£12.6million boost for two innovative National Grid projects

National Grid has today been awarded £12.6million through Ofgem's Network Innovation Competition for two ground-breaking projects.

24 Nov 2014

Gas robotic inspection project:

A project for robots to undertake the inspection of gas pipelines at high-pressure has been awarded £5.7million.

National Grid is running the project alongside two small to medium enterprises; Premtech, based in Ashby-de-la-Zouch in Leicestershire, and Harrogate-based firm Synthotech. Newcastle-based company Pipeline Integrity Engineers will also be involved, in order to turn raw data from the robot into meaningful asset health condition assessments.

The new robot is being designed to travel through below ground pipework at pressures fifty-times higher than currently available technologies; five times the maximum pressure that would be experienced by a submarine.

This technology will allow us to accurately assess the condition of our buried assets avoiding the need for complex, deep excavations. This will ensure that we only replace our assets when absolutely necessary, saving around £58million over twenty years.

Use of the robots could lead to carbon dioxide savings of around 2,145 tonnes per year, due to both avoiding unnecessary pipe replacements, and from avoiding excavations.These carbon savings are equivalent to the carbon emissions from energy consumption for approximately477 UK households a year.

Neil Pullen, Director of Gas Transmission at National Grid, said:

"This project is a fantastic example of our continued commitment to innovation in gas transmission. The funding will help us get this technology out of the lab and into use across the business, further increasing our knowledge of the condition of our underground assets, allowing us to do a better job for our customers".

Enhanced Frequency Control Capability (EFCC):

A project to test the capability of wind farms, solar PV, energy storage and demand side response to help control system frequency has been awarded £6.9million.

National Grid's license obligations include a requirement to keep the frequency of the power system as close to 50.00Hz as possible. Currently, thermal power stations like gas and coal plants are used when swift action is required to maintain frequency. This project will test the capability of low carbon technologies to provide rapid frequency response, with the potential to save up to £200million from the cost of controlling frequency. This project will be run in partnership with Alstom, Centrica, Flexitricity, BElectric and the Universities of Manchester and Strathclyde.

Dr Richard Smith, Head of Network Strategy, National Grid, said:

“We are in an era of major change in the electricity market. This innovative project will help the system respond to the changing energy landscape.

“Traditionally, we have mainly looked to gas and coal-fired power stations to provide frequency response. In future, it’s vital that we look at the potential for lower carbon and non-generation solutions to help maintain frequency within the required levels, for example wind and solar or demand response, storage and interconnection”.

Contact for media information only:

Mark Malbas
07771 342178
mark.malbas@nationalgrid.com

For more information, please visit our website:
www.nationalgridmedia.com

Notes for Editors:

Ofgem press release: https://www.ofgem.gov.uk/publications-and-updates/ofgem-announces-%C2%A346m-funding-eight-innovation-projects-improve-britain%E2%80%99s-energy-networks

Gas Robotic Inspection Project – detailed information: https://www.ofgem.gov.uk/network-regulation-%E2%80%93-riio-model/network-innovation/gas-network-innovation-competition/national-grid-gas-transmission

Enhanced Frequency Control Capability – detailed information: https://www.ofgem.gov.uk/publications-and-updates/electricity-network-innovation-competition-submission-national-grid-electricity-transmission-efcc

National Grid is one of the largest investor-owned energy companies in the world and has been named Responsible Business of the Year 2014 by Business in the Community. We own and manage the grids that connect people to the energy they need, from whatever the source. In Britain and the north-eastern states of the US we run systems that deliver gas and electricity to millions of people, businesses and communities.

In Britain, we run the gas and electricity systems that our society is built on, delivering gas and electricity across the country. In the North Eastern US, we connect more than seven million gas and electric customers to vital energy sources, essential for our modern lifestyles.

National Grid in the UK:

- We own the high-voltage electricity transmission network in England and Wales, operating it across Great Britain.
- We own and operate the high pressure gas transmission system in Britain.
- Our gas distribution business delivers gas to around 11 million homes and businesses
- We also own a number of related businesses including LNG importation, land remediation and metering.
- National Grid manages the National Gas Emergency Service free phone line on behalf of the industry - 0800 111 999 (all calls are recorded and may be monitored).
- Our portfolio of other businesses is mainly concerned with infrastructure provision and related services where we can exploit our core skills and assets to create value. These businesses operate in areas such as Metering, Grain LNG Import, Interconnectors and Property. National Grid Carbon Ltd is a wholly owned subsidiary of National Grid and it undertakes Carbon Capture Storage related activities on behalf of National Grid.

Contact for media information only

Share this page

Notes for editors

Notes to Editors:

National Grid is pivotal to the energy systems in the UK and the north eastern United States. We aim to serve customers well and efficiently, supporting the communities in which we operate and making possible the energy systems of the future.

National Grid in the UK:

- We own and operate the electricity transmission network in England and Wales, with day-to-day responsibility for balancing supply and demand. We also operate, but do not own, the Scottish networks. Our networks comprise approximately 7,200 kilometres (4,474 miles) of overhead line, 1,500 kilometres (932 miles) of underground cable and 342 substations.
- We own and operate the gas National Transmission System in Great Britain, with day-to-day responsibility for balancing supply and demand. Our network comprises approximately 7,660 kilometres (4,760 miles) of high-pressure pipe and 618 above-ground installations.
- As Great Britain's System Operator (SO) we make sure gas and electricity is transported safely and efficiently from where it is produced to where it is consumed. From April 2019, Electricity System Operator (ESO) is a new standalone business within National Grid, legally separate from all other parts of the National Grid Group. This will provide the right environment to deliver a balanced and impartial ESO that can realise real benefits for consumers as we transition to a more decentralised, decarbonised electricity system.
- Other UK activities mainly relate to businesses operating in competitive markets outside of our core regulated businesses; including interconnectors, gas metering activities and a liquefied natural gas (LNG) importation terminal – all of which are now part of National Grid Ventures. National Grid Property is responsible for the management, clean-up and disposal of surplus sites in the UK. Most of these are former gas works.

Find out more about the energy challenge and how National Grid is helping find solutions to some of the challenges we face at https://www.nationalgrid.com/group/news
National Grid undertakes no obligation to update any of the information contained in this release, which speaks only as at the date of this release, unless required by law or regulation.