Net Zero Innovation Funding

29th June 2021

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£1bn Net Zero Innovation Portfolio (R&D)

BEIS's £1bn Net Zero Innovation Portfolio will accelerate the commercialisation of low-carbon technologies, systems and business models in power, buildings, and industry. The Portfolio will decrease the costs of decarbonisation and set the UK on the path to a low carbon future.

The four year programme will provide funding for 10 priority areas.

- Floating offshore wind
- Nuclear advanced modular reactors (supported through the aligned Advanced Nuclear Fund)
- Energy storage and flexibility
- Bioenergy
- **Hydrogen**
- Homes (building efficiency and low carbon heating)
- Direct air capture and greenhouse gas removal (GGR)
- **Advanced CCUS**
- Industrial fuel switching
- Disruptive technologies

https://www.gov.uk/government/collections/net-zero-innovation-portfolio

Launch Event 8th July
https://ktn-uk.org/events/unleashing-innovation-net-zero-innovation-portfolio/

Low Carbon Hydrogen Supply 2 (SBRI)

The **£60m** fund aims to support innovation in the supply of hydrogen, reducing the costs of supplying hydrogen, bringing new solutions to the market

Stream 1 £30m (TRL 4-6) Market entry

£6m Phase 1 Feasibility study 2021 – 2022
£50k - £300k per project to prepare for a future demonstration project, technoeconomic assessment

£24m Phase 2 Demonstration 2022 – 2024 (only open to Phase 1 winners)
£6m per project to build, trial, decommission and disseminate the results

Stream 2 £30m (TRL 6-7) Mature technologies

£10m per project to build, trial, decommission and disseminate the results
Incubation support is also available for SMEs.

Low Carbon Hydrogen Supply 2 (SBRI)

Themes of the fund

- Low carbon hydrogen production (e.g. SMR)
- Zero carbon hydrogen production (e.g. electrolysis)
- Hydrogen storage and distribution (e.g. pipelines, transport inc import/export)
- Net zero hydrogen supply solution (integrating with the wider energy system)

How to apply

Register online by 2nd August 2021
Competition closes on 9th August 2021
Applicants notified by October 2021

Submit questions about either competition to BEIS by 12th July
nzip.hydrogen@beis.gov.uk

https://www.gov.uk/government/publications/low-carbon-hydrogen-supply-2-competition

CCUS Innovation 2 (Grant)

The **£20m** fund aims to support innovation projects that significantly **reduce the cost** of capturing, using and sequestering CO2, or that help UK industry to understand the opportunity for deploying next generation carbon capture technology on industrial, waste or power sites.

The First competition is due to open this week but no information yet. The second competition will open in May 2022.

Themes of the fund

- Developing technologies for carbon capture and usage (Lot1)
- Developing technologies for carbon capture and storage (Lot2)

https://www.gov.uk/government/publications/ccus-innovation-20-competition

CCUS Innovation 2 (Grant)

First Competition will fund;

- £50k feasibility study projects to allow industrial, waste or power sector companies to perform analysis on next generation carbon capture technology that are most suited to their site or industrial sector.
- £1m prototype projects to develop and pilot mid stage (TRL 3-5) technologies
- £5m demonstration projects to build and demonstrate late stage (TRL 6-8) technologies

https://www.gov.uk/government/publications/ccus-innovation-20-competition

Other BEIS Capital Investment funds

The £289m Industrial Energy Transformation Fund (IETF) will support businesses with high energy use to cut their energy demand and reduce carbon emissions. It will provide funding for capital investment in energy efficiency and deep decarbonisation.

The Spring window, worth £40 million, for England, Wales and Northern Ireland will fund:

- Feasibility and engineering studies for potential deployment projects that will deliver energy efficiency or deep decarbonisation benefits if implemented, enabling decision-makers to make informed investment choices

- Deployment of mature energy efficiency technologies that improve industrial process energy efficiency and reduce energy demand.

Competitions close on 14th July 2021 11.00am

IETF deployment guidance – https://apply-for-innovation-funding.service.gov.uk/competition/842/overview
IETF studies guidance - https://apply-for-innovation-funding.service.gov.uk/competition/840/overview

Help to find partners and relevant technologies

Networking platform
A platform for anyone interested in applying to the IETF to share what you have to offer with other interested parties. Search through the participants and direct message to arrange a meeting
Register at https://ietf-spring.meeting-mojo.com/

One to one partnering service
Email me to discuss the skills or technology that you need
Jenni.mcdonnell@ktn-uk.org

Virtual Technology Marketplace
A platform for the manufacturers to view 5 minute videos on some of the technologies that are eligible for the IETF. Register at Marketplace

Eligibility Checker
Contact Innovate UK on IETF@innovateuk.ukri.org

Phase 1 Winners case studies

Hinton Perry and Davenhill £274,000 Study

The objective of the project is to improve energy efficiency within the brick and tile dryers at Hinton Perry & Davenhill Ltd by reducing gas and electricity consumption, and where possible the overall drying cycles.

Roof tiles waiting for distribution source Dreadnought tiles

With partners Ceramic Drying Systems the project aims to assess the feasibility of capturing waste heat from the kiln flue gas and transferring the heat using hot oil back into the dryer recirculation air stream to be used throughout the drying cycle. The company estimate that this would save around 900 tonnes of CO2 emissions, (over 10% of its CO2 emissions) and reduce its gas consumption by 12%.

Phase 1 Winners case studies

Tate & Lyle Sugars £150,000 Study

Working with engineering consultants Fichtner and specialist decarbonisation company PMW Technology, Tate & Lyle Sugars is studying the feasibility of using an innovative, low temperature, physical separation carbon capture process known as ‘A3C’ to reduce its carbon dioxide emissions by up to 90% at its refinery in Silvertown, London.

PMW Technology will bring its expertise in industrial carbon capture technology to assess the feasibility of the use of the advanced A3C cryogenic carbon capture process to the Silvertown refinery. This novel process cleans and then chills the flue gases to separate the carbon dioxide as a frost. The carbon dioxide is recovered and liquefied for storage, use or export.

Silvertown sugar refinery source Tate & Lyle

Phase 1 Winners case studies

Essar Oil (UK) Ltd £24m Deployment

Essar will upgrade a major distillation unit with a new, net zero ready furnace. The furnace will deliver immediate energy efficiency improvements through greater heat recovery, decarbonisation by eliminating oil firing and a reduction in other pollutants, especially NOx.

Forming part of Essar's energy transition roadmap, the new furnace will be designed for 100% hydrogen firing and ready to utilise carbon-free hydrogen from the planned Hynet project. This will reduce site CO2 emissions by 11% each year. Essar believe this will be the first UK oil refinery furnace specifically designed to run on 100% hydrogen.

Stanlow oil refinery source Essar Oil

Other BEIS Capital Investment funds

Industrial Energy Transformation Fund Phase 2

£220m Capital investment for the deployment of energy efficiency and decarbonisation technologies to help manufacturers to reduce their energy demand and carbon emissions associated with the industrial process.

- Studies competition to prepare for future deployment projects
- Deployment competition to install industrial energy efficiency or decarbonisation technologies

Guidance giving the exact details of the two competitions will be published in the autumn.

Any questions?