

# What can industrial sites do to reduce their energy demand?

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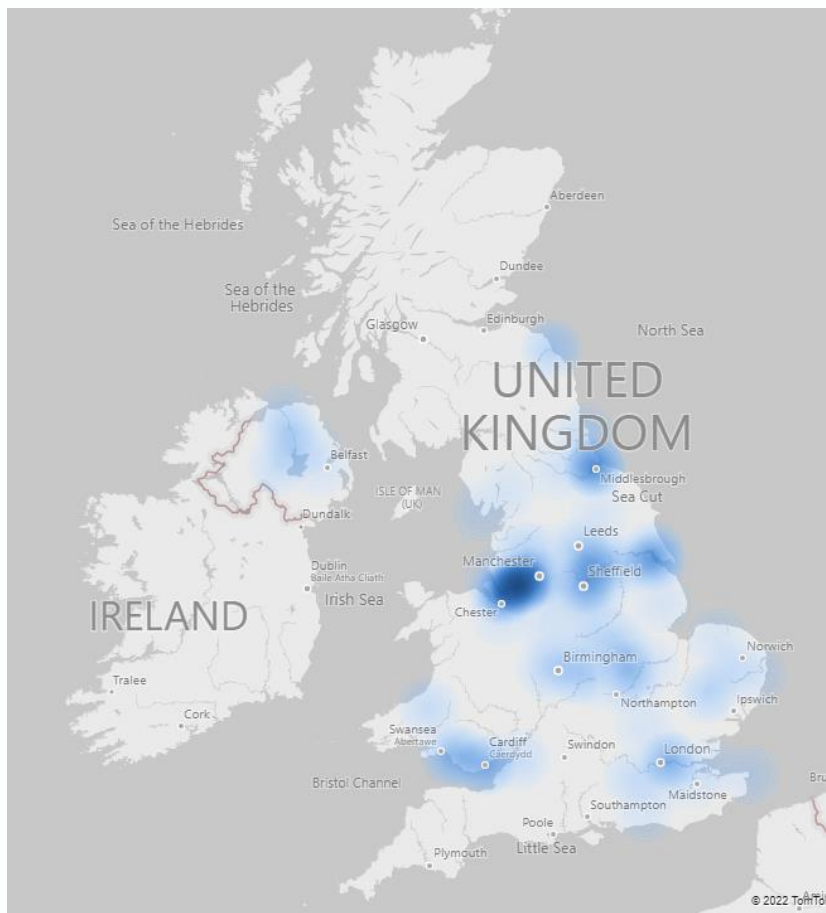
# Decarbonisation

Decarbonisation is a pre-requisite for survival for a lot of manufacturing and industrial sites in the UK.

- Energy efficiency  
(waste heat recovery, more efficient process equipment, better process controls)
- Fuel switching  
(green hydrogen, electricity, other low carbon fuels)
- Carbon capture  
(removing the final hard to abate emissions)

# Industrial Energy Transformation Fund

The £315m Industrial Energy Transformation Fund has provided capital investment for industrial energy efficiency and deep decarbonization on industrial sites since April 2020.



So far we have allocated funding across 5 competition windows to over 100 projects.

Winners come from across England, Wales and Northern Ireland, from both within and outside the industrial clusters.

There is good representation across eligible sectors, from small food processing companies to large chemicals and metals manufacturers.

Case studies of the past winners are published on [Gov.uk](https://www.gov.uk)

# Hinton Perry and Davenhill

Hinton Perry & Davenhill Ltd manufactures Dreadnought Clay Roof Tiles and Ketley Engineering Bricks. They are a small manufacturing site based in Dudley, West Midlands and have operated from the same site since 1805, employing 65 people.

It is an old site with a range of equipment (kilns and dryers) with a layout that is dispersed.





# Heat Recovery

*Exhaust kiln heat conversion and use for drying bricks and tiles £162, 247 grant*

## Industrial site

- Hinton Perry & Davenhill use natural gas in their dryers for the bulk of the cycle for bricks and roof tiles. It creates 8000 tonnes of CO2 per year

## Technology

- To use a major thermal processing heat exchanger to collect the kiln exhaust flue gases and absorb the heat into hot oil. The hot oil will deliver the heat to the drying chambers and release it into the recirculation air stream used for drying

## Carbon savings

- Potentially save 900 tonnes of CO2 per year



# Essar UK

Essar UK is a leading UK-focused energy company whose main asset is the Stanlow Manufacturing Complex, one of the most advanced refineries in Europe

Stanlow is a key strategic national asset, annually producing over 16% of the UK's road transport fuels, while playing an important part in Britain's petrochemical industry by providing key feedstocks. It is part of the Track 1 project, Hynet Low Carbon Hydrogen Production with CCS in the NW.



# Furnace Deployment

*Stanlow refinery net zero ready furnace replacement £7,267,823*

## Industrial site

- Essar use oil fired furnaces (partly converted to gas) which are 46 years old and only 86% efficient. The site creates 2million tonnes of CO2 emissions annually

## Technology

- To replace the existing 100MW furnace with a modern hydrogen ready furnace
- To deploy waste heat recovery on flue gas stacks to pre heat the air
- To improve process oxygen via better monitoring and controls, TDLS

## Carbon savings

- 20,000 tonnes of CO2 per year from energy efficiency, 6-8% energy saving
- 220,000 tonnes of CO2 once the furnace switches over to 100% hydrogen fired.





# Industrial Decarbonisation

On the 30<sup>th</sup> March 2023, as part of the **Powering up Britain** paper the UK Government announced a further £185m will be made available to industrial sites across the UK to help them on the journey to net zero.

Get involved in the IETF Phase 3 consultation this summer to make sure it continues to be fit for purpose.

- Should it focus on industrial energy efficiency?
- Should the scope be widened to include other industries?
- How could we help you to decarbonise?

In addition, the **Energy Advice Service** is being developed to support smaller industrial sites who might not be able to afford the scale of funding from the IETF.



## Thank you

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## About Us

Innovate UK KTN exists to connect innovators with new partners and new opportunities beyond their existing thinking – accelerating ambitious ideas into real-world solutions.

