



# Hydrogen for heating and cooking?

## H21 Leeds Citygate

Hydrogen could be used as an alternative fuel for heating and cooking in the future, although there are significant uncertainties over its availability and cost.

If it's available at a competitive price, it could be transported through the existing gas networks – which could be converted to hydrogen at a reasonable cost – to provide heat in buildings.

As one of the more innovative potential solutions for the future, hydrogen as an option is generally not well represented in existing research and analysis and warrants further study.

Switching from natural gas to hydrogen has the potential to provide a significant carbon emission reduction, while using existing gas networks to transport hydrogen would avoid the issues that building new district heat networks or upgrading the electricity grid could bring. This effect would be magnified in large urban areas.

Working with Northern Gas Networks we completed a holistic research project to assess the feasibility of converting Leeds, one of the UK's largest cities, to a hydrogen gas network.



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## Key Benefits

- Research shows that the conversion of the UK gas network to hydrogen could result in a dramatic reduction in UK emissions.
- Converting the existing gas network to hydrogen is simpler for the customer and avoids the need for them to install complex low carbon technology.
- Minimal new infrastructure will be required compared to alternatives
- An investment project on this scale has the potential to stimulate the economy bringing benefits to the UK as a whole.

## Next Steps

- A detailed feasibility study was recently published concluding that the plan is technically possible, economically viable and will be a significant contributor to meeting the UK's decarbonisation targets.
- The earliest practical date for the initial hydrogen conversion of a UK city is 2025. This would follow the securing of funding to begin the detailed design of the hydrogen production, storage and pipeline systems.

