Electric vehicles steer UK towards a greener future

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- Growth in electric vehicles (EVs) supports the continued trend towards more low carbon generation
- Electricity demand to grow significantly by 2050, driven by increased electrification of transport and heating
- Increase in electricity peak demand could be as little as 8GW in 2040 via EV smart charging and vehicle-to-grid technologies

Electric vehicles will play a major role in delivering a low carbon future – this is just one of many insights published today in National Grid's annual 'Future Energy Scenarios' report.

Through smart charging and vehicle-to-grid technologies, this year's analysis reveals electric vehicles will be able to support the continued growth in renewables by storing excess generation and releasing it back onto the network when it is needed.

The report, which provides an insight into how we could be using energy in the future and where it could come from, suggests electricity demand is expected to grow significantly by 2050, driven by increased electrification of transport and heating. There could be as many as 11 million electric vehicles on our roads by 2030 and 36 million by 2040. The increase in electricity peak demand could be as little as 8GW in 2040 if consumers charge vehicles at off peak times and through vehicle-to-grid technology.

In three out of four scenarios, the report says gas continues to provide more energy than electricity by 2050 and remains the dominant form of heating well into the 2030s. However, its usage patterns will change, providing flexibility for both heat and electricity generation, complementing renewables.

Fintan Slye, Director, UK System Operator at National Grid, said:

"The continued growth in electric vehicles, a greater volume of low carbon generation and the advancement of storage technology, are among the major trends that have emerged from this year's report.

"This means balancing energy supply and demand will become increasingly complex between now and 2050. The growth of decentralised generation, meeting carbon reduction targets for heat and the continued importance of gas furthers the need for a co-ordinated approach across the whole industry."

Fintan added:

"The scenarios are not predictions, but they aim to be a catalyst for debate, decision making and change, and provide transparency to the wider industry. We are already operating in an exciting period of change – a trend which is set to continue, certainly up to 2050 and beyond."

Energy and Clean Growth Minister Claire Perry said:

“As we move towards a low carbon economy, we want to position the UK as a leader in clean and efficient power for transport and heating. Earlier this week we announced significant investment in electric vehicle charging infrastructure, including £30 million R&D investment in smart charging points.

“With demand for electricity expected to increase, gas has a key role to play in our energy mix. As part of our modern Industrial Strategy, we will continue to explore options for safe and secure domestic supplies of gas, such as hydrogen, biogas and natural gas from shale.”

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Notes for editors

The full FES report is available here http://fes.nationalgrid.com/fes-document/

What is FES?

Our Future Energy Scenarios (FES) are our annual set of holistic energy scenarios, developed through extensive stakeholder engagement and our own analysis. They are not predictions. They reflect the possible supply and demand of gas and electricity in the future, and the implications of this for the energy industry.

The 2018 FES include 4 scenarios, or plausible energy futures:

- Community Renewables
- Two Degrees
- Steady Progression
- Consumer Evolution

Why do we make them?

We use scenarios to capture uncertainty and provide a consistent and credible starting point for our long term planning and decision making. They are also used across the energy industry and beyond to drive debate and decision making.

How do we make them?

Every year we engage hundreds of stakeholders through workshops, meetings and webinars. This year we consulted 430 organisations. FES is highly regarded externally as being robust, credible and independent.

The FES Conference – Thursday 12th July

We will be live streaming the event session. If you’d like to follow, please use this **link**

You can also follow interest on Twitter using the hashtag #FutureOfEnergy

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
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