



ENERGY &  
UTILITY SKILLS

Skills for a greener world

# Workforce demand estimates – 2024 to 2030

## The energy and utilities sector

Summary report  
September 2024



# 1 Introduction

## 1.1 Industry context

- 1.1.1 The sufficiency and sustainability of safe, skilled workforces in the energy and utilities sector has never been a higher priority.
- 1.1.2 The Net Zero imperative, rapid technological developments, environmental pressures and instability in international markets all point to changing demands on workforces and their skills.
- 1.1.3 In the water industry, spending in the 2025-2030 period on the networks is expected to be double the previous period – around £100bn in total.
- 1.1.4 In waste, over 40 energy from waste sites are operating and more are expected to come.
- 1.1.5 The new Government is introducing a wide range of policies that will impact the sector:
- A new clean energy investment company, Great British Energy, with over £8bn to invest in clean energy over the next 5 years
  - £1bn invested in carbon capture, and £500m in green hydrogen
  - New nuclear to create thousands of skilled jobs
  - Doubling onshore wind, trebling solar, and quadrupling offshore wind capacity
  - Reinstating the 2030 ban on new internal combustion cars and vans

1.1.6 Ambitions in the devolved nations will also rely on a skilled workforce to deliver them:

- Northern Ireland aims to double its low carbon and renewable energy economy by 2030
- Scotland is investing in green energy and skills training for the future
- Wales aims for 100% renewable energy by 2035

1.1.7 Understanding the impacts on workforce and skills demands is essential if the sector is to rise to these challenges and maximise the opportunities they present.

1.1.8 These workforce estimates are key to Energy & Utility Skills' work in ensuring that Government understands the skills needs of the sector and develops policy that works for the sector.

## 1.2 This report

1.2.1 This report is one in a series that contain estimates of the number of new jobs and people required across the UK energy and utilities sector by 2030.

1.2.2 Two headline estimates are provided: (i) **New jobs** is an estimate of the number of jobs that are forecast to be created over the period and (ii) **New people required** is an estimate of the number of new people that will be needed by the sector over the period (this is the sum of new jobs plus forecast retirements).

1.2.3 These estimates relate to the UK directly employed workforce only and include the construction, operation and maintenance of assets.

## 2 Total predicted vacancies, jobs and people requirements

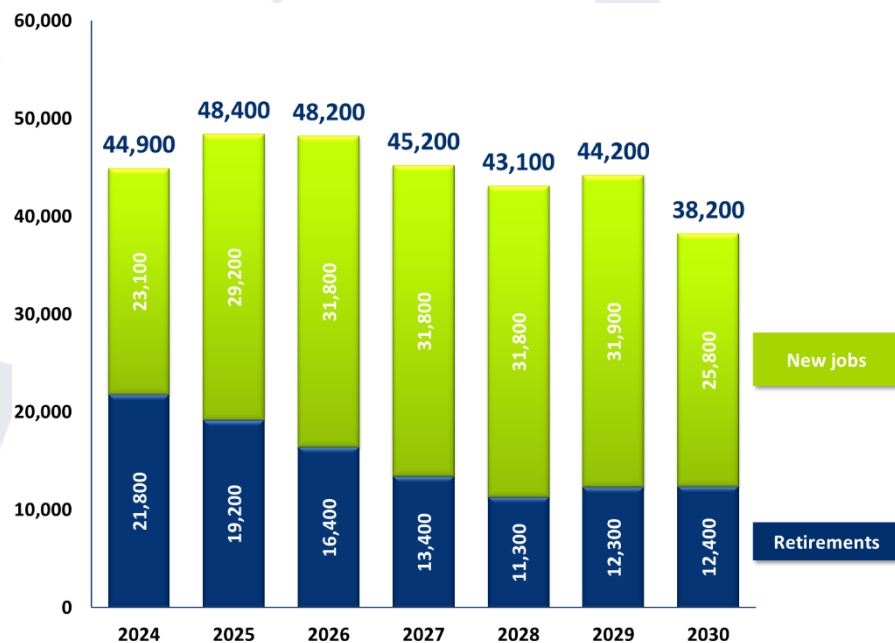
### 2.1 Sector headlines

2.1.1 By the end of 2030, we estimate that the energy and utilities sector will need to attract and recruit **312,300 new people** into the workforce.

2.1.2 These people will be required to fill the:

- 205,500 new jobs (up 32% on 2024 workforce numbers)
- 106,800 retirements (equivalent to 17% of the current workforce) – this includes more than 33,000 people who are already aged over their anticipated retirement age

Figure 1: Number of new people required by the sector – by cause and year



2.1.3 Of the 312,300 new people required by the sector by 2030, more than half (52%; 162,000 people) will initially be working at RQF level 3 or below.

2.1.4 The skills system in each nation of the UK needs to reflect this and work for all young people across a range of academic abilities. In 2024, GCSE results in England show one-third of young people did not achieve a pass in English and Maths – presenting barriers to entry to (Level 3) T Levels and A Levels. There needs to be refocus on vocational education progression pathways at Level 2 and 3, as well as the more academically challenging T Levels and A Levels.

Figure 2: Estimates of new jobs and new people by skill level

Skill level	New jobs		People required	
	Number	% of total	Number	% of total
RQF 7-8 SCQF 11-12	20,700	10%	38,100	12%
RQF 6 SCQF 9-10	52,300	25%	67,500	22%
RQF 4-5 SCQF 7-8	36,300	18%	44,800	14%
RQF 3 SCQF 6	52,000	25%	86,900	28%
RQF 2 SCQF 5	10,200	5%	12,800	4%
RQF 1 SCQF 4	34,200	17%	62,300	20%
<b>Sector total</b>	<b>205,500</b>	<b>100%</b>	<b>312,300</b>	<b>100%</b>

## 2.2 Headlines by industry

2.2.1 There are an estimated 642,100 people currently employed in the energy and utilities sector. By 2030, this is forecast to increase to nearly 847,600 – a 32% increase.

Figure 3: Vacancies by industry and cause – 2024 to 2030

Industry	Total employment		New jobs		New people	
	2024	2030	Number	% Growth	Total	Average per year
Gas Networks	23,500	39,300	15,800	67%	19,600	2,800
Gas Utilisation	195,400	207,700	12,300	6%	45,700	6,500
Power	158,600	290,300	131,700	83%	156,900	22,400
Waste & Recycling	181,400	197,100	15,700	9%	46,400	6,600
Water	83,200	113,200	30,000	36%	43,700	6,200
<b>Sector total</b>	<b>642,100</b>	<b>847,600</b>	<b>205,500</b>	<b>32%</b>	<b>312,300</b>	<b>44,600</b>

2.2.2 The majority of new job creation (+131,700) and the requirement for new people (+156,900) will be in the Power industry.

2.2.3 This growth is driven by significant investment in the UK's electricity, gas and water infrastructure, the growing circular economy and the ever-increasing demand for low carbon technologies by the public.

2.2.4 The new government is cognisant of the opportunities that these investments and demands will bring. A range of new policies are now being developed or implemented, including

- A new Industrial Strategy and Infrastructure Strategy
- Great British Energy
- A new post-16 vocational education strategy
- The new skills body, Skills England

2.2.5 Energy & Utility Skills will engage with the formation of these in order to ensure that sector's skills needs are understood.

## 2.3 Headlines by occupation

2.3.1 Across the whole of the energy and utilities sector, all occupational groups are forecast to increase their workforce size by 2030.

2.3.2 The occupations which will see the **largest increase in jobs** are:

- 21 - Science, Research, Engineering and Technology Professionals (35,800; and increase of 53% over current numbers)
- 35 - Business and Public Service Associate Professionals (22,300; up 48%)
- 52 - Skilled Metal, Electrical and Electronic Trades (22,100; up 40%)

2.3.3 The occupations that will need to attract the **highest number of new people** into their workforce are:

- 21 - Science, Research, Engineering and Technology Professional (45,300; 6,500 per year)
- 52 - Skilled Metal, Electrical and Electronic Trades (31,300; 4,500 per year)
- 11 - Corporate Managers and Directors (30,800; 4,400 per year)

### Operational, technical and engineering occupations

2.3.4 Focussing on these occupations alone, employment levels are forecast to increase from 410,000 in 2024 to 527,000 in 2030 – an increase of 117,000 **new jobs**.

2.3.5 184,000 **new people** will be required to enter the sector's workforce in these occupations for the first time (average of 26,000 per year).

Figure 4: Vacancies by occupation and cause – 2024 to 2030

Skill level	Standard Occupation Classification	Total employment		New jobs		New people	
		2024	2030	Number	% Growth	Total	Average per year
RQF 7-8	11 - Corporate Managers and Directors	46,300	63,700	17,500	38%	30,800	4,400
SCQF 11-12	12 - Other Managers and Proprietors	13,900	17,200	3,200	23%	7,300	1,000
RQF 6	21 - Science, Research, Engineering and Technology Professionals	67,000	102,700	35,800	53%	45,300	6,500
SCQF 9-10	24 - Business, Media and Public Service Professionals	32,100	48,600	16,500	52%	22,200	3,200
RQF 4-5 SCQF 7-8	31 - Science, Engineering and Technology Associate Professionals	21,600	34,600	13,100	61%	15,900	2,300
	33 - Protective Service Occupations	1,000	1,300	300	33%	400	<100
	34 - Culture, Media and Sports Occupations	500	1,100	600	112%	600	100
	35 - Business and Public Service Associate Professionals	46,200	68,500	22,300	48%	27,900	4,000
RQF 3 SCQF 6	41 - Administrative Occupations	57,100	73,400	16,300	29%	23,700	3,400
	42 - Secretarial and Related Occupations	6,200	8,200	2,000	32%	3,200	500
	51 - Skilled Agricultural and Related Trades	1,500	2,200	700	49%	1,200	200
	52 - Skilled Metal, Electrical and Electronic Trades	55,600	77,700	22,100	40%	31,300	4,500
	53 - Skilled Construction and Building Trades	97,900	108,800	10,900	11%	27,500	3,900
RQF 2 SCQF 5	71 - Sales Occupations	9,900	12,600	2,700	28%	3,800	500
	72 - Customer Service Occupations	18,800	26,300	7,500	40%	9,000	1,300
RQF 1 SCQF 4	81 - Process, Plant and Machine Operatives	26,800	40,600	13,900	52%	18,100	2,600
	82 - Transport and Mobile Machine Drivers and Operatives	59,600	68,800	9,300	16%	23,200	3,300
	91 - Elementary Trades and Related Occupations	9,400	11,300	2,000	21%	3,300	500
	92 - Elementary Administration and Service Occupations	70,900	79,900	9,000	13%	17,700	2,500
<b>Sector total</b>		<b>642,100</b>	<b>847,600</b>	<b>205,500</b>	<b>32%</b>	<b>312,300</b>	<b>44,600</b>

## 3 Conclusions

- 3.1.1 The scale of the challenge facing employers in the energy and utilities sector over the next six years – having to attract and recruit more than **312,000 new people** into its workforce (equivalent to nearly 50% of the current workforce) is significant.
- 3.1.2 Existing roles to replace the **106,800 people** that will retire from the workforce and **205,500** to fill new roles will be critical to achieving Net Zero and mitigating the risk of climate change.

## 4 Call to Action

- 4.1.1 In order to overcome this significant challenge, collaboration between employers, government (both in Westminster and the devolved nations), the suppliers of education, skills and careers advice, and trade and skills bodies will be critical in a number of areas:

### Social impact

- 4.1.2 Energy & Utility Skills are supporting the development and implementation of a new **Social Impact Commitment**, aimed at improving equity, diversity, inclusion and social mobility. We call upon industry and stakeholders to participate in the **Inclusion Measurement Framework** to support the tracking of progress in this area.
- 4.1.3 Industry to join forces behind the **Sector Attraction and Retention Strategy**, leading our actions to scale up the workforce for the future and improve equity, diversity and inclusion in the sector's workforce. **Energy & Utilities Careers and Jobs** will be utilised to support employers with over 27,000 people looking to join its workforce.

### Competencies and skills

- 4.1.4 Membership to continue to provide an important focus on both current and emerging skills needs, including digitalisation, cyber security, nature-based skills, HVDC, system planning and performance, land and consents, Hydrogen, CCUS and solar and battery development.
- 4.1.5 Energy & Utility Skills will seek the earliest opportunities to engage with Government on the development of the proposed new **Industrial Strategy, Infrastructure Strategy** and **post-16 vocational education strategy**.
- 4.1.6 The UK and devolved nations must continue reforms to their skills offers in response to empirical evidence of industry demand. Energy & Utility Skills is engaging with stakeholders to identify and enable routes to competence that support new entrants through both vocational and academic pathways, to ensure an appropriate skilled workforce is in place to deliver Net Zero and mitigate the risk of climate change.
- 4.1.7 The Department for Energy Security and Net Zero is establishing an **Office for Clean Energy Jobs** that will build on workforce research provided by Energy & Utility Skills to develop approaches that maximise Net Zero opportunities.
- 4.1.8 Energy & Utility Skills are engaged with senior Government stakeholders on the implementation of **Skills England**, who will provide strategic oversight of the post-16 skills system (aligned to the government's new Industrial Strategy) and oversee a substantial reform of the Apprenticeship Levy.

## Standards setting

- 4.1.9 Energy & Utility Skills is working with industry to develop an approach to **occupational mapping** that will highlight how new entrants, and experienced workers, can become competent in a range of occupations in the sector – and which highlights where gaps in routes to competency exist.
- 4.1.10 Energy & Utility Skills will continue to develop industry wide, nationally agreed standards that enable multiple routes to competence and local delivery, according to regional needs.
- 4.1.11 Government should provide access to funding to support industry and training providers in the delivery Net Zero skills, identified through occupational mapping.

## Workforce resilience

- 4.1.12 Energy & Utility Skills will work with industry, stakeholders and government agencies to develop key research that identifies future challenges and risks to having the right skills and a resilient workforce to deliver Net Zero and mitigate the risk of climate change.
- 4.1.13 Energy & Utility Skills will continue working with the electricity and gas network companies to develop a set of **workforce resilience metrics** that will demonstrate to internal and external stakeholders, including Ofgem, of the progress being made in developing a resilient workforce.

## Innovation/productivity

- 4.1.14 Energy & Utility Skills will collaborate with industry to identify modular routes to occupational competence, identified through occupational mapping, that supports the development of a multi-skilled Net Zero workforce.

- 4.1.15 Energy & Utility Skills will collaborate with industry and technology developers to maximise the use of digitalisation to ensure future generations have access to training that matches their individual learning style.
- 4.1.16 Energy & Utility Skills will engage with devolved nations, or their agencies, to develop flexibility in Government support – such as a range of qualifications/programmes offered through the new skills and growth levy.
- 4.1.17 Industry to adopt and utilise occupational mapping (see above) which will enable a streamlined approach to identifying and agreeing routes to competency, thereby eliminating duplication of training and reducing opportunity costs.

## 5 Contact us

- 5.1.1 For more information about how you can support Energy & Utility Skills, please contact Steve Barrett, our Director of Membership and Strategic Engagement, on 07880 721246 or [stephen.barrett@euskills.co.uk](mailto:stephen.barrett@euskills.co.uk).

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