

# DECARBONISED GAS IN A NUTSHELL



## What?

Decarbonised gas is a great solution to a growing problem: how do we efficiently and cost-effectively decarbonise the UK's energy system?

By harnessing the potential of our existing immense gas system, re-purposing it rather than decommissioning it, the UK can cut the cost of decarbonising in half and get to net zero carbon.

## How?

By using a range of low carbon and renewable gases such as hydrogen and biomethane, alongside carbon-capture technology.

It's not about one magic bullet – decarbonised gas and electrification would work alongside one another.

## Why?

Since 1990, the UK has done a good job of decarbonising electricity, but it has done a poor job of decarbonising heat, transport and industry.

Decarbonising the gas system can help us to tackle these harder areas, safely and cost-effectively.

## How can we do it?



Biomethane, bio-SNG (synthetic natural gas) and bio-LPG (liquified petroleum gas) are produced from waste products and are therefore naturally low carbon and renewable. They can be used directly in place of natural gas in the grid or LPG. John Lewis & Partners are already converting their entire HGV fleet to biomethane.



Hydrogen can be produced from water using low carbon electricity, or from natural gas with CCS at scale. The only emission when used is water.

Hydrogen can be used in place of gas in the home, for transport and in industry. It can also be blended in the gas grid up to 20% without needing to change appliances.



Using carbon capture and storage (CCS) technology will halve the cost of substantially decarbonising and is needed for meeting net zero.

CCS could also be used to decarbonise heavy emitting industrial clusters such as the North West and Teesside, enabling these sites to remain a part of their community and benefit the economy.

Hydrogen and gas with CCS can provide flexible electricity generation to complement renewables

The gas system provides **most** of our energy in the winter

Bioenergy with CCS provides **negative** emissions

Over 22 million UK homes are connected to the gas grid



Decarbonised gas could stop us sending our emissions overseas whilst protecting UK jobs in manufacturing communities

You are **50%** more likely to be in fuel poverty off the gas grid

**20+** ongoing projects trialling these technologies

Bio-gases and hydrogen are a clean replacement for diesel and help air quality too

