National Grid confirms summer 2017 as “greenest ever” and launches “world’s first” green energy forecast

While the end of summer may have meant grey weekends for some, it was in fact the ‘greenest’ summer on record according to new data from National Grid.

26 Sep 2017

From 21 June to 22 September, almost 52% percent of our electricity generation was met by low carbon sources, compared to around 35% four years ago. This news comes as the company today launches innovative new software that forecasts the carbon intensity of electricity generation up to two days ahead, helping people to understand and control their energy use.

National Grid is working with Environmental Defense Fund Europe and WWF to make the software openly available to the public. WWF has used the data as the basis of an online tool which points users to the best times to turn on or turn off home appliances to minimise carbon emissions, while Environmental Defense Fund Europe are working on policy implications of having this data available and widely understood. Shifting activities like dishwasher cycles or electric vehicle charges could help relieve pressure on the energy system, reduce the need to use back-up fossil fuel plants, and potentially reduce bills for households.

Duncan Burt, Director of the System Operator at National Grid, said:

“We're providing our forecast data in a format that allows technology companies to build innovative apps and software that could make a real difference to how and when people use energy. Clear and concise information that can tell you in advance when’s best to turn on the washing machine, load the dishwasher or charge your car for example, is a step in the right direction towards a low carbon future. This technology puts people at the heart of it, helping everyone to use power when it’s greenest, and likely, more cost efficient”.

“It’s been an exciting year managing the many ‘network firsts’ - from a day where we operated the system with zero coal power, to one where over half of Great Britain’s energy demand was met by renewable generation -and we’re just as excited to see what developments come off the back of making this data available for all”.

The programming software combines National Grid’s deep knowledge of the UK energy system with weather data from the Met Office to forecast the share of renewable and non-renewable energy that will be on the UK electricity grid over the next 48 hours, and the resulting carbon emissions. National Grid’s data has been verified by experts from Oxford University.

Gareth Redmond-King, Head of Climate & Energy at WWF, said:

“How electricity reaches our homes is often out of sight - we just flip the switch and pay our bills. But the changes to our electricity system are opening up more choices for consumers. Green energy forecasting could be a game changer – making the connection between the weather and energy and helping people use electricity when it’s greenest. This is not just good news for reducing the effects of climate change but could also help us cut our home energy bills and it’s vital the UK Government bring in time of use tariffs quickly to maximise these opportunities.”

This is the first time that carbon intensity data has been modelled to provide an accurate forecast for future carbon intensity. All partners in the project have agreed to make the software, known as an application programming interface (API data) available so that tech developers can create consumer friendly applications.

Bryony Worthington, Executive Director, Environmental Defense Fund Europe, said:

“This new forecasting tool empowers businesses and people with information they need to make cleaner energy choices. We are calling on those operating in the electricity market, including suppliers, manufacturers, aggregators, regulators and policymakers, to take advantage of this innovative, free-to-use tool to deliver smart, resilient infrastructure that cuts pollution, boosts renewables and unlocks costs savings for consumers. Pioneering practical tools that work for people, business and the environment here in the UK will serve as a model for other countries looking to meet bold climate and energy goals.”

Energy Minister, Richard Harrington said:

“Through the Government’s Industrial Strategy we are delivering a record amount of renewable energy while boosting the economy and creating jobs up and down the country.

"With over half of Britain's electricity generated from low carbon sources, we've had a truly green summer and we welcome this innovative new software. It has great potential to give consumers more control and is another step towards an energy system that's fit for the future.”

Professor Alex Rogers at Oxford University, added:

"We released the Grid Carbon app in 2010 to enable individuals to monitor the carbon intensity of the grid in real-time and it has been heartening to see carbon intensity decrease steadily over time. It's fantastic news that National Grid will now be providing authoritative predictions of carbon intensity through a robust API. I'm really looking forward to seeing how this new information will be exploited in new apps and services."

Gareth Redmond-King, Head of Climate & Energy at WWF, concludes:

“Today’s announcement by the National Grid is a great leap forward in the transformation of our energy system from fossil fuels to renewable energy. As we begin to feel the winter chill roll in, it is warming to know that the renewables industry is getting big projects built and slashing its costs. But now it’s time for the UK Government to step up and deliver a strong and ambitious clean growth plan, continuing to support renewables, cleaning up our transport and making our homes more energy efficient”.

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Notes for editors

National Grid’s carbon intensity forecast can be viewed here: www.carbonintensity.org.uk/ (The API can also be accessed as well as the applied methodology to forecast carbon intensity)

If you want to make a green cup of tea, check out our forecast to find the greenest time of day to pop the kettle on. www.wwf.org.uk/updates/how-do-you-make-green-cup-tea

Summer 2017 facts

National Grid is in a new era of network operation and has seen a number of firsts this year;

- In April, we had the first working day since the start of the industrial revolution where UK electricity supplies were met without the need for coal generation.
- On 31 May, a record was set when a quarter of Great Britain's energy demand was met by the seven gigawatts of solar power that was supplying electricity to the grid,
- On 7 June, renewable power met over 50% of the nation's electricity supply. Days later, large amounts of wind, solar, and nuclear power pushed Great Britain's carbon intensity to record lows of around 90 gCO_2/kWh

WWF is one of the world's largest independent conservation organisations, with more than five million supporters and a global network active in more than one hundred countries. Through our engagement with the public, businesses and government, we focus on safeguarding the natural world, creating solutions to the most serious environmental issues facing our planet, so that people and nature thrive. Find out more about our work, past and present at wwf.org.uk.

Environmental Defense Fund Europe (www.edf.org/europe) is a charity focused on finding the ways that work to address the most world's most serious environmental problems, using science, economics, law and innovative private-sector partnerships. Read our strategic plan at www.edf.org/forging-solutions-europe and connect with us on Twitter @EnvDefenseEuro.

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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