

An aerial photograph of the ocean with vibrant turquoise and deep blue waves. The water's surface is textured with ripples and white foam from breaking waves, particularly visible in the lower right quadrant. The overall scene is dynamic and natural.

HyNet
North West

MAKING NET ZERO HAPPEN

Decarbonising for the future


















HyNet will decarbonise industry across the North West of England and North Wales.

As we manufacture the products we use every single day, a greenhouse gas, carbon dioxide, is emitted. In order to tackle climate change, we need to make changes to how we make these vital products.

HyNet is an infrastructure project which will produce, transport and store low carbon hydrogen that industry can switch across to. It will also capture and lock away carbon dioxide emitted from industries which cannot decarbonise in any other way.

Key

- | | | | |
|---|--|---|--|
|  | Initial phases of Cadent's H ₂ pipeline |  | Industrial H ₂ user |
|  | Future phases of Cadent's H ₂ pipeline |  | Flexible H ₂ power generation |
|  | CO ₂ Transportation & Storage System |  | CO ₂ shipping |
|  | Future CO ₂ pipeline connections |  | H ₂ blending for homes & business |
|  | Industrial CO ₂ capture |  | H ₂ fuelling for transport |
|  | CO ₂ storage |  | H ₂ from offshore wind |
|  | Low carbon H ₂ production |  | H ₂ from solar & wind |
|  | Underground H ₂ storage | | |



Delivering low-carbon fuel for industry

HyNet will produce low carbon hydrogen within the North West. This will give industry a route to switch away from fossil fuels to secure source of low carbon fuel. The process of switching to hydrogen has already been successfully demonstrated at Liverpool industries Unilever in Port Sunlight and Pilkington in St Helens.



Securing our energy supply

The hydrogen produced by HyNet can be stored locally underground in Cheshire to fuel power stations to meet our demand. This will help keep the lights on when the wind doesn't blow and the sun doesn't shine or if there are problems with importing power from abroad – helping our energy security.



Removing carbon from industries which unavoidably emit CO₂

Some industries produce carbon dioxide as an unavoidable part of their process – this includes the production of vital materials and products such as cement and chemicals. The only way these industries can decarbonise is by capturing carbon emissions and locking them away in a process called carbon capture and storage. This is where HyNet will help.

The carbon emissions are captured at the site where they are produced. They are then transported by pipeline to be locked away forever under the sea bed.



Making it happen – quickly

To have a chance of fighting climate change, we need to cut our carbon emissions – in a big way and quickly. That's what HyNet is all about.

Business (including manufacturing) accounts for 18.7% of the UK's total greenhouse gas emissions.¹ We need to cut these substantially by the end of this decade, which means starting now.

As new technologies emerge for producing low carbon hydrogen, they can also directly connect into HyNet's infrastructure.

HyNet is making it happen.

Leading the world

HyNet is the UK's leading industrial decarbonisation cluster. It has been developed to it can be used as a 'blue-print' for industrial decarbonisation, able to be replicated across the globe.

As leaders in manufacturing, the UK's industrial workforce have the skills and experience to lead the global hydrogen and carbon capture and storage sectors, drawing in investment, and exporting our knowledge worldwide.



¹ 2022 UK greenhouse gas emissions, provisional figures, March 2023



Case Study Heidelberg Materials



Whilst we use cement every day – in the roads we drive on, the buildings we live and work in, and the bridges we travel over – its production creates a lot of carbon dioxide. HyNet partner, Heidelberg Materials, located in Flintshire, North Wales is developing a carbon capture facility that will capture up to 800,000 tonnes of carbon dioxide each year (more than three times total emissions from homes in Flintshire²).

By using HyNet, Heidelberg Material's plant will:

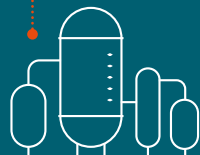


Inward Investment
secure £400 million capital investment



Jobs
create 56 new, high value operational jobs & create over 350 jobs during construction

Supply chain
grow Heidelberg Materials supply chain



² UK local authority and regional greenhouse gas emissions national statistics: 2005-2020, Flintshire domestic data table, 2020 data

Case Study Encirc

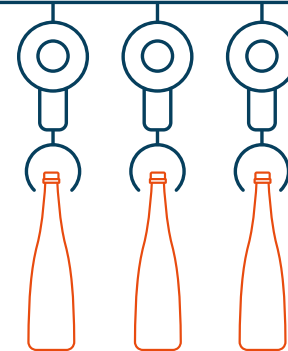


Encirc manufactures, fills and distributes around 3 billion glass bottles and containers - around 40% of the UK and Republic of Ireland's market share. With its two Cheshire-based furnaces as the largest of their kind in the world, Encirc is committed to leading the decarbonisation of glass globally. Locally-produced hydrogen from HyNet will fuel Encirc's glass furnaces, reducing carbon emissions by more than 90%.

This will:



Low-carbon
enable the manufacture of billions of low-carbon glass bottles



Global excellence
establish the region as the global centre of excellence for glass innovation



Jobs
create over 200 new jobs & sustain 1,000 existing roles



Skills
grow a skills base fit for the future

HyNet is made up of a group of organisations which have come together to build the infrastructure which will:



lock away carbon dioxide emitted by industry



provide locally-produced low carbon hydrogen which industry can switch to as an alternative to fossil fuels



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