

New approach delivers significant carbon savings at National Grid's Wimbledon substation

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- **National Grid awards first contract with carbon weighting to Laing O'Rourke**
- **Contract on track to deliver 23% carbon reduction and £3m saving during substation extension project, equating to taking over 7,600 cars off the road for a year**

National Grid is working with Laing O'Rourke to achieve a significant carbon saving during work to extend a substation in Wimbledon.

The company awarded the contract for the construction work following a tendering process that factored in a number of environmental targets. As of December 2016, the identified carbon savings have already been met and further savings are expected in the second phase of the project.

In addition to reducing the environmental impact of the construction work, this approach brings more value to customers and the end consumer. National Grid is already establishing a strong link between carbon and cost, with the project set to deliver both a 23% reduction in carbon and a £3m saving. This equates to taking 7,600 cars off the road for a year.

Modifications to the substation design have made the build more efficient and resulted in carbon savings. Huge savings in sulphur hexafluoride (SF₆) were achieved through use of more efficient equipment. 17% fewer piles have been used in the foundations of the substation, and the gas insulated substation building will have a 17% smaller footprint. Firewalls have a reduced thickness which also leads to a reduction in the use of materials and therefore the extension's carbon footprint.

Ian Cartwright, Director of Capital Delivery for National Grid said: "We've set ambitious targets to reduce the carbon emissions resulting from our construction work by 50% by 2020 and the Wimbledon project represents an important step to achieving that.

"We will include carbon as part of our criteria for investment decisions to enable us to build and maintain a sustainable network for the future. A pilot has already started with an ambitious target to put an internal price on carbon used in all investment decision-making on major projects by 2020.

"We estimate that there is potential for us to reduce construction costs through lower carbon design. Our analysis has shown that the lowest carbon suppliers were, on average, 15% lower in cost than those not selected. That is great news for electricity users as they ultimately fund our investment in maintaining and improving our network.

Ian added: "Since 2013, National Grid has measured the carbon impact of over 200 schemes, ahead of building work starting. Our engineers have recorded over 7,900tCO₂ that they have been able to design out, which is the average annual carbon footprint of over 800 people."

National Grid's achievements don't stop there. The company has recently been shortlisted for the Business in the Community (BITC) award in environmental leadership, and the Wimbledon scheme has already won the Edie Sustainability Leaders Award for an innovative approach to carbon management.

Laing O'Rourke Project Leader, Lodewyk De Clercq said; "We're delighted to be working with National Grid and to be operating on this innovative approach to evaluating carbon performance, which has allowed us to engage early with National Grid, finding innovative engineering solutions to complex construction challenges.

"We have employed digital engineering, offsite manufacturing and other solutions to work safer, more efficiently, and in a more sustainable manner. Since 2008 Laing O'Rourke's UK business has halved its carbon emissions thanks to such measures, and it's fantastic to work alongside like-minded clients such as National Grid, who see both the economic and environmental benefits of sustainable construction."

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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.

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