IEA Bioenergy
Technology Collaboration Programme

Task 33: UK Country Update

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UK Supergen Bioenergy Impact Hub

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April 2026

CONTENT

- Overview of previous updates in June 2025
- Recent/Current Project Status:
  - Highlighting some key industrial developments
  - UK Government funded programmes/projects

Department for Energy Security & Net Zero

UKRI Innovate UK | Business Connect

Hydrogen BECCS Innovation Programme Phase 2: projects awarded funding

Value £5M + £26M

Phase 2: Demonstration 2023-25 (6 projects)

Category 2 - Gasification components

- Micro-H2 Hub utilising biogenic feedstock for hydrogen and CO_2 production; Led by **Compact Syngas Solutions Limited**
- High efficiency H_2 and CO_2 separation through pressurised water absorption; Led by **KEW Projects Limited**

More about Phase 1-2 projects: LINK

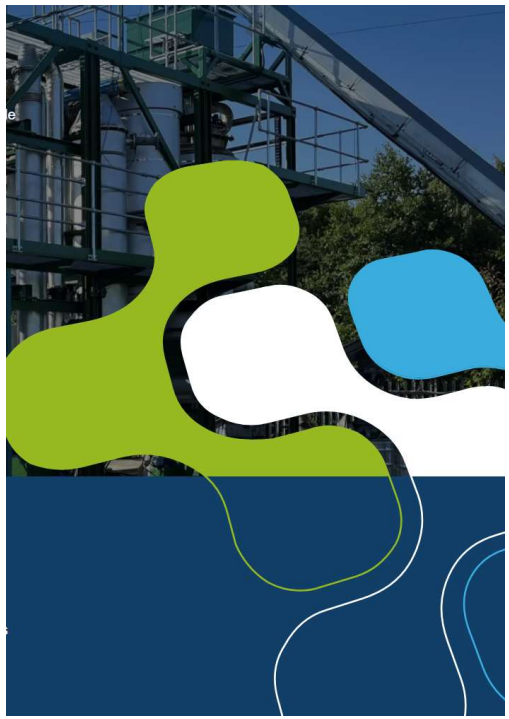
Compact Syngas Solutions, Sandycroft, UK

COMPACT SYNGAS SOLUTIONS
GREEN FUELS FOR A CLEAN FUTURE

*Our **patented gasification** process creates power, heat and hydrogen from non-recyclable waste and biomass.*

*CSS **MicroHubs** are like having your own combined waste management and decentralised energy system.*

*They can operate off-grid to provide **power, heat and hydrogen and fuel** wherever you need it.*



Feedstock

*The CSS MicroHubs can run on a **wide range of feedstocks**, including biomass, low-grade wood and prepared waste such as refuse-derived fuel (RDF).*

https://www.syngas-solutions.co.uk/

Compact Syngas Solutions, Sandycroft, UK

Microhub 500

The MicroHub 500 produces 600kWh of heat and 500kWh of power – enough to service about 1,000 households.

Running constantly, it can handle 3,750 tons of biomass and solid recovered fuel (SRF) per annum, while about 41% of carbon is captured in the biochar.

Microhub 1000

Its big brother, the MicroHub 1000, doubles the amount of heat and power being generated, delivering 1MW of power and 1.2MW of heat.

MicroHub 1000 H2

The MicroHub 1000 H2 adds a further process to produce hydrogen of up to 99.999% purity. Using CSS's patented Pressure Swing Adsorption (PSA), the hydrogen gas produced is suitable for storage and distribution with low risk of liquefaction.

It produces 30kg of hydrogen an hour, alongside 600kWh of power and 750kWh of heat.

The hydrogen is suitable for internal combustion engines converted to hydrogen systems in industrial or transport applications.

The MicroHub 1000 H2 offers local generation where access to mains supply of hydrogen is limited.

MicroHub 1000 H2 CO2

The MicroHub 1000 H2 CO2 adds a carbon capture module to remove up to 80% of the remaining carbon in the process. This captured carbon in gaseous form can be stored for industrial use or sequestered.

https://www.syngas-solutions.co.uk/our-products/

KEW Technology, Wednesbury, UK

February 2025

Kew hits financial woes as stalled-waste gasification project put up for sale

Insolvency practitioners have been appointed to Kew Technology and Kew Projects, which were aiming for the commercial rollout of a modularised version of its flagship project this year

by Nivedita Nayak

https://www.endswasteandbioenergy.com/article/1907825/kew-hits-financial-woes-stalled-waste-gasification-project-put-sale

Sustainable Molecules Ltd ("SuMo"), West Midlands, UK

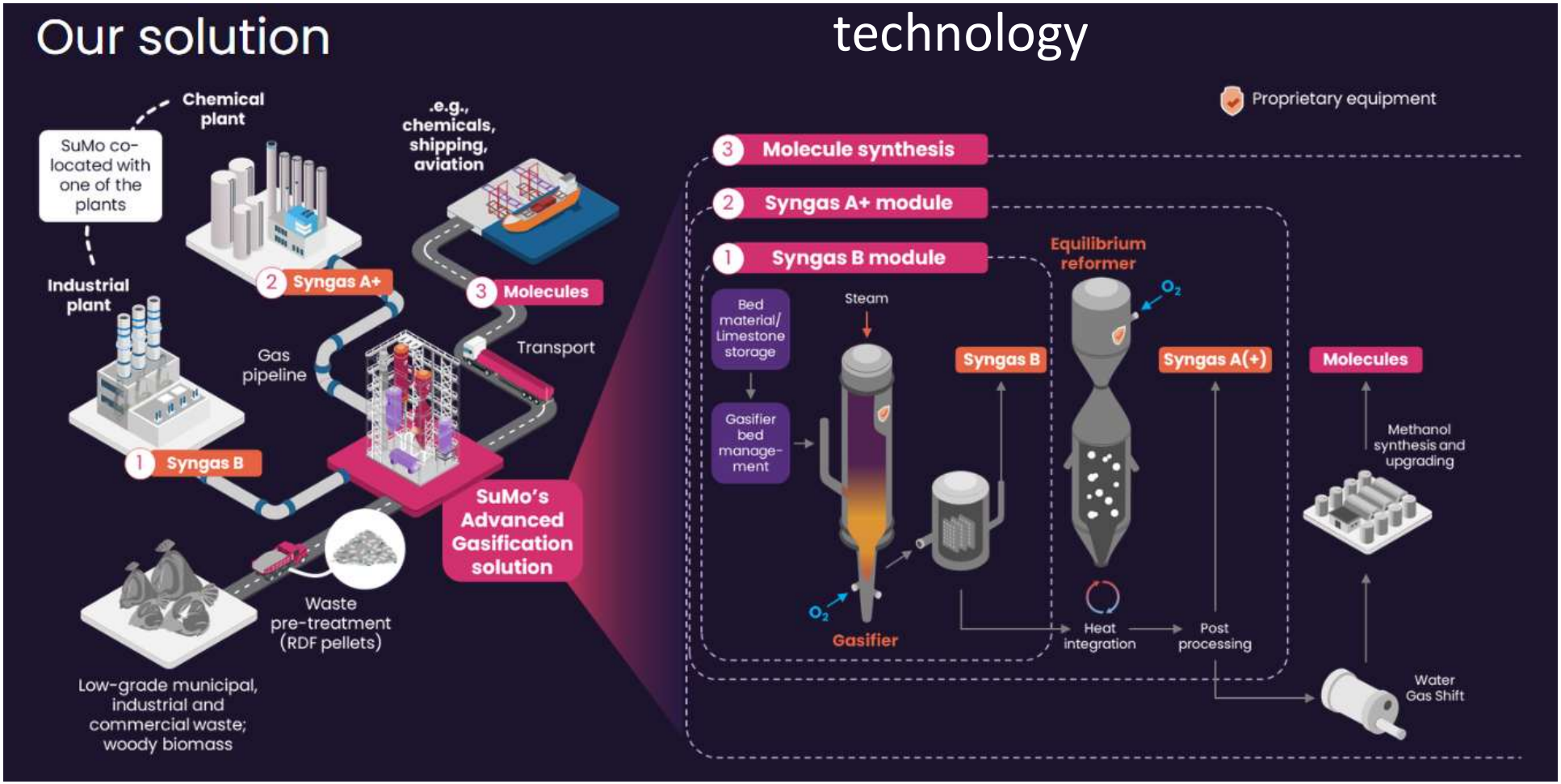
February 2026

Eren Groupe partners with KEW to rebrand Kew into Sustainable Molecules (SuMo) for Waste to Molecules route

A joint venture has launched which aims to accelerate the deployment of waste-to-molecules infrastructure across the UK, Europe and globally with the ambition to bring forward an investment plan of up to €500m.

https://sustainable-molecules.com/

Sustainable Molecules Ltd ("SuMo"), West Midlands, UK



Sustainable Molecules Ltd ("SuMo"), West Midlands, UK

Velocys and SuMo Commission Fischer–Tropsch System at Wednesbury Facility, Advancing UK Waste-to-SAF Pathway

30/03/2026

Fischer–Tropsch system commissioning demonstrates integration readiness for UK waste-to-fuels deployment - key early milestone strengthens the technical and commercial case for the UK's emerging waste-to-SAF industry

https://sustainable-molecules.com/our-news

ABSL: Advanced biofuel solutions Ltd

E ENDS Waste & Bioenergy

ABSL needs new investment as another gasification developer struggles

The Swindon-based EfW Waste-gasification pioneers Advanced Biofuel Solutions Ltd (ABSL) has run into financial difficulties with a scheme codenamed "Project...

4 Mar 2025

SA Swindon Advertiser

Dozens of people at green tech firm s

50 employees at Advanced Biofuel Solutions Ltd have while the company seeks to secure more investment

17 Dec 2024

E ENDS Waste & Bioenergy

"This is much harder than you realise

The ABSL UK Gasification plant is the first in the worl using gas made from household waste and convertin

7 Nov 2024

Advanced Biofuel Solutions Ltd

5.0 ★★★★★ 2 Google reviews

Biotechnology company in England

Permanently closed

Website Reviews Save

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Hooton BioPower Plant (Merseyside)

- **Capacity:** 24MW biopower project processing 240,000 tonnes of waste/year, generating energy for 50,000 homes.
- **Companies Involved:** CoGen, BWSC, Kobelco.
- **Outputs:** Energy from waste via gasification.

Developed by CoGen and owned by Aviva Investors Holding with a stake of 100%

Gasification adopted in this c heat and power (CHP) project release the stored energy fro feed.

Feedstock: Industrial waste a municipal solid waste.

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E ENDS Waste & Bioenergy

Losses more than double at Hooton EfW as Aviva backs project to turnaround

Losses for Aviva Investors' subsidiary Hooton Bio Power more than doubled over the period the energy-from-waste plant belatedly went into operations.

23 Oct 2024

E ENDS Waste & Bioenergy

Hooton EfW's future in focus after collapse of Aviva's five other projects

All eyes are now focused on the last waste and bioenergy investment standing in Aviva Investors' beleaguered portfolio, Hooton Bio Power.

2 Dec 2024

Levenseat Energy from Waste (Scotland)

ADVANCED STAGE GASIFIER: STAGE 1: the fuel is converted into a syngas by heating it up in a low oxygen environment.

STAGE 2: The Syngas is combusted to produce hot gases which Enter the boiler.

- **Capacity:** 200,000 tonnes/year.
- **Companies Involved:** Levenseat Renewable Energy Ltd, Hitachi Zosen Inova.
- **Outputs:** Electricity generation (12 MW) and recovered materials.
- **Status:** Fully operational since 2018.
- **Key Points:** One of Scotland's largest energy-from-waste plants, focused on mixed waste and high recycling rates.

LEVENSEAT SECURES MAJOR INVESTMENT PACKAGE AND FORTIFIES BOARD FOR NEXT PHASE OF SUSTAINABLE GROWTH

Levenseat Resource Management (LRM) has today announced a significant investment package of £8 million along with key appointments to its [...]

March 9, 2026

Viridor Energy from Waste (Glasgow, Scotland)

Glasgow Recycling and Renewable Energy Centre Handles 222,000 tonnes of residual waste every year.

Producing enough energy to power the equivalent of 26,496 households and heat the equivalent of some 8,000 homes.

Delivering a saving to Glasgow of 90,000 tonnes of CO^2 every year.

The site is situated in the south side of Glasgow City at Polmadie.

[Glasgow RRE (viridor.co.uk)]

Evero InBECCS

UK's First Bioenergy Carbon Capture and Storage Project Gets Green Light, August 2025

Located within the HyNet Cluster, the project will **retrofit existing bioenergy capacity with Mitsubishi Heavy Industry's** proven carbon capture technology, offering a scalable and cost-effective solution that can be swiftly implemented.

Evero InBECCS is one of two prioritised projects on the **Department for Energy Security and Net-Zero's** Project Negotiation List.

- Remove **217,000 tonnes of CO_2 per year** from the atmosphere.
- Support the circular economy by processing **170,000 tonnes of waste wood**
- Provide ongoing clean energy generation powering over **100,000 homes and businesses** each year across the Evero portfolio.
- The project also strengthens the **UK's leadership** in green innovation by creating high-value, skilled jobs in carbon capture and clean energy technology.

https://evero.energy/news/Shortlisted

Wilton 10 Project

A Biomass Waste EFW facility **Wilton 10** is based upon the co-firing of Wood Waste, virgin wood, forestry processing rejects and energy crops to generate 30MWe and 10MWth of energy for use in the grid and the adjacent Sembcorp site, as an ancillary operation to their 197MW Wilton Power Station[1].

Summary

A Biomass Waste EFW facility **Wilton 10** is based upon the co-firing of Wood Waste, virgin wood, forestry processing rejects and energy crops to generate 30MWe and 10MWth of energy for use in the grid and the adjacent Sembcorp site, as an ancillary operation to their 197MW Wilton Power Station. The plant consumes up to 300,000 tonnes per year of material, of which around 80,000 tonnes is Wood Waste supplied by UK Waste Wood Recycling, a subsidiary of Enva, from a nearby separate site.

The Wilton 10 facility was developed by Sembcorp Energy UK and was operational in the autumn of 2007 and at the time was the first large scale biomass power station to be built. It is located in Teeside on the Wilton International Industrial Estate and is discrete from Wilton 11 which is a Residual Waste EFW project.

Wilton 10
Operational

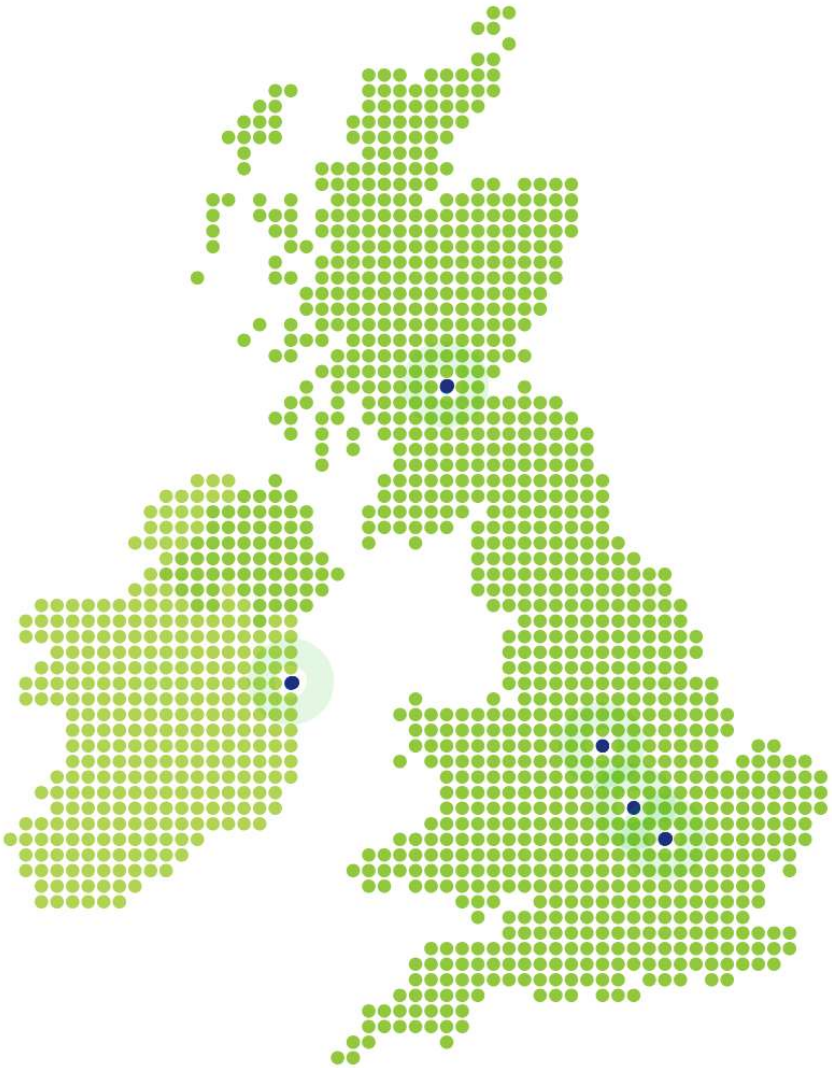
See Biomass EfW → page for a larger UK Wide map.

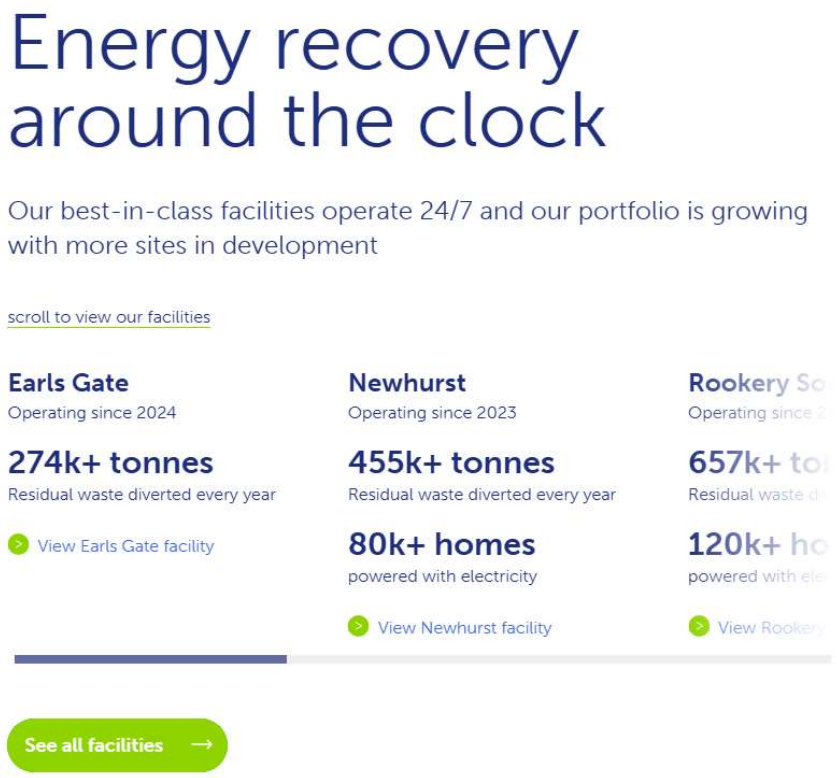
Operator	Sembcorp Utilities (UK) Ltd
Capacity	35.2 MWe
Feedstock	Waste Wood/Virgin
EPR (Waste Licence)	NP3838LV
ROC	Yes
CfD	
CHP	Yes

https://wikiwaste.org.uk/index.php/Wilton_10

ENCYCLIS

Encyclis is a leading owner and operator in **the Energy-from-Waste** sector, with a core cluster of best-in-class facilities in the UK Midlands. Through the safe treatment of residual waste and recovery of electricity and other resources, we support cleaner, more sustainable communities.





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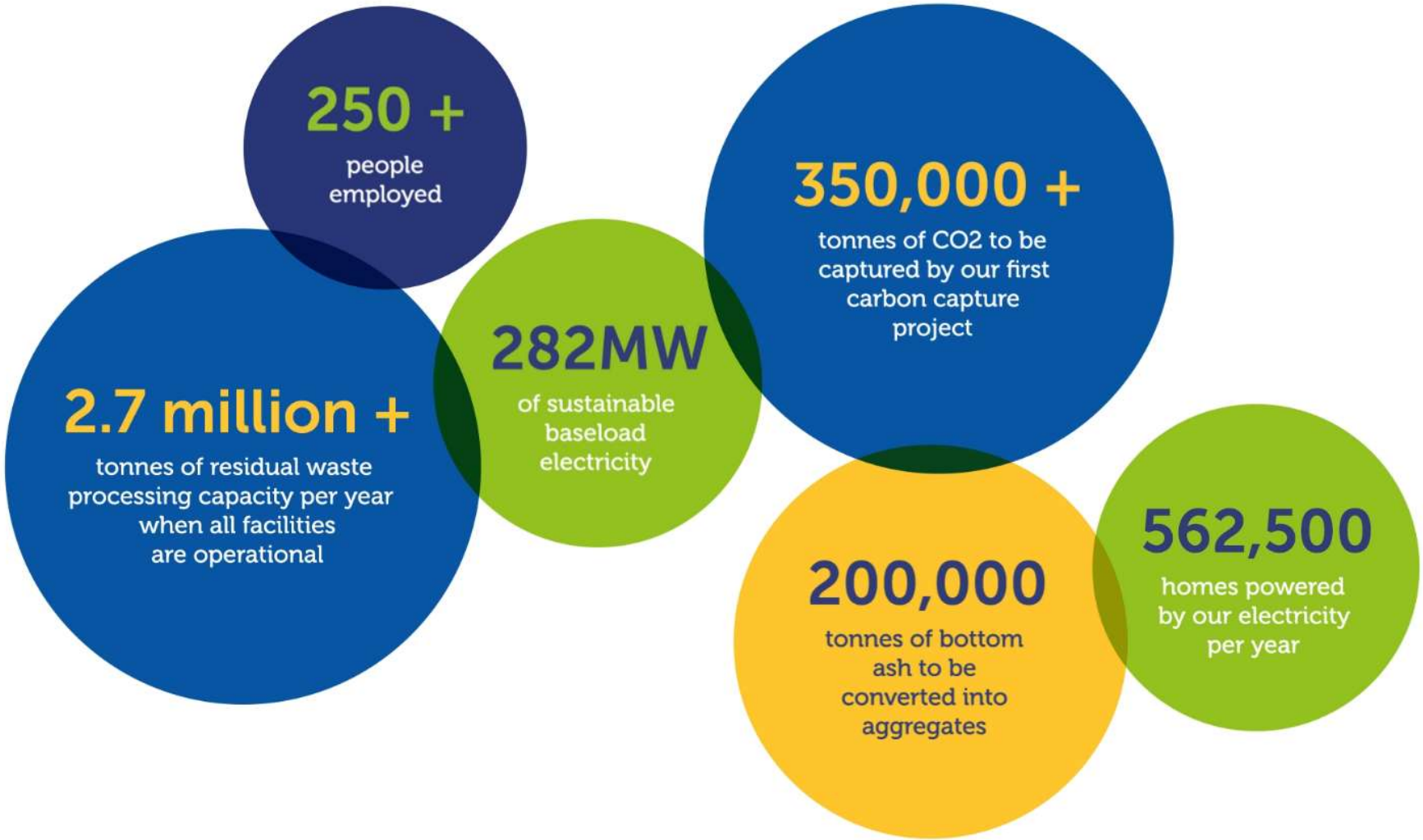
https://www.encyclis.com/

ENCYCLIS

More than energy from waste



https://www.encyclis.com/

Powerhouse Energy Group, Northern Ireland

Powerhouse Energy secures land lease for Ballymena waste-to-hydrogen site

By **Connor Jack**
26 Jan 2026 · 1 min read

Bookmark

Powerhouse Energy Group (PHE) has inked a new lease agreement for a site where it plans to build a waste-to-hydrogen plant in Ballymena, Northern Ireland.

The facility will look to divert 40 tonnes of waste from landfill daily, converting it into hydrogen for uses including transport.

Powerhouse Energy Group has submitted a planning application for a **Waste to Hydrogen facility** in Ballymena, Northern Ireland, after signing an agreement to lease a site at Silverwood Business Park.

https://www.letsrecycle.com/news/powerhouse-submits-plans-for-waste-to-hydrogen-plant-in-northern-ireland/

Hydrogen Transition Energy (HTE) company, Kent

HTE
HYDROGEN TRANSITION ENERGY

HOME THE PROCESS OUR PROJECTS LATEST UPDATES ABOUT US CONTACT

INSIGHTS

Submission and validating our planning application for what will be a first-of-its-kind project in the UK.

We have officially submitted and validated our planning application for what will be a first-of-its-kind

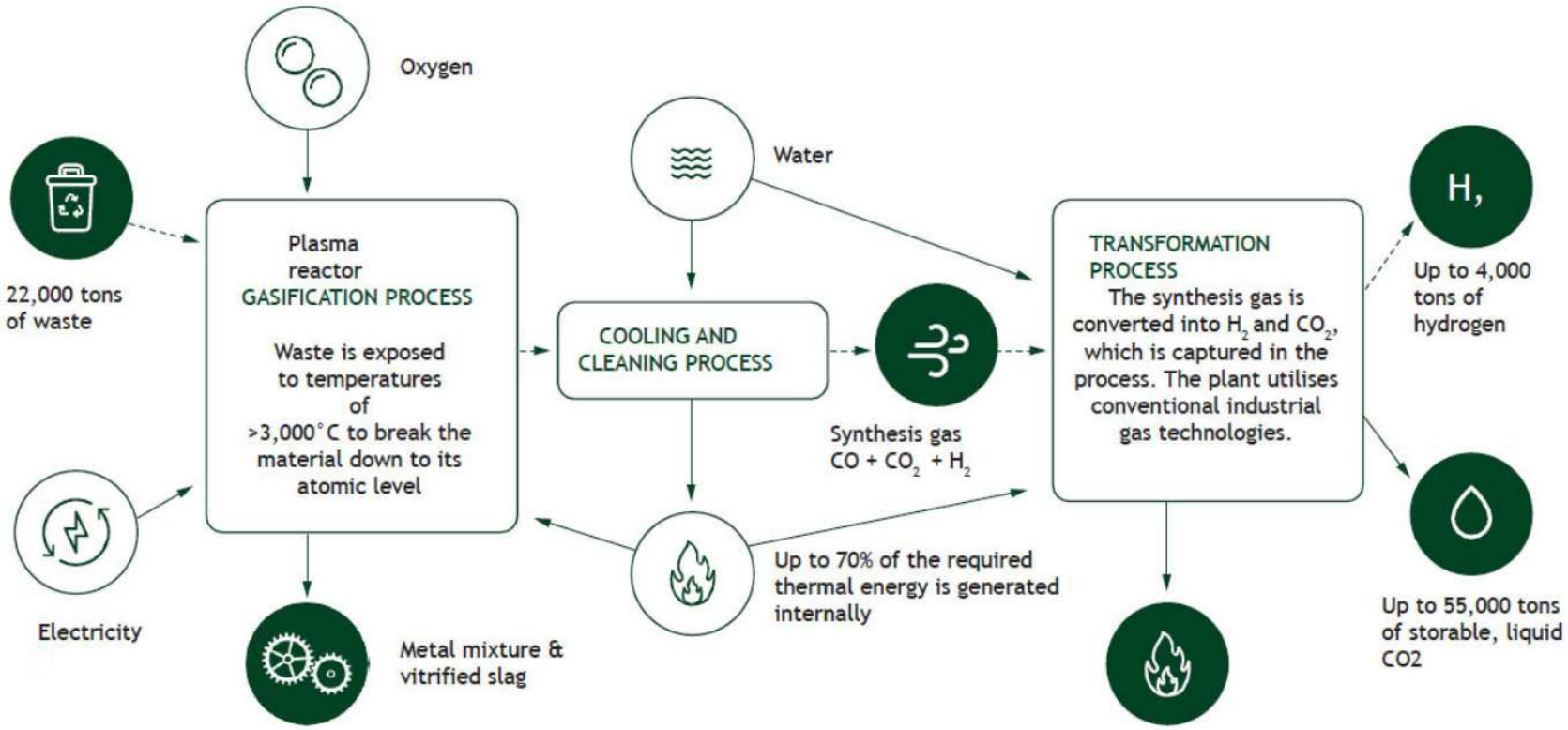
Share the Post:

https://hydrogen-te.com/submission-and-validating-our-planning-application-for-what-will-be-a-first-of-its-kind-project-in-the-uk/

Hydrogen Transition Energy (HTE) company, Kent

The Patented Process

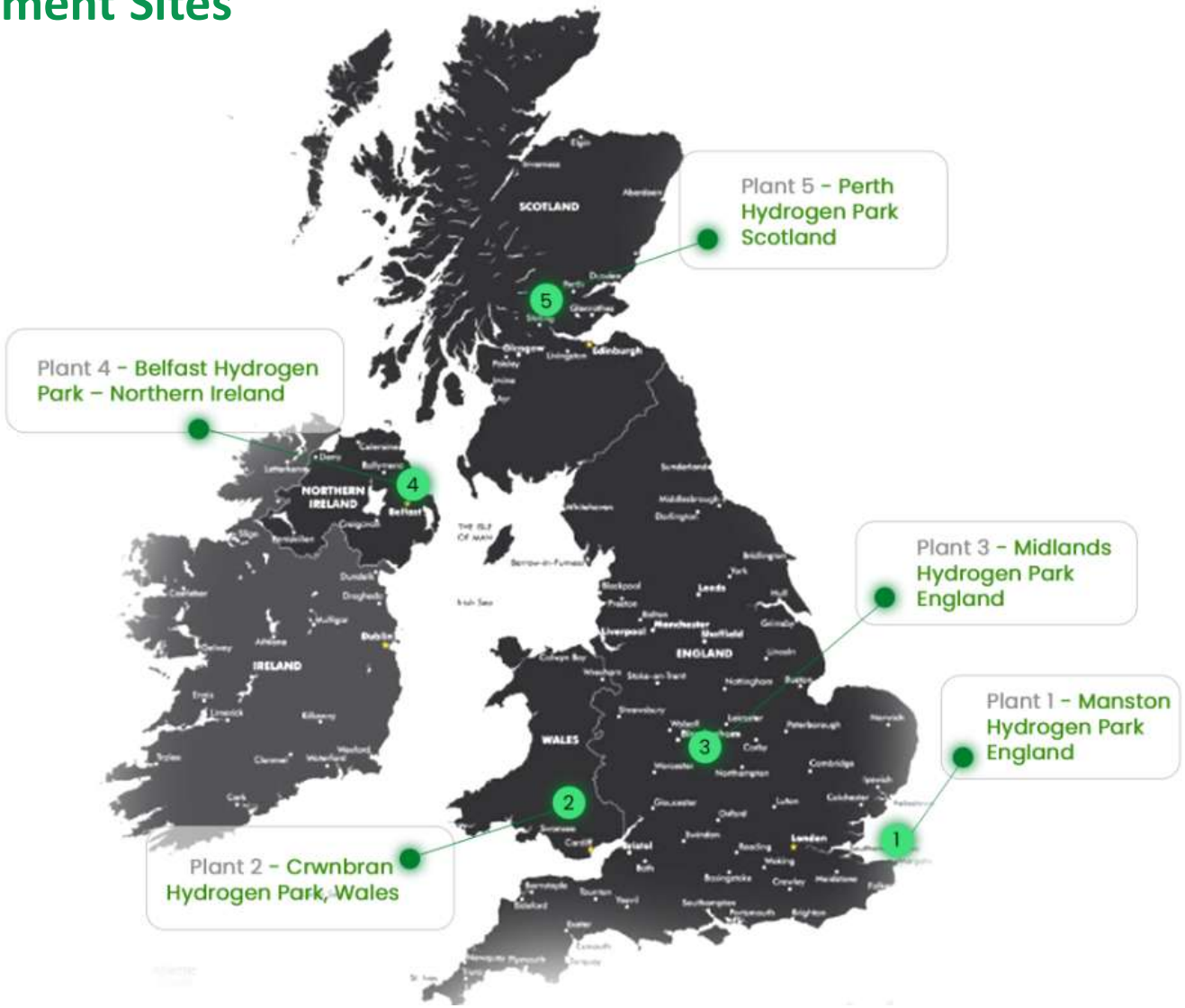
The technology enables the conversion of various waste streams into synthesis (Syngas) gas and subsequent valorisation into hydrogen and storable CO2.



https://hydrogen-te.com/process/

Hydrogen Transition Energy (HTE) company, Kent

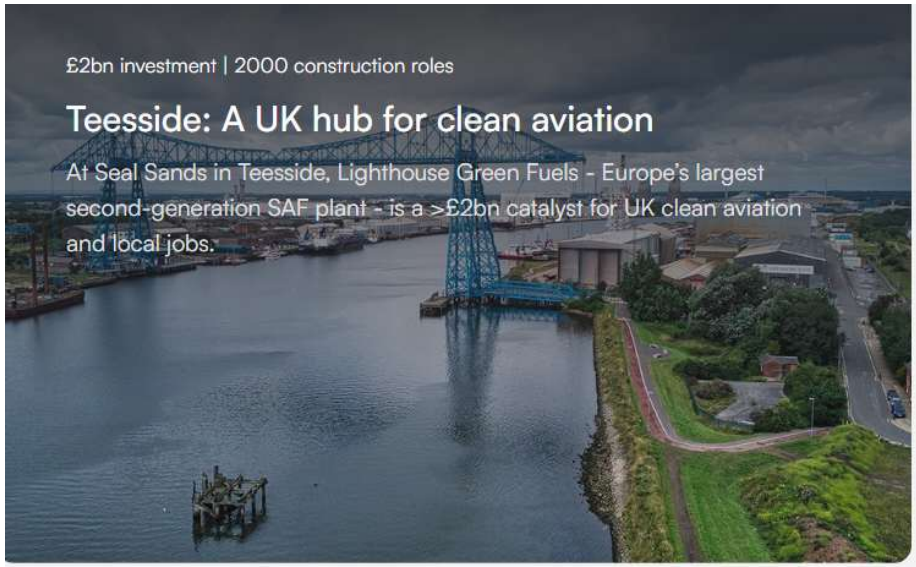
Future Development Sites



https://hydrogen-te.com/our-projects/

Lighthouse Green Fuels Project, Teesside

*Lighthouse Green Fuels is building the largest advanced **second-generation SAF facility** of its kind globally in Teesside. Backed by Alfanar Projects' global energy expertise, our team is united by a single purpose: to cut aviation emissions at scale with proven, ready-to-deploy sustainable aviation fuel.*



https://www.lighthousegreenfuels.co.uk/

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