Netherlands Enterprise Agency

Green Deal H2 Districts

The motivation for the Climate Agreement is a built environment that is completely natural gas-free by 2050 and has low CO_2 emissions. There are a number of different possible sustainable heating technologies for the future, which is why it is important for all options to be investigated and fleshed out in more detail. Sustainable gases such as CO_2-free hydrogen and green gas have the potential to contribute to the heating of the built environment. With the Green Deal H2 Districts, the parties want to explore the development of hydrogen districts in practice. Pilot projects in the Erflanden district of Hoogeveen and the village of Stad aan ’t Haringvliet in the municipality of Goeree-Overflakkee will yield insights and experiences with regard to the enabling conditions for using hydrogen in the built environment.

The challenge

In some districts, sustainable alternatives for natural gas, such as a heating network or heat pumps, are not technically or economically feasible. Hydrogen can make an important contribution to the heating of the built environment in the long term. This requires more knowledge and the tailoring of existing legislation and regulations to allow the use of hydrogen to heat buildings. The Green Deal H2 Districts will use existing and ongoing studies and knowledge to assess how hydrogen can be used safely and what technical enabling conditions and procedures are required. It will also look at how and under what enabling conditions the existing gas infrastructure can be used to transport hydrogen.

Research

In order to gain insight into the implications of and conditions for using hydrogen, the Green Deal parties will identify the existing bottlenecks and work out possible solutions.

The Erflanden district of Hoogeveen and Stad aan ’t Haringvliet on Goeree-Overflakkee have received financial support from the Programme for Natural Gas-Free Districts to run the pilot projects. The intention is for the existing gas infrastructure to be reused for the distribution of hydrogen. In addition to the infrastructure, the pilot projects will investigate the necessary enabling conditions in terms of techno-economic, safety, social, legal and administrative aspects. If all enabling conditions are met, and there is sufficient social support, homes and buildings will be equipped with a central heating boiler and a gas meter suitable for hydrogen.

Objective

The aim of this Green Deal is to enable pilot projects with hydrogen districts in the short term, such as those in Hoogeveen and Stad aan ’t Haringvliet. The objective is to gain insight into aspects of the realisation and exploitation of hydrogen districts. This knowledge will then be used to devise structural solutions for obstacles that occur during the two pilot projects. If the broader use of hydrogen in the built environment is deemed desirable, the knowledge will serve as input to amend any legislation, analyse financing structures and clarify and define responsibilities. With these efforts, we strive to allow a new option to be added to the range of existing options to make homes and districts in the Netherlands natural gas-free.

Intended results

The intended results are:

1. identifying the enabling conditions for the realisation of the pilot projects;
2. formulating possible solutions to existing technical and legal obstacles for the pilot projects;
3. defining the necessary legal scope for an “experimentation area” within the clearly defined boundaries for the pilot projects.

Among other things, the Green Deal should ultimately offer insight into whether, and if so how, a safe and socially acceptable use of hydrogen to heat the built environment can be achieved and where any bottlenecks lie.