

Energy and Utilities industry: workforce and skills profile

Purpose – Collate the power sector intelligence on workforce and skills issues (sources include primary and secondary data and/ qualitative evidence).

Characteristics of the industry

- The sector is strategically important to the UK economy: ‘Energy’ and ‘Utilities’ combined account for the greatest share of the UK Infrastructure and Construction Pipeline (2017/18 - 2020/21) and, beyond 2020/21, the sector is set to continue to deliver a significant share of planned and projected infrastructure investment.ⁱ
- Energy and Utilities’ share is 43% (£104.8bn), which is significantly greater than the next largest category – Transport at £78.5bn, 29% of the 2017/18 – 2020/21 Pipelineⁱⁱ
- The sector as a whole employs approximately half a million (518,000) people (including supply chain businesses), operating across 51,300 businesses.ⁱⁱⁱ
- The sector may be small in size but it is one of the most productive in the UK economy. In 2014, our sector generated a total of £83bn or 5% of gross domestic product (GDP).^{iv}

Industry demographics

- The workforce is male dominated (78%) - significantly higher than the UK average of 53%.^v
- Across all the UK sectors, 12% of the workforce are BAME. In contrast, in the energy and utilities sector, just 5% of the workforce are from a BAME background.^{vi}
- Across the sector as a whole, an estimated 9% of the workforce is of a non-UK nationality (7% from the EEA and 2% from outside the EEA).^{vii}
- The sector is a high performing and well-paying sector, with average salaries above the UK average of £29,010.^{viii}
- The sector employs proportionately more of its workforce in mid-to-low skilled job. However, there are differences in the occupational profiles within each industry.^{ix}

Skills challenges

- The blend of the work in the pipeline is changing and new, more innovative and productive techniques will require a different mix of skills in the future.^x
- In addition, there is demand for cross sector and new technologies training. This is stimulating a changing profile in the nature of roles and skills supply required in the sector.^{xi}
- The situation is compounded by a number of other sectors competing for the same, or similar, talent in key roles (HS2, nuclear new builds, Crossrail, Crossrail 2) often at higher rates of remuneration.^{xii}
- As well as a lack of skilled supply, research indicates that a substantial proportion (35%)¹ of hard-to-fill vacancies are driven by a lack of proficient skills in the market. This proportion is higher than any other sector (UK figure is 23%)^{xiii}

¹ Note DfE amended this figure in 2018.

Employment and workforce renewal

- The sector faces critical workforce renewal challenges over the next decade, with an estimated 221,000 vacancies to fill over that time. This is due to 100,000 existing employees being set to retire, 90,000 leaving to find new roles and 31,000 new jobs being created^{xiv}.
- Overall, 30% of the asset owner workforce and 66% of the utility contractor workforce are expected to leave their jobs over the next five years. This includes those leaving their roles through both retirement and staff turnover.^{xv}
- An estimated 65% of predicted vacancies will be filled from the external market place and the remainder from up skilling (19%) and trainee-based (16%) entry routes.^{xvi}
- The sector has pockets of an ageing workforce (17%). However, overall, the proportion of the workforce that is over 55 years of age is comparable with the national average (19%).^{xvii}
- Only 1% of university leavers (2,005) joined the energy and utilities sector in 2015/16. Almost half of the leavers who joined the sector had studied a STEM subject.^{xviii}
- The UK's labour market currently has the highest levels of employment since records began (1971) at 75.4% and unemployment is also at its lowest level at 4.2%^{xix} This will result in the further tightening up of the labour market and costs of employment rising.

Apprenticeships expenditure and starts

- There will be £2,675m in the levy pot by 2017/18. 0.8% of businesses in the energy and utilities sector will be contributing roughly £55m to this pot.²
- In England, over half (57%) of total expenditure on apprenticeships will be amongst SMEs. However in our sector, the highest level of expenditure is amongst the larger businesses.^{xx} In 'Electricity, gas, steam and air conditioning', it is 93%, and for 'Water supply, sewerage, waste management & remediation activities', it is 67%.^{xxi}
- In the sector, apprenticeship participation is predominantly amongst larger employers (approx. 60 employers), equating to 80% of starts in 2014/15.^{xxii}

ⁱ HM Treasury (2017) *National Infrastructure and Construction Pipeline*, HMT

ⁱⁱ HM Treasury (2017) *National Infrastructure and Construction Pipeline*, HMT

ⁱⁱⁱ ONS (2017) *Business Register and Employment Survey*

^{iv} ONS (2015) *Regional Growth Value Added (Income Approach: 1997-2014)*

^v BIS (2017) *Labour Force Survey (4 quarter average Jan-Dec 2016)*

^{vi} BIS (2017) *Labour Force Survey (4 quarter average Jan-Dec 2016)*

^{vii} ONS (2016) *Labour Force Survey (4 quarter average Jan-Dec 2016)*

^{viii} ONS (2017) *ASHE*

^{ix} BIS (2017) *Labour Force Survey (4 quarter average Jan-Dec 2016)*

^x HM Treasury, (2015) *National Infrastructure Plan for Skills*, HMT

^{xi} HM Treasury, (2015) *National Infrastructure Plan for Skills*, HMT

^{xii} HM Treasury, (2015) *National Infrastructure Plan for Skills*, HMT

^{xiii} UKCES (2016) *Employer Skills Survey*.

^{xiv} EUSG (2016) *Workforce Planning Research Results*

^{xv} EUSG (2016) *Workforce Planning Research Results*

^{xvi} EUSG (2016) *Workforce Planning Research Results*

^{xvii} BIS (2017) *Labour Force Survey (4 quarter average Jan-Dec 2016)*

^{xviii} EUSG (2017) *HESA Data Analysis – Higher Education Statistical Summary 2015/2016*

^{xix} ONS (2017) *Labour Force Survey*

² Aggregated due to low sample size, so the figures include Extraterritorial organisations; Agriculture, forestry & fishing; **Electricity, gas, steam & air-conditioning**; Mining & quarrying; and **Water supply, sewerage & waste management** businesses.

^{xx} DfE (2016), *Information on apprenticeship levy: data drawn down by size and sector and the total apprenticeship budget*

^{xxi} DfE (2016), *Information on apprenticeship levy: data drawn down by size and sector and the total apprenticeship budget*

^{xxii} London Economics (2017) *The incidence of apprenticeships in England*