

ENA Open Networks Project

Energy Networks Association

- Energy Networks Association (ENA) is the voice of the UK's energy networks, representing the 15 companies responsible for operating and maintaining the 'wires and pipes' that deliver electricity and gas to households, businesses and communities in UK & Ireland.
- ENA members serve over 30 million customers, whilst managing £62bn of assets that employ 30,000 people in communities across the country.

A pan-industry initiative: ENA Open Networks Project

- Launched in January 2017, the Open Networks Project will lay the foundations of a smart energy grid in the UK.
- The Project brings together the leading minds in the UK energy industry to transform the way our networks work - all 8 of the UK's electricity network operators (including National Grid as the System Operator), the Department for Business, Energy & Industrial Strategy and the energy regulator Ofgem, as well as leading academics, trade associations and NGOs.
- It was recognised in the 2017 BEIS & Ofgem Smart Systems and Flexibility Plan as a 'key initiative' to deliver changes to energy networks in response to decarbonisation and as such forms part of Government policy.
- The Project will enable the UK's local distribution networks to move from their traditional role of simply delivering electricity in one direction from centralised power plants to our homes and communities, to one where they act as a smart platform that enables a whole range of new energy technologies that generate, consume and manage electricity.
- Local networks will become more active managers of supply and demand within their area, which will require new services and interactions with the wider network, transforming their roles and responsibilities.
- These technologies and services, when part of a smarter grid, have huge potential to not only make our electricity grid cleaner but also to:
 - Provide greater control of our energy and ability to lower costs
 - Promote greater competition in energy markets and;
 - Ensure that the operations and maintenance of the energy networks is done as intelligently and efficiently as possible.
- As part of the Project, in December 2017 network operators in Great Britain launched a major new commitment to 'rapidly increase' the use of markets for energy innovation.
- This commitment will help reduce the cost of running the network and provide new opportunities for businesses and communities to offer services to local network operators. Examples include:
 - Selling power generated by new technologies such as solar panels and wind turbines
 - Businesses adjusting their electricity use at the times of day when they least need it
 - Using new smart energy efficiency technology to adjust consumption remotely and buying electricity from battery storage.

Delivering smart energy technologies

- The change that the Project will deliver will enable the much anticipated widespread adoption of new smart energy technologies, which will benefit both consumers and network managers.
- They not only mean we will all be using and generating more electricity but that we will be using it differently:
 - Renewable energy generates electricity at different times of day and under different weather conditions. These changes will mean we will be able to store and use more electricity locally in batteries. It will also mean that network companies can connect new technologies more cheaply, by avoiding having to pay to reinforce the grid for example.
 - Electric vehicles will not just be re-charged from the network but they will feed electricity back into it. New technology will make it easier for people to buy and sell electricity to and from the grid and businesses will have the chance to take advantage of new services that will help them use energy more intelligently too.
 - Our local electricity networks will become a platform that enables the development of new markets for new products, technologies and services across the country that will enable households and businesses greater control over their electricity use by working with service providers to allow that to happen.
 - Their relationship with the national transmission network will change, as the lines and responsibilities between local and national networks become more blurred. This Project is about defining that interaction and those responsibilities.

The wider economic impact

- Research conducted by Imperial College London and The Carbon Trust for the Smart Systems and Flexibility Plan shows that the UK could deliver £17-40bn of benefits across the energy system by 2050. A smarter, more flexible energy system, with the use of flexibility markets, will deliver these benefits.
- These changes will impact on electricity networks across Great Britain. The development of new smart infrastructure by itself will deliver economic benefits across the UK, with an estimated potential of £13 billion of Gross Value Added, £5 billion of potential exports to 2050 and 8,000 – 9,000 jobs over the 2020s and 2030s associated with creating smart grids (DECC).

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