North East Energy Catalyst

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Energy for Growth
Case study: Durham Energy Institute, Durham University

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Energy for Growth

The North East Local Enterprise Partnership (LEP)'s Energy for Growth strategy sets out areas of opportunity where the North East can contribute towards national energy and net zero goals at scale, while driving economic growth and delivering more and better jobs in the region.

The Energy for Growth programme is focussed across three key workstreams, led by the LEP's energy for growth team: supporting growth in energy sectors such as electrification, batteries, offshore energy and low carbon heat; uniting the region's energy innovation and demonstration assets via the North East Energy Catalyst; and accelerating delivery of regional energy projects at scale, such as heat networks.

Supporting regional energy projects

Through the Local Growth Fund, the North East LEP's Energy for Growth programme was able to support cross-sector partners to develop and deliver a pipeline of projects in these areas of opportunity via grant funding.

In 2019, funding was made available via an open call for projects which aligned to the Energy for Growth strategy, particularly focussed on offshore energy, innovation and demonstration, and low carbon heat.

Over £1.2m was ultimately made available via:

- **Energy for Growth grants:** Grants of up to £150,000 to support capital projects, or revenue support of detailed project development and feasibility studies.
- **Energy Innovation Challenge:** Run by the North East Energy Catalyst, a series of three challenges for SMEs aimed to identify solutions to energy issues which can be scaled up nationally or globally, leveraging the strengths of North East businesses. The programme supported 35 SMEs to bring forward new products or services which have the potential to help solve energy challenges on a global scale.

The total value of the Energy for Growth LGF programme has reached over £6m, including public and private match to the LGF grant funding. The programme is expected to support the creation of more than 200 jobs, provide over 100 enterprises with non-financial support, catalyse nearly 50 engagements between enterprises and research institutions, and over 3,500 SME engagements.

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Background

Durham Energy Institute (DEI) delivers world-class research and solutions for energy decarbonisation and the transition to net zero. Its work is rooted in strong partnerships with industry and policy organisations at home and abroad, and DEI was one of the first energy centres to focus on building true interdisciplinary research - not just between engineers and economists but also with anthropologists, geographers, physicists, chemists, biologists, philosophers, law researchers and more.

The Hydrogen for Heat Laboratory

DEI needed support to create a new Hydrogen for Heat Laboratory which would advance and commercialise a new way of using hydrogen to produce heat and power. A £150,000 Energy for Growth grant supported the installation of local infrastructure for the production, storage and transport of 'green' hydrogen together with a new combined heat and power (CHP) test system.

Outcomes

Despite some delays due to the pandemic, a world-leading Hydrogen for Heat Laboratory is now established and operational. 'Green' hydrogen can be produced on-site and used for the demonstration and testing of hydrogen energy systems and technologies. The first results are being obtained from the CHP system.

Plans are underway to integrate more hydrogen-based technologies and to establish a spin-out business based around commercial applications of the new technology.

Funding received:
£150,000 Energy for Growth grant

New jobs created:
3 forecast (highly skilled research-based engineering roles)

Jobs safeguarded: **3**

Number of enterprises receiving non-financial support: **2**

Number of enterprises assisted to cooperate with research institutions: **2**

"Hydrogen is central to enabling the UK economy to reach net-zero carbon emissions by 2050. Building upon our existing capability in this area, the new laboratory will take an internationally leading role in decarbonising heating and hydrogen technologies."

Dr Andrew Smallbone, Associate Professor at Durham University

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