Hundreds of thousands of people needed to power UK's net zero energy commitment

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- **Research reveals 400,000 job opportunities for a 'Net Zero Energy Workforce', including nearly 100,000 roles across the north of England**

The UK will need to recruit hundreds of thousands of people into its energy sector if it is to meet its target to deliver net zero emissions by 2050. Research published by National Grid today reveals the industry will need to fill 400,000 jobs, bringing opportunities for skilled tradespeople, engineers and other specialists across every region of the country.

The employment and skills impact of the 2050 target is explored for the first time in a new report from National Grid, 'Building the Net Zero Energy Workforce'. Written in partnership with Development Economics, the report looks at the implications of the Committee on Climate Change's advice that net zero will require fundamental changes to how energy is generated, distributed and used.

These changes, which include an increase of electrification to support a widespread shift to electric vehicles as well as the introduction of low carbon heating for millions of homes, will offer employment opportunities the length and breadth of the country.

In the North East, for example, the research shows more than 21,000 new recruits will be needed to deliver projects such as offshore wind and the interconnector off the coast of Blyth in Northumberland. Almost 28,000 roles will be needed to work on projects including the further development of offshore wind farms in the East of England, while the development of carbon capture and storage in the Yorkshire and Humber region is projected to support the creation of over 17,000 jobs. In Scotland, workers with net zero-related skills will be needed to fill over 48,000 jobs by 2050 with a further 25,000 roles expected in Wales.

Nicola Shaw CBE, Executive Director of National Grid, said: "Britain reached a major milestone last year as we saw zero carbon electricity outstrip fossil fuels for the first time. But there's still a long way to go. As the pathway to net zero becomes clearer, so must our understanding of the jobs and skills we need to succeed.

"Our research shows that to deliver net zero, the energy industry needs to recruit hundreds of thousands of people over the next thirty years – and that really is the tip of the iceberg in terms of the wider impact of net zero across other industries. The time is now for the sector to rise to the challenge and overcome the long-standing issues we face in recruiting a diverse workforce with the right skills to deliver on the UK's ambitions."

Minister of State for Business, Energy and Clean Growth, Kwasi Kwarteng, said: "Tackling climate change is not only saving the planet, but is significantly boosting our economy. As we work to reduce our emissions to net zero by 2050, the UK has the potential to support two million green-collar jobs across our world-class renewables sector, among other industries."

A decade to deliver

Of the 400,000 roles that need to be filled over the next 30 years, the sector needs to recruit 117,000 this decade if it is to meet key milestones up to 2050. The report identifies four strategic challenges, warning of a looming retirement crunch, stiff competition for talent with other sectors, a pipeline of young people pursuing STEM qualifications that is still too narrow and an ongoing lack of women in the sector. These issues are not new, but fresh consumer research shows that tackling climate change could be the motivator to unlocking new talent.

Research, conducted by YouGov for National Grid's report, found that people of all ages, from all regions across the UK are looking for a job with environmental purpose. Over eight in ten women (83%) say they are keen to play their part in tackling climate change as are 73% of men. Over half (57%) of adults are specifically looking to work for an organisation that is helping the UK to deliver its net zero goals.

David Wright, Chief Electrical Engineer at National Grid, said: "To build a skilled, diverse and motivated Net Zero Energy Workforce that will tackle the global climate crisis, we've got to look at every stage of the pipeline. We know that over half of people want to work in this space so we've got to help the existing workforce to reskill, while bringing new talent into the sector and inspiring the next generation to pursue STEM subjects at school and beyond."

Nick Ellins, Chief Executive of the Energy & Utility Skills Group, said: "As a vital enabler of the UK transition to a zero carbon future, National Grid has set out clearly the critical role of the workforce in achieving that ambition and the change needed to build the necessary human capital for the future."

National Grid invests £7.5 million per year in training UK employees to ensure its people have the skills to meet the changing needs of a net zero nation. Its flagship training facility at Ealkring, near Nottingham, offers 800 courses ranging from digital risk and cyber security, to introducing and managing renewable energy sources. National Grid also supports STEM-related activities for tens of thousands of schoolchildren a year around key infrastructure projects.

To download a copy of 'Building the Net Zero Energy Workforce' or to find out more about a career at National Grid, visit: www.thejobthatcantwait.co.uk

Group shot (2)
Hundreds of thousands needed to power UK's net zero energy commitment, according to new research from National Grid. Top row, L-R: Nathan Hunt (age 17), Advanced Apprentice; Sarah Woolham-Jaffier (25), Construction Engineer; Bottom row, L-R: Joey Howard (10), local Hackney schoolchild; James Watson, Lead Engineer for Greater London

Additional images available for download here

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Notes for editors

- For National Grid's report, research partner Development Economics used the roadmap set out in the Committee on Climate Change's Net Zero report (May 2019) and the National Grid Energy System Operator's Future Energy Scenarios (July 2019), as well analysis of ONS data, to ascertain the levels of employment required across the sector to build, operate, manage and maintain the UK's network of increasingly clean energy generation, transmission and distribution infrastructure by 2050. The research uses the ONS measure of Workforce Jobs (WFJ), which comprises full time, part time and temporary roles. Full methodology available on request.
- The research found that to decarbonise the UK's energy system by 2050, 400,000 jobs will become available by 2050. Of these, 260,000 jobs will be new roles while 140,000 will be vacancies replacing those expected to leave the workforce. The new roles created will be driven by an increase in people needed to build and upgrade low carbon infrastructure.
- Breaking the 400,000 jobs down by decade, the sector will need to recruit for: 117,000 roles between 2020-2030; 152,000 roles between 2031-2040; and 131,000 roles between 2041-2050.
- Key trends identified in the research are as follows:
  - 20% of the current energy sector workforce is set to retire by 2030 (Energy & Utility Skills);
  - Only 12% of the energy workforce is female with 75% of women not returning to work following maternity leave and career breaks (Engineering UK, Gender Disparity in Engineering report, 2018); - Girls and women drop out of the STEM talent pipeline at every stage post GCSE. Only 22% of 37,000 A-level physics students are female; 15% of 42,000 engineering and technology undergraduates are female; and women only make up 8% of all STEM apprentices (Engineering UK, Women in Engineering research);
  - 40% of physics graduates are opting for careers in banking and finance over anything else (Prospects Luminate);
  - 56,000 annual enrolments are needed for engineering and technology degrees moving forward (Development Economics, for National Grid report, November 2019);
  - A career in climate change is the second most popular career option for young people aged 18-24. (YouGov research for National Grid, November 2019).
- YouGov research surveyed 4,143 UK adults online between 1-4 November 2019. The sample is representative of all UK adults (aged 18+).
- Around 144,000 people are currently directly employed by the sector (Energy UK: Energy in the UK 2019).

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.