TOMORROW'S HEAT, TODAY'S OPPORTUNITY:
REDUCING OUR EMISSIONS FROM INDUSTRIAL CLUSTERS

DECARBONISING INDUSTRY IN THE UK

Many of our heavy industries rely on gas in their manufacturing processes, so electrification may not be a viable option. For these industries to decarbonise, low-to-zero carbon gases, such as biogas and hydrogen, need to be available as an option.

Building the world's first zero-carbon gas grid will not only allow the UK to continue strategically-important manufacturing, such as primary steelmaking, during the transition to net zero but will also help decarbonise nearby homes and dispersed businesses.

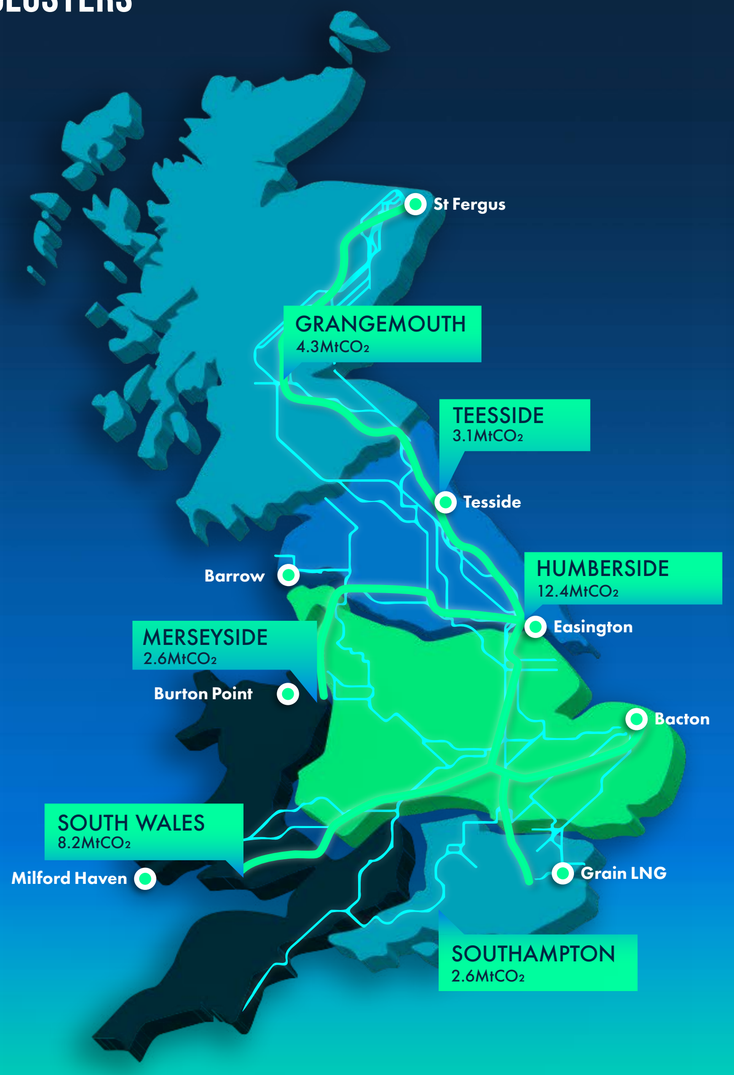
GOVERNMENT AMBITIONS

Reaching the target of net zero carbon emissions by 2050 will require huge change across all sectors, including industry. Industry accounts for 16% of UK greenhouse emissions. Industry plays an essential role in society, contributing **£170 billion** to the overall economy.

WHAT ARE INDUSTRIAL CLUSTERS?

Identified by the UK Government, Britain's six Industrial Clusters are distinct because they have a significant number of industrial sites in the same location that manufacture products such as chemicals, iron, steel, glass, ceramics, and paper.

Britain's gas network companies are investing in innovation projects to decarbonise these clusters using hydrogen and biomethane. Clusters will then be linked through a national hydrogen network of pipes, proposed by National Grid's 'Project Union', acting as the backbone of the zero-carbon gas grid. The supply of hydrogen to homes and other businesses to reduce their emissions will expand outwards from these clusters to the surrounding local areas, joining up over time. Biomethane will be used to reduce emissions in those places where hydrogen isn't available to properties.



INNOVATION PROJECTS DECARBONISING INDUSTRIAL CLUSTERS

PROJECT UNION

As low-carbon clusters develop, National Grid will be ready to link them using repurposed pipes carrying hydrogen. By connecting these Clusters, we can increase the security of supply and the resilience of the gas network.

Net Zero Teesside

Aims to deliver the UK's first zero-carbon Industrial Cluster through deploying CCUS technology. The project plans to capture up to 10 MtCO2e.

During construction, the project could enable an annual gross benefit of up to £450 million and support up to 5,500 direct jobs.

HyNet North West

Includes the development of a new hydrogen pipeline to supply hydrogen to industry and the creation of the UK's first carbon capture usage and storage (CCUS) infrastructure.

These changes can save over 1 MtCO2e every year.

H21

Led by Northern Gas Networks, the H21 programme is delivering evidence in support of a transition to a 100% hydrogen future.

H21 is testing existing gas network infrastructure's suitability for delivering hydrogen.

SWIC

A partnership between industry, infrastructure companies, the public sector and academia, the South Wales Industrial Cluster (SWIC) will help decarbonise heavy industry in South Wales, preserving 113,000 manufacturing jobs and creating thousands of new green jobs by 2050.

SGN

The Southampton Water cluster will support the decarbonisation of local industry and transport. Currently, the area, which is home to one of the UK's largest and busiest ports, sees around 2.6 million tonnes of CO2 emitted each year. SGN are investigating the feasibility of developing a hydrogen super-hub at the Port of Southampton to help deliver hydrogen production and distribution across the entire south coast.

MAP KEY

- SGN
- NORTHERN GAS NETWORKS
- CADENT GAS
- WALES & WEST UTILITIES
- EXISTING LIQUID NATURAL GAS TERMINALS
- BRITAIN'S SIX INDUSTRIAL CLUSTERS
- POTENTIAL OPTION FOR NATIONAL HYDROGEN NETWORK
- OTHER GAS NETWORKS

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