



The Voice of the Networks

Gas Networks for the UK

The current UK gas network delivers over **720TWh** of energy to customers and covers **284,000km**, which is enough pipes to go **6** times around the world.

There are **23.2 million** gas customers across the UK.

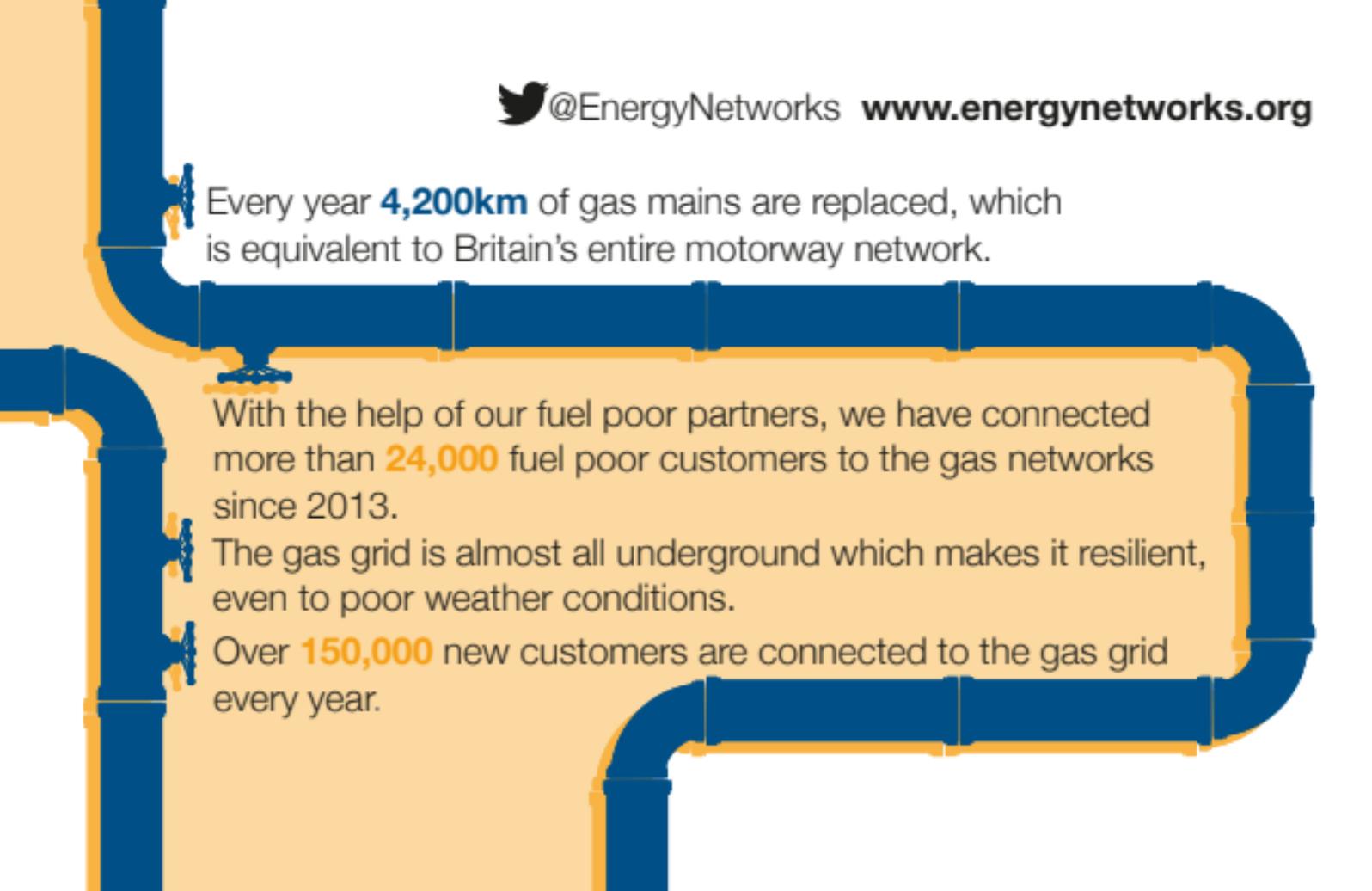


enda
energy**networks**
association



Gas has been a source of energy in the UK for over **200** years.

Gas provides **4/5** of total energy demand at peak times.



Every year **4,200km** of gas mains are replaced, which is equivalent to Britain's entire motorway network.

With the help of our fuel poor partners, we have connected more than **24,000** fuel poor customers to the gas networks since 2013.

The gas grid is almost all underground which makes it resilient, even to poor weather conditions.

Over **150,000** new customers are connected to the gas grid every year.



The Voice of the Networks

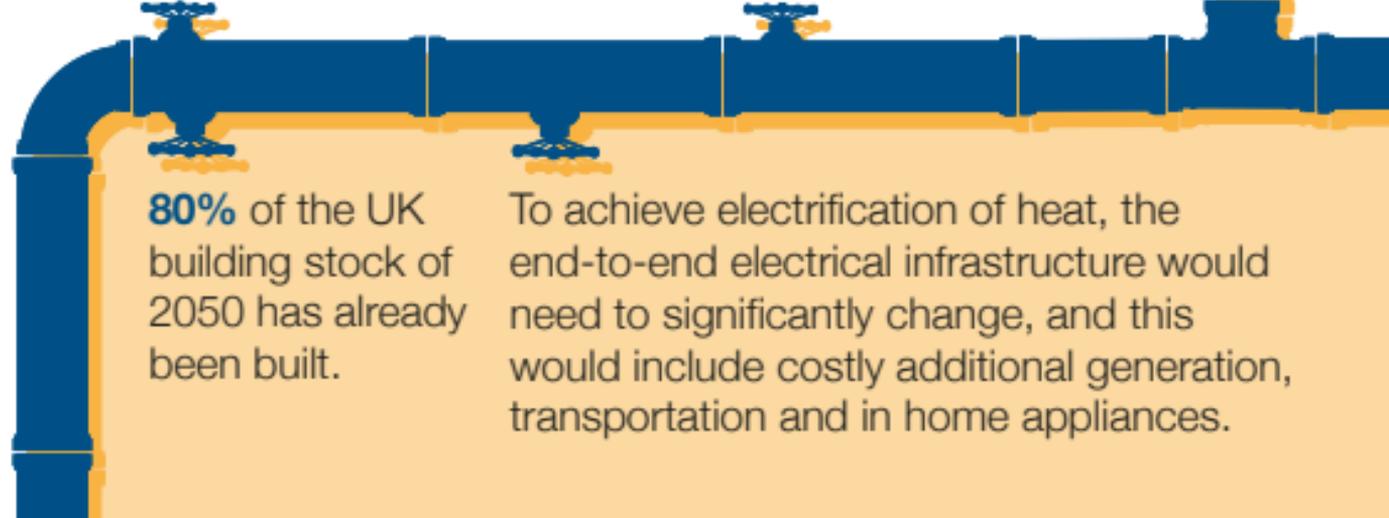
Gas Networks for HEAT

Gas is the fuel choice for UK consumers, meeting the heating needs of almost **85%** of domestic properties and the cooking needs of around **50%** of residential and service sector buildings.



ena
energy networks
association

Heating homes with gas is **3** times cheaper than with alternatives, including electricity.



80% of the UK building stock of 2050 has already been built.

To achieve electrification of heat, the end-to-end electrical infrastructure would need to significantly change, and this would include costly additional generation, transportation and in home appliances.



Decarbonising heat to support the challenge of the energy trilemma could be accomplished via decarbonisation of the gas network with renewable gases such as Biomethane and Bio Synthetic Natural Gas (SNG).

Peak heat requirements, which are currently met by the gas networks, are over **25** times the level of available low carbon energy – including nuclear.

85% of domestic heat is currently provided by gas, decarbonising the gas network would have less impact on customers than decarbonising heat through electricity.

Gas as a heat source is up to **90%** efficient, with improvements in technology increasing this further.



The Voice of the Networks

Gas Networks for the **FUTURE**



enda
energy networks
association

Decarbonising heat to support the challenge of the energy trilemma could be accomplished via decarbonisation of the gas network with renewable gases such as Biomethane, Bio Synthetic Natural Gas (SNG) and Hydrogen.



The existing gas network provides all the UK's inter-seasonal storage with a capacity of **650GWh**, ensuring that gas is available to meet the UK's heating, cooking and generation needs.



Continued utilisation of the gas grid, in a low carbon future, will reduce investment costs and help to limit energy costs for customers in the UK.



We are adding a significant number of biomethane connections to the gas grid (getting on for around **50** in the UK) and Biomethane has the potential to meet over **10%** of the UK's domestic heat demand by 2020.

The gas networks have the potential to transport a renewable and hydrogen gas mix or be repurposed for a full hydrogen economy.

An estimated **25%** of UK carbon dioxide emissions are from transport, of which **21%** are from Heavy Goods Vehicles (HGVs). Using piped natural or renewable gas for HGVs instead of diesel can reduce CO₂ by **10–30%**, NO_x by **30%** and particulate matter by **95%**.

In the UK there are currently over **700** gas-powered HGVs. Dedicated Natural Gas Vehicles can provide ranges up to **500km** with low efficiency loss compared to diesel equivalents.