

Converting the UK gas distribution network from natural gas to 100% hydrogen - H21 Leeds City Gate

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The H21 Leeds City Gate Project is a study with the aim of determining the feasibility, from both a technical and economic viewpoint, of converting the existing natural gas network in Leeds, one of the largest UK cities, to 100% hydrogen.

The H21 Leeds City Gate Project has been designed to minimise disruption for existing customers, and to deliver heat at the same cost as current natural gas to customers.

The H21 Leeds City Gate Project has shown that:

- The gas network has the correct capacity for such a conversion
- It can be converted incrementally with minimal disruption to customers
- Minimal new energy infrastructure will be required compared to alternatives
- The existing heat demand for Leeds can be met via steam methane reforming and salt cavern storage using technology in use around the world today

The Project has provided costs for the scheme and has modelled these costs in a regulatory finance model.

In addition, the availability of low-cost bulk hydrogen in a gas network could revolutionise the potential for hydrogen vehicles and, via fuel cells, support a decentralised model of combined heat and power and localised power generation.

The full report (400 pages) and film (17 minutes) can be found by logging onto the Northern Gas Networks website and typing 'H21' into the search bar.