Energy in Action: Building the workforce for our future energy system

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The UK's journey to a clean, locally sourced power system is about more than new, exciting technologies and grid connections. It is about people – whether that is ensuring a fair and just transition for all households across the country, or equipping our current and future workforce with the right skill sets to thrive in this changing sector.

The Climate Change Committee estimates that the UK will need up to 725,000 new workers to reach Net Zero by 2050. While 2050 may seem like a long way off - it is only 25 years away, and the bulk of the groundwork needs to be done before the end of the decade.

Energy and Utility Skills has mapped out the roles needed to meet current Government policies by 2030, and in the power sector alone it is estimated that 156,900 new roles will be created; when taking into account the standard level of attrition this amounts to 22,400 new recruits a year.

The analysis also showed that more than half of these new roles only require qualifications at RQF level 3 or below ie equivalent to A-levels, an advanced apprenticeship, or an access to higher education diploma. This means that lots of jobs will be available to people without requiring high levels of qualifications.

From field operations to finance, engineers to planners, lawyers to logistics managers and customer service to communications, our industry needs a range of skills, and the sheer number of people needed means we need to change the way we approach recruitment and retention. This also brings an opportunity to improve the diversity of our industry, an area we know will improve financial resilience, and serve society better.

Many of Energy UK's members, including Bring Energy, Centrica, Deloitte, Drax, EDF, Equinor, Hemiko, National Grid, Octopus Energy, Ørsted, RWE, Schneider Electric, Shell UK, Siemens Energy, SmartestEnergy and Utilita are working in partnership with industry and educational institutions to support this growing workforce.

STEM education

Part of the challenge requires attracting new recruits to the sector.

Research from Energy UK's Young Energy Professionals (YEP) Forum shows that tackling climate change is a major motivator for those choosing to join the energy industry, and

employers should not underestimate the importance of highlighting how roles contribute to tackling climate change for job satisfaction and retention.

Our industry has a lot to offer: the same survey showed that nearly 90% of those surveyed say the sector has met or exceeded their expectations, and they plan to stay for at least five more years.

Developing a skilled workforce for the future begins with education. Energy UK's members are supporting children from primary, into secondary and through into the workplace.

Ørsted has partnered with two university technical colleges (UTC) in the Humber to support 14 to 19-year-olds in the technical skills they will need to pursue a career as the area becomes a leading hub for green energy technology.

At Ron Dearing UTC in Hull, Ørsted has supported the school in creating a unique curriculum created in conjunction with region's leading employers to address the STEM skills gap. Being oversubscribed every year since opening in 2027, the UTC expanded to open STEM Studios in September 2023 for renewed focus on decarbonisation, sustainability and renewables.

Likewise, at Engineering UTC Northern Lincolnshire, Ørsted hosts lunch and learn sessions, career fairs as well as site visits to the East Coast Hub visitor centre in Grimsby. Students also participate in two Ørsted projects throughout the year focusing on sustainability and offshore wind. This is vital to support the growth of Humber as a clean energy hub as the Offshore Wind Industry Council predicts that the offshore wind industry alone needs a workforce of approximately 100,000 people by 2030.

Alongside this, Ørsted has launched applications for a new work experience programme for year 10 students from July 2025. The week-long programme will provide real world experience in the renewable sector to support students in developing their understanding of industry and raising awareness for potential future careers.

EDF's Destination Renewables, developed in partnership with Pembrokeshire College, Pembrokeshire Coastal Forum and DP Energy, provides students with an overview of renewable technologies while highlighting the different career pathways across the industry. Students have the opportunities to connect with future employers to prepare them for work experience, apprenticeship opportunities and jobs in the ever-expanding renewable energies market.

RWE has launched a Carbon Capture and Storage (CCS) education workbook to inspire secondary school students in STEM and raise awareness of decarbonisation. The initiative debuted at Louth Academy in Lincolnshire, introducing students to the science of CO_2 emissions, power generation, and climate change solutions. Packed with interactive content and real-world insights, the workbook highlights CCS technology and RWE's role in building a low-carbon future.

Alongside this, in collaboration with Generation C, RWE has launched its Hydrogen Education Programme aiming to inspire UK schoolchildren through interactive, curriculum-based lessons on hydrogen's role in achieving Net Zero. Already introduced at Henry Tudor High School and Golden Grove Primary in Pembroke, the programme connects classroom learning with real-world applications in clean energy and features hands-on activities and case studies from RWE's hydrogen projects.

To ensure that career development opportunities are accessible to as many people as possible, Energy UK members have collaborated with SpringPod to create an interactive, online work experience platform. Available year-round for students aged 14 and above, this platform includes videos, interactive scenarios, and quizzes designed to develop key industry skills. Students can choose work experience courses from Drax, EDF, Orsted, RWE, Siemens Energy and more on the Springpod platform.

Energy UK is also working with MegaWatt, which works with schools and businesses to teach young people about energy. Alongside its flagship card game, MegaWatt provides curriculum-aligned teaching resources, workshops and trains teachers to be able to deliver workshops themselves.

Attracting school-leavers

Apprenticeships offer a great route into the sector with practical, hands-on experience. With nearly one million young people (16 - 24 years old) not in education, employment or training (NEETs) apprenticeships are an established route to offer training opportunities to those without experience or academic grades, and are often paid and lead to permanent roles.

From Plymouth to Perth, Energy UK members are leading the way in developing the next generation of energy professionals, supporting over 1,200 apprentices across the country in 2025. To hear from real people around how these placements can lead the way to successful careers in the industry with skilled, well-paid employment, see our series of case studies online here.

These apprenticeship schemes span the entire energy transition, covering crucial areas such as low-carbon heating installation, smart metering, grid and transmission infrastructure, and business roles in energy retail focused on digitalisation and customer service enhancement.

Equinor which partners with schools and colleges to offer work experience, apprenticeships and internships, Equinor launched its Apprenticeship Levy Transfer in 2022, which focuses on the local supply chain for Sheringham Shoal, Dudgeon and Dogger Bank wind farms to help businesses offer sustainable apprenticeship programmes and training opportunities.

In April this year (2025), **Bring Energy** and **Hemiko** launched the UK's first Heat Network Maintenance Technician Apprenticeship at South & City College Birmingham. The programme is open to anyone aged over 16 - including those with no industry experience as well as workers wanting to retrain and join the heat network industry.

Likewise, **Utilita Energy** and Cheshire College South & West have joined forces to launch a pioneering smart meter apprenticeship that blends classroom study with practical fieldwork and hands-on experience using Utilita's advanced commissioning equipment. It aims to address the shortage of skills in smart meter commissioning.

Building on the success of an earlier pilot, at the beginning of 2025, **Shell UK** partnered with City & Guilds as part of its SkillsTransition programme to support the UK's growing adoption of electric vehicles. As part of the initiative, an Ofqual-accredited EV chargepoint installation course is being offered at five colleges across the country, with the aim of training 250 electricians by early 2026.

The availability of skills is one of the biggest challenges facing the nuclear industry and EDF is tackling this at Hinkley Point C's training facility developed with Bridgwater and Taunton College. Last year, the facility welcomed 263 new starters – a 35.5% increase on previous years.

In 2022, **National Grid** Electricity Distribution launched the Power Network Craft Assistant (PNCA) scheme - a training programme for young people who left school with few or no qualifications but show the potential to succeed in the energy industry. Delivered in partnership with Catch22 and Young Enterprise, the 12 - 18 month paid scheme gives participants practical experience and a clear path into a skilled career. It's specifically designed for those who don't meet the usual GCSE entry requirements for apprenticeships, offering an accessible first step into the sector.

Tapping into untapped potential

It's vital we inspire the next generation to work in energy, but that won't be enough to meet our sector workforce needs. Over 80% of the 2030 workforce is already in work, so as the energy sector grows, it's crucial that the opportunities it creates are accessible to everyone - not just those who already have industry experience. We must also focus efforts on people who may have valuable skills from other sectors, or come from different backgrounds such as refugees or ex-offenders. With demand for workers across different sectors so high, the sector is having to get creative about how it attracts and retains talent.

Last year (2024), **Octopus Energy** launched OctoPalooza - a same-day hiring festival that makes job-hunting easy and engaging. From heat pump engineers, solar and EV charger installers, delivery drivers and operations personnel, the first three events in Manchester, London and Peterborough drew over 600 candidates with 400 people hired on the spot.

The events are designed to be accessible and family-friendly, with childcare activities and an informal atmosphere. The goal is to open the doors to careers in energy for people who might not otherwise attend a traditional job fair.

As part of its commitment to building a more inclusive and diverse energy workforce, **National Grid** has partnered with STEM Returners to support professionals returning to STEM careers after a break. It's Returner Programme offers structured placements that include on-the-job training, coaching, mentoring, and access to a supportive network. The initiative has already seen strong results with 80% of individuals securing permanent roles.

To help tackle this, **Deloitte** has partnered with the Institute of Environmental Management and Assessment (IEMA) to develop an innovative green skills training course. The programme is designed specifically for underrepresented groups, including people who are unemployed, those outside of formal education, and ex-offenders, to help them understand and prepare for careers in the green economy.

At the end of the course, participants receive an IEMA certificate, demonstrating their grounding in green skills. Almost 400 people have taken part so far and 89% believe it has helped them to develop knowledge or skills that will support their education or career goals.

Schneider Electric's Veterans Talent Programme retrains ex-military personnel for operational and management roles in the energy sector, recognising the unique value of their leadership and problem-solving skills. Building on its successful 2024 launch, Schneider has partnered with veteran tech platform Redeployable to double its intake for 2025, helping to address the UK's critical skills shortage in clean energy.

With a focus on potential over prior experience, the paid 12–18-month programme combines classroom and on-the-job training, offering veterans a purposeful pathway into the energy transition.

Breaking barriers to inclusion and diversity

Alongside a growing skills gap, the industry continues to make slow progress when it comes to diversity and inclusion with women accounting for only 29% of the STEM workforce. Research from The Institution of Engineering and Technology identifies one of the key reasons for this disparity is that girls are not encouraged to consider STEM careers in school.

The **Drax** Community and Education team at Drax Power Station in North Yorkshire, is running a new coding club at Selby Community Primary School to promote STEM education among young girls. The students can work on a number of tasks to encourage problem solving, creativity and collaboration.

This includes building a Condition Based Maintenance 'robodog' used to autonomously inspect equipment at Drax Power Station. Students are also given real life applications of the software they develop and understanding of the careers available at Drax Power Station which provides enough renewable energy to power five million homes.

Alongside this, **Shell UK** has run its year-long Girls in Energy programme since 2010 to encourage girls aged 14 – 17 years old to engage with STEM subjects and consider a career in energy. The programme is a mix of classroom study, industry visits and workshops, and students gain a National 5 (SCQF Level 5) in Skills for Work - Energy. Delivered by North East Scotland College and Fife College, the programme now supports over 200 students per year.

Energy in Action

The transition to a clean energy system presents an exciting opportunity to create high-quality jobs and develop new career pathways. By investing in education, apprenticeships, and workforce diversity, the energy sector can meet the UK's ambitious Net Zero goals while offering long-term, well-paid employment across the country.

Energy Matters, for people, power and prosperity. If you have a case study showcasing innovative work within the sector, please get in touch via press@energy-uk.org.uk.