energy source for smaller manufacturing companies and even for whole residential areas. This is what we are preparing for, because there is not a lot of experience yet with the use of hydrogen to heat existing, inhabited homes. What makes this pilot in Lochem so special is that we are the first network operator to use our existing gas network to transport hydrogen. It fills me with great pride, therefore, that this puts Alliander, together with the local residents and partners such as LochemEnergie, Remeha and Westfalen Gassen Nederland, at the global vanguard of hydrogen for heating. The practical experience we are gaining will enable us to keep the costs for society of sustainable energy infrastructure as low as possible in the future.'

Besides the fact that the existing natural gas network is being used to supply hydrogen in Lochem, it is also a unique opportunity for residents to make their mostly historic properties sustainable while preserving the value of their heritage. Both residents and other parties involved have, therefore, invested a great deal to make this pilot possible.

### Extensive preparations

The switch to hydrogen was preceded by extensive preparations. [Westfalen](#) built a hydrogen feed-in plant in Lochem's Stijgoord area, for example, where hydrogen pressure is regulated and an odorant is added to the normally odourless hydrogen. The homes for the pilot were first insulated properly. Next, their existing central heating boilers were replaced with the world's first certified 100% hydrogen boilers by Remeha. Additional gas pipes were laid below the street so that homes that are not part of the pilot can still be supplied with natural gas.

### Working on the hydrogen network

Network operator Liander takes care of maintenance of the hydrogen network. This pilot is also a new step for them. While hydrogen network maintenance work is initially very similar to the work that their gas technicians already do on a daily basis, it does require a number of additional actions. This is why a group of Liander technicians took special hydrogen-related training earlier this year at a hydrogen home in Apeldoorn that was built especially for this purpose. This group [passed their exam](#) in early September.

### Three-year pilot

The pilot in Lochem will run for three years. This way, we can gain sufficient experience during cold winters. We will subsequently share our experiences with other network operators who have plans for follow-up projects with more residents. This will create increasing insight into how hydrogen can help green existing homes that are difficult to insulate.

In addition, the regional hydrogen network will be designed together with local and provincial authorities over the coming years. This is significant because the hydrogen infrastructure must be customised to each specific area to make optimum use of the existing natural gas network.

[Click here for more information about the pilot.](#)

*The pilot in Lochem is a collaboration between citizen energy cooperative LochemEnergie, Remeha, Westfalen Gassen Nederland BV, Kimenai Installatiebeheer BV, Belangenvereniging Beschermd Stadsgezicht Berkeloord (BBSB) and Alliander, with the support of the Lochem local authority and the Gelderland provincial authority.*