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The net zero workforce

Power, Utilities & Renewables

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Home

Re-energising workforce strategies for net zero

The UK's energy system is being fundamentally redefined: what form of energy we use, for what purpose and when must be realigned with the 2050 net zero target. Rebuilding and expanding our energy infrastructure will be costly and complex.

However, having a workforce with the right skills, at the right time, in sufficient numbers to continue to supply the UK with energy and deliver on key projects may be an even bigger challenge. Technology is rapidly changing what work we do, how we do it and where we do it. Workforce expectations are also shifting. Businesses that re-energise their workforce strategies to be fit for net zero will reap the benefits.

This article looks at the intersection of the Future of Work and the Future of Energy. It explores how power, utilities and renewables companies can improve their workforce approach to maximise opportunities in the energy transition.

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UK net zero challenges and opportunities

Meeting the government's 2050 commitment requires a complete redesign of the UK energy infrastructure. Energy companies are the driving force behind this transformation, while continuing to provide essential services to the UK's 67 million people and businesses.

The task is challenging. In 2019, a third of UK electricity came from renewable sources. By 2050, electricity generation must be fully decarbonised and its capacity more than doubled, with energy networks significantly expanded. At the same time, a growing number of decentralised energy systems and new technologies need to be integrated into the fabric of central networks, as well as homes and businesses. This, in turn, will support emission reduction in other sectors, such as heat and transport. Energy customers must be at the heart of this transformation.

The 2050 target largely leaves it up to the energy sector to determine the best combination of clean technologies in terms of cost and fit. While this presents a huge opportunity to explore new approaches, it also brings uncertainty as to the balance of technologies that will be deployed in the future. For example, three of the four National Grid Future of Energy Scenarios 2020 (FES 2020) meet the net zero target, but each uses a vastly different technology pathway to reach it. Not only will each FES 2020 scenario have a different infrastructure, investment and risk profile, they will each also have different workforce requirements.

Workforce challenges and opportunities

The energy workforce will need to grow significantly to be able to support the substantial infrastructure upgrade and expansion programmes of the coming decades. By 2050, the industry may need to fill 400,000 roles associated with net zero.

As several long-awaited developments get underway, companies will face the challenge of ensuring they have sufficient people with specific skills at specific places in specific times. For example, the UK offshore wind sector is set to expand rapidly over the next five years. According to the Offshore Wind Skills Intelligence Report, £60.8 billion will be invested in developing, constructing and operating offshore wind projects by 2026.

This investment will create 43,000 jobs – more than doubling the current workforce from 26,000 to 69,800 in the same period. The majority of the jobs will be created in parts of the UK that need levelling up, such as Scotland, Yorkshire, the Humber, East Anglia and the north east of England. The £60.8 billion investment is made up of a number of projects that will be in different phases of development requiring different skill sets, expertise and experience mostly spread across the five regions.

Project planning, which typically is a small portion of the overall effort spent on getting an offshore wind farm up and running, requires mostly ship crews, legal, regulatory and tax experts along with financial analysts, logistics and drilling experts, as well as civil engineers. Installation, grid connection, operations and maintenance, which account for more than a third of the effort, predominantly need ship crews, crane and drilling operators, and engineering capabilities including industrial, mechanical, naval, telecom and computer engineering expertise. Given the sharp increase in demand for these skills over the next five years, competition for talent will intensify as projects other than offshore wind, which require similar skills, move into the development phase. However, across the sector shortages are already reported in engineering and technicians' occupations and cross-sector disciplines, including data science, and cyber-security – both of which are in high demand in other sectors too – as well as quantity surveying and project management.

Developing a clear talent acquisition and reskilling approach to avoid skills gaps should be a top priority. According to estimates from the Energy & Utility Skills Partnership Workforce Strategy, 27 per cent of the UK's 572,000-strong energy workforce – the baby boomer generation – is expected to retire by 2030. This, combined with people leaving the industry and jobs created by new trends in the market, will require the industry to fill 277,000 vacancies by 2030. To tap into the largest talent pool possible, the sector needs to step up efforts in diversifying the workforce. For example, women only make up 18 per cent of the offshore wind workforce – compared with the UK average of 47 per cent of the workforce.

Reskilling strategies in particular are essential to ensure the workforce can be retained as market trends such as digitalisation and decentralisation are disrupting a high proportion of roles in the UK. With 30-40 per cent of power and utilities jobs predicted to become obsolete over the next decade, this would equate to replacing or retraining 48 per cent of the current workforce. Demand for retraining is high. According to the Global Energy Talent Index Report 2021 (GETI 2021), approximately 45 per cent of power, renewables and nuclear respondents in the report asked their company for increased training and mentorship programmes, but only around 35 per cent said that their company responded to the request.

Workforce expectations of technology and workplace flexibility are also evolving. The GETI 2021 report highlights that between 38 and 44 per cent of power, renewables and nuclear respondents asked for adoption of automation and digital technologies, which the vast majority of employers granted. Employers will need to develop a longer-term approach to workplace flexibility. According to the Deloitte 2020 Millennial Survey, after the COVID-19 disruption is over, 64 per cent of Millennials and 60 per cent of Gen Zs – which in the UK made up slightly more than half of the workforce before the pandemic – would like to work remotely more often.

As many of the expected energy investment programmes move into development phase, demand for the best talent is only going to increase and shortages for certain skills and experience could become more acute. So how can companies ensure they have the right skills, in the right place, at the right time?

What should companies do?

1. Include workforce planning in your investment plans

Human capital planning should be as central to an investment business case as financial planning, otherwise projects risk being delayed, become more costly or may be cancelled without having access to the necessary skills. Ofgem, the industry regulator, has made transmission and gas distribution network companies and the Electricity System Operator (ESO) fully responsible for ensuring workforce sustainability as part of their business-as-usual activities. Indeed, it recently included the requirement for planning for a resilient workforce fit for the future in the RIIO-2 final determinations. This means that each company's submitted business plans must deliver a "modern, diverse, high quality, well-trained workforce within their baseline regulatory settlement, without any additional funding, output measures or incentives". This approach should go beyond network companies and the ESO and be adopted by businesses in all other energy sectors.

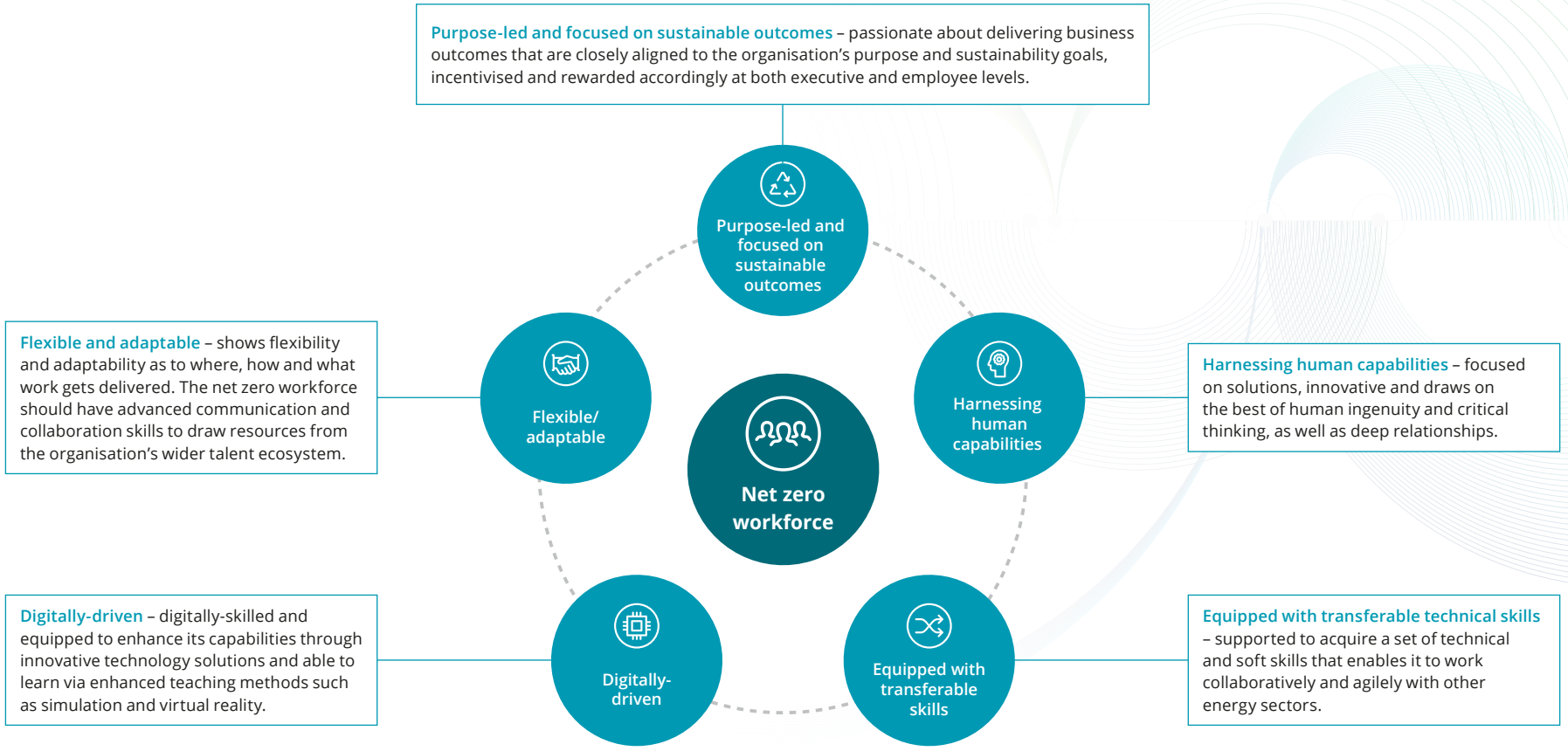
2. Focus on skills and capabilities – not the industry

Power, utilities and renewable companies should together focus on building a workforce capable of achieving sustainability objectives – including reducing their own carbon footprint and/or environmental, social and corporate governance aims – as well as maximising opportunities in energy transition.

Electrical, mechanical and civil engineering skills, as well as digital, data and cyber capabilities play a key role in delivering projects for net zero. Businesses should continue to strengthen these along with adopting a mindset focused on problem-solving and soft skills that would give the company flexibility to access further skills, when necessary.

Companies need to build a net zero workforce that has both the skills and capabilities as shown in Figure 1.

Figure 1. Net zero workforce – skills and capabilities



Source: Deloitte analysis

3. Build the net zero workforce

Building the net zero workforce should start by redefining work in three different, yet intrinsically connected dimensions: the work itself, the workforce and the workplace. Figure 2 highlights potential areas companies should consider.

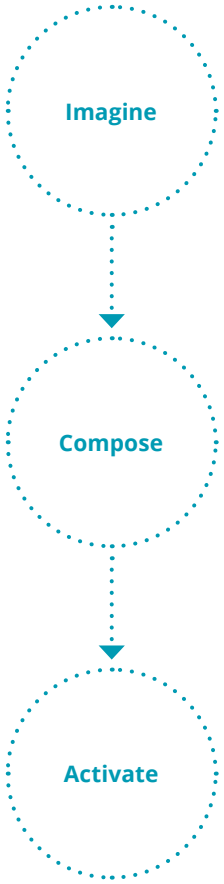
Figure 2. Future of work framework for net zero

Re-architect work	Unleash the net zero workforce	Adapt the workplace
Robotics, cognitive technologies and AI help people focus on more strategic and value-adding activities.	**Access to broader talent ecosystems help shift focus from structure to capabilities and potential.**	**New combinations of collaborative teaming and digital technologies provide flexibility on where and when work gets done.**
• Are you restructuring work to make your workforce's activities more efficient? What can you stop and what can you automate? • In addition to automation, how are you using technology to enhance your workforce's skills and capabilities? • How can you turn work from task completion to problem solving and managing relationships? • Which roles can be performed sustainably on a remote or hybrid basis?	• How do you motivate and reward workforce to align with your decarbonisation goals? • Do your hiring strategies help you compete for non energy industry specific skills? • How can you build internal talent marketplaces that identify technical skills, capabilities and interests as well as proficiency levels? • How can you curate personalised experiences to maximise your workforce's potential?	• How can you shift focus from a physical workplace to culture and organisation? • How can you redesign the workplace so that it becomes a place of collaboration, innovation and personal connection? • How can you create a diverse and inclusive culture that empowers the workforce? • To what extent will you embrace remote working that could allow you to recruit from a wider talent pool?

Source: Deloitte Insights

Focusing on the workforce, leaders should follow a set of steps to anticipate the skills and capabilities they will need in the future, assess where the gaps could be and develop a strategy and roadmap for meeting future workforce requirements. Key considerations are shown in Figure 3.

Figure 3. Key questions in building the net zero workforce



Anticipate skills and capabilities	Based on your mid-and long-term energy transition ambitions consider: • what skills and capabilities your organisation will need in the future and at what proficiency levels • whether leadership has the skills to manage new technology and energy transition • what proportion of skills should be core and what can/should you borrow from other sectors • what skills can you enhance by technology and what can you automate
Assess the current skills and capabilities gap	To identify skills gaps, create a live inventory of the skills and capabilities of your workforce and that of your wider ecosystem, covering: • your workforce, project partners, suppliers, contractors, managed services, crowd sourcing platforms and collaborative partners, including skills academies and universities • passions and special interests • requests for work scheduling patterns and other personal requirements or circumstances
Develop a skills and capabilities strategy and roadmap	Develop a dynamic talent strategy to enhance workforce capabilities and address skills gaps. Consider: • which skills you will acquire and which ones will you develop • how you will access your broader talent system to complement your existing skill set • to what extent you will enable remote working with appropriate policy and compliance infrastructure • creating a leadership development and succession plan aligned to energy transition objectives • how you will use technology to enhance your workforce's capabilities
Execute strategy and roadmap	Implement workforce-related initiatives, including: • dynamic learning and development programmes to support learning in the flow of work; leadership development programme and succession management; refreshed workforce mobility and talent acquisition approaches; a reward system aligned with energy transition/net zero objectives and based on value to the business; workforce composition and contingent workforce management; technology initiatives.

Source: Deloitte Insights

Motivating the existing workforce is just as important as focusing on acquiring new talent. Therefore, these questions should also be considered:

- What additional support mechanisms are needed to keep the existing workforce focused on delivering the current strategy?
- How can staff be encouraged to explore new technologies and work with new talent towards sustainable goals?
- How can companies support the workforce to acquire a more diverse set of skills in order to develop new, sustainable products and services?
- How can organisations develop a workforce that not only has the core skills for the near term, but can also access less specialised skills to scale up quickly if necessary?
- What incentive mechanisms can be created specifically for certain Millennials and Gen Z – who may not be interested in long-term incentives and who may change employment more frequently?

Overall, companies should also think about how to create a more attractive value proposition for existing and prospective employees through increased flexibility, a refreshed purpose and culture, rewards and incentives, learning, development and career opportunities.

4. Look beyond your own patch – collaborate, cooperate and coordinate with other companies and industries

For companies in the sector – especially regional monopolies – it is natural to focus solely on their own area/region of operation. Many are already working with local schools, universities and further education providers to help the next generation of talent enter the industry. It is time, however, for companies to look beyond their own area and start working with other businesses in the sector – including competitors – on joint workforce planning and development programmes that address their common needs and support the levelling up agenda.

The green recovery may also offer unique opportunities to attract talent from other sectors that have been hard hit by the COVID-19 pandemic. For example, the automotive and aerospace and defence industries have highly skilled engineering workforces that share the same core skills found in the energy sectors. In addition, the oil, gas and chemicals sector is actively looking at transitioning some of its skills, technologies and infrastructure. This provides opportunities for business crossover, for example in offshore wind, that could help reduce skills shortages.

In addition, 'less traditional alliances' with some of the above-mentioned industries could capture specific opportunities. Partnerships are already being formed between power companies, network operators, and oil and gas businesses in the nascent hydrogen and carbon capture and storage markets. Alliances/partnerships with automotive, consumer business or financial services companies could also be explored in specific areas, such as supporting customers directly in using cleaner energy more efficiently and effectively. Participating in, and managing these, will require specific soft skills and capabilities that energy companies increasingly need to develop and implement.

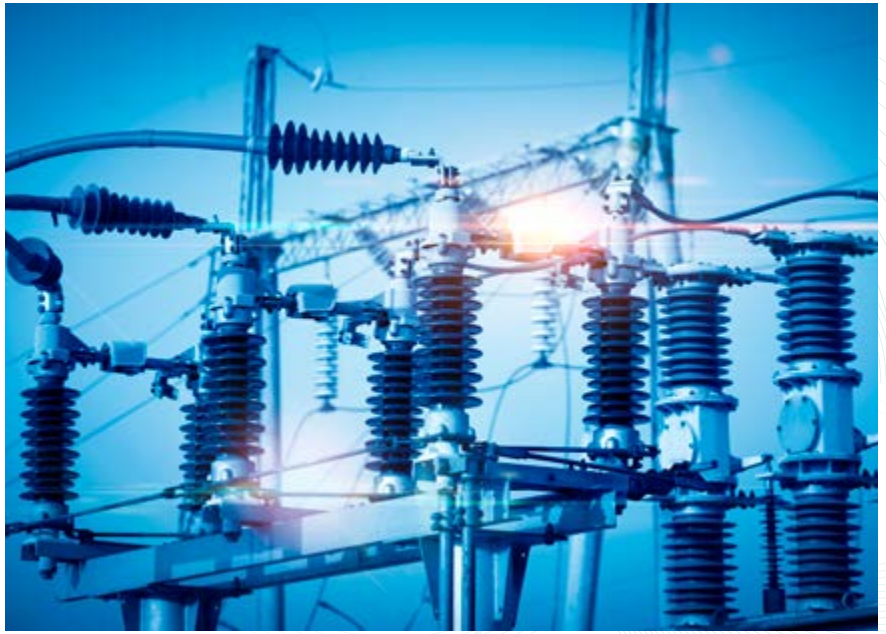
In summary

A failure or delay to prepare the workforce for energy transition could lead to missed opportunities. Companies might not have access to the right skills at the right time to deliver the energy the UK needs. Individuals might lose out on work and/or development opportunities. Industry could see the cost of decarbonisation rise or targets missed.

Therefore, companies should:

- Make planning for human capital a central part of strategic investment planning
- Focus on skills and capabilities – not the industry
- Build the net zero workforce
- Collaborate more widely – with other companies and industries – to engage more effectively in energy transition.

These actions should build a competent and capable workforce that is ready to deliver the net zero goals in support of a cleaner, brighter and more sustainable future for the benefit of both business and the wider society.



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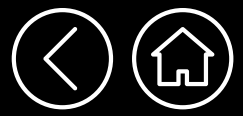

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