2024 Workforce Census

Overview of the Engineering Construction Industry

This report was produced by the Engineering Construction Industry Training Board.

Cover photo courtesy of ECITB learner at NETA Training.

Written by:
Adrien Boyer Fantini (Research Manager, ECITB)
Xhail Balam de Leon (Research Analyst, ECITB)

Table of Contents

At a Glance

2024

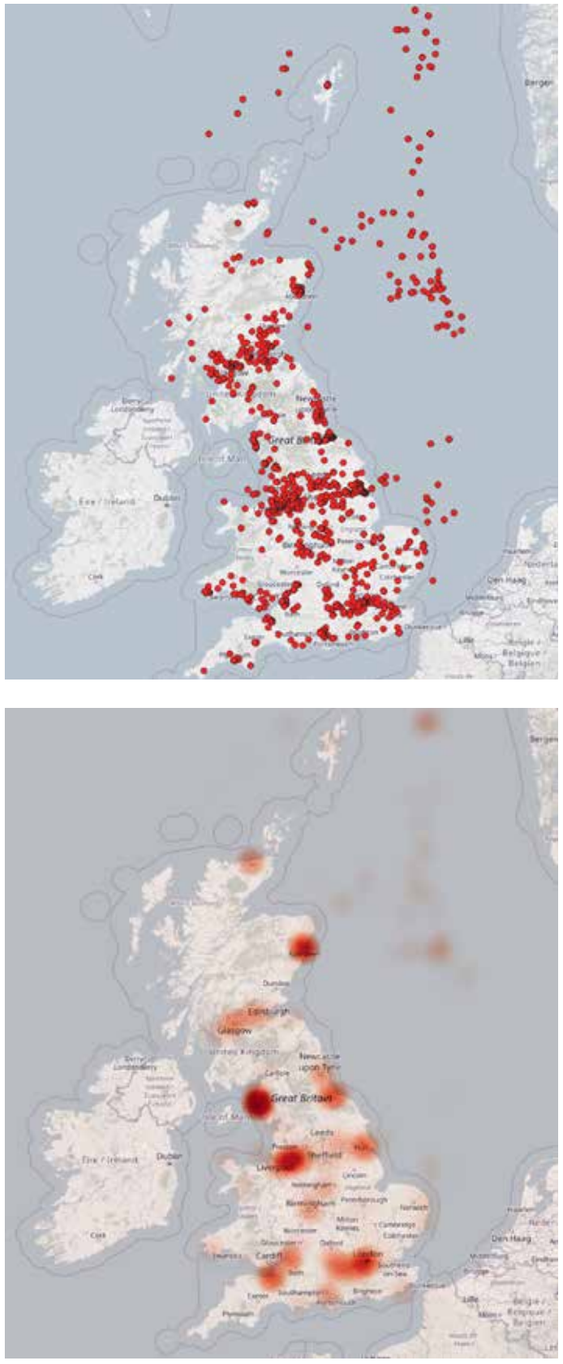
- Nuclear 39.2%
- Oil and gas 35.2%
- Renewables 6.2%
- Chemicals 6%
- Water and waste 2.9%
- Non ECI 2.3%
- Power generation 1.9%
- Food and Drink 1.8%
- Other ECI 1.2%
- Carbon Capture and storage 1.2%
- Hydrogen 1.1%
- Pharmaceuticals 0.9%

2021

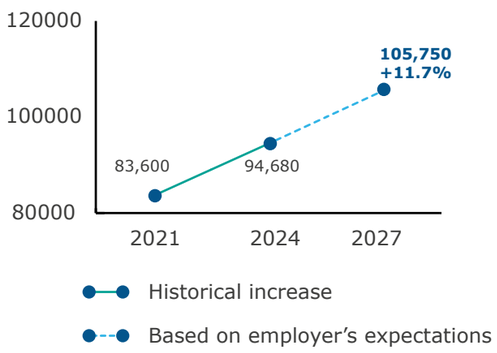
- Oil & Gas 36.7%
- Nuclear 34.6%
- Non ECI 6.9%
- Chemicals 6.8%
- Power generation 4.7%
- Renewables 3.4%
- Food & Drink 2.3%
- Pharmaceuticals 2%
- Other ECI 1.6%
- Water 1%

Locations

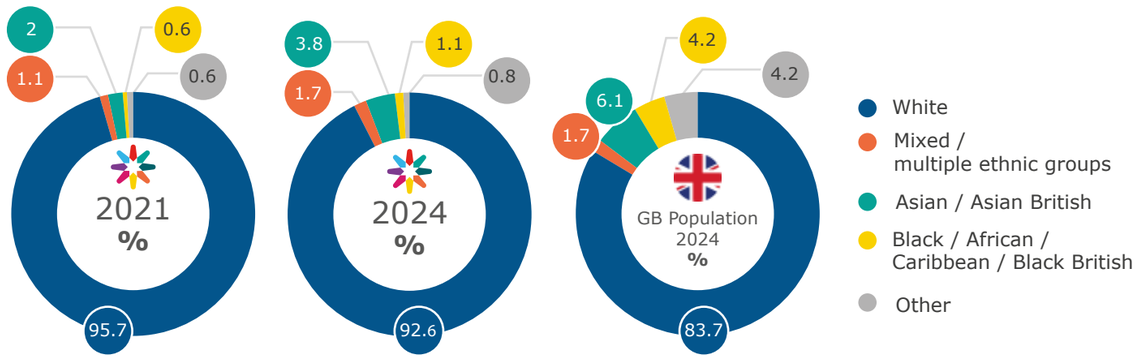
Location of ECI workers (data points and heatmap)



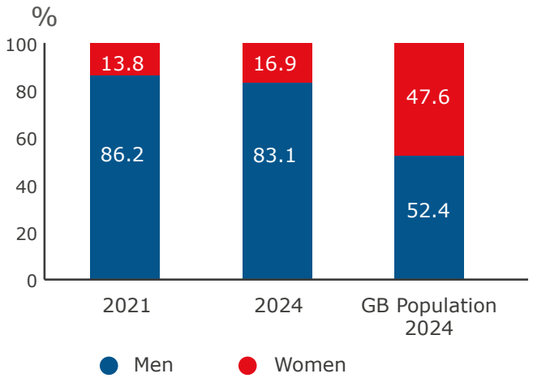
Expected workforce growth



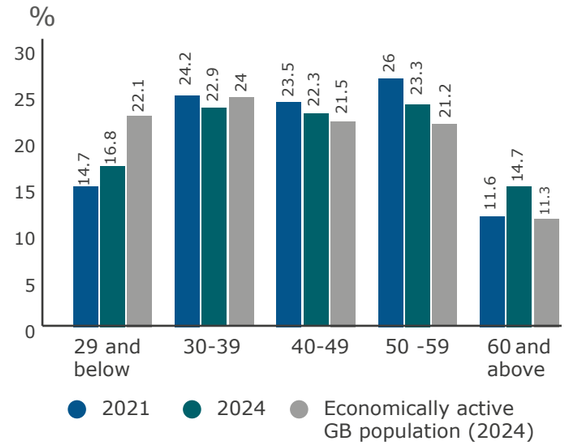
Ethnicity profile



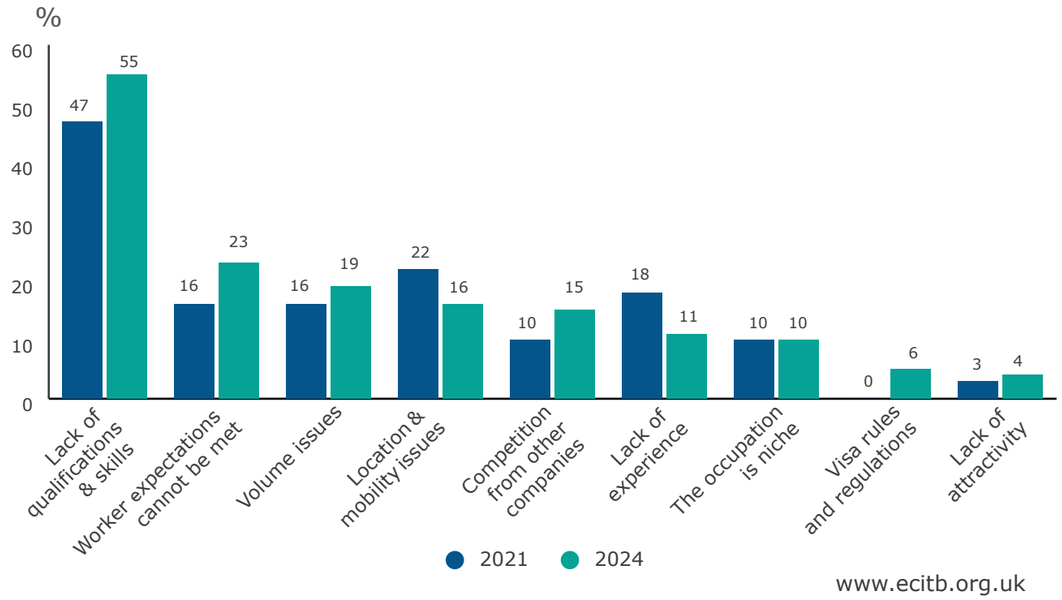
Gender profile



Age profile



Reasons for hiring difficulties



Foreword

Thank you to all employers who participated in the ECITB 2024 Workforce Census.

The response was far higher than the 2021 Census and provides robust, comparable data that will help us to understand labour market dynamics, anticipate workforce challenges and develop strategies to address skills gaps across Great Britain.

This detailed snapshot of the engineering construction industry and its current workforce will feed into the ECITB Labour Forecasting Tool.

Having a strong evidence base ensures the ECITB responds to your skills needs appropriately and accurately represents the engineering construction industry in our discussions with Government.

We appreciate the trust shown by employers in providing this data and are mindful of the responsibility we have to use this effectively and represent the industry accurately - not only in these reports but also in our work leading industry learning, providing insights for all stakeholders and preparing the workforce for future change.

Andrew Hockey
CEO, ECITB

Executive Summary

This second iteration of the ECITB Workforce Census offers a comprehensive overview of the engineering construction industry (ECI), covering workforce distribution across sectors and regions, demographic trends, hiring challenges and business opportunities over the next three years.

The nuclear sector is now the largest in the ECI in terms of workforce size, comprising 39.2% of all workers and surpassing oil and gas, which represents 35.2% of the workforce. The renewables sector has seen rapid growth over the past three years, nearly doubling its workforce share to 6.2%. The percentage of local content, such as the decision to import or produce nacelles or blades in offshore wind, will be key in further determining UK employment growth potential. Emerging sectors such as hydrogen and carbon capture also experienced significant growth, though they remain in early stages as many final investment decisions are still pending.

England comprises 70.8% of the ECI workforce, which is primarily located in Cumbria, Teesside, the Humber estuary, the River Mersey area up to Warrington and its surroundings and along the Bridgwater-Bristol and Reading-London axes. Scotland accounts for 17% of the workforce, with the Central Belt and Aberdeen as key hotspots. Wales hosts 2.2% of the workforce, with Pembrokeshire as its primary hub.

Offshore workforce deployment remains substantial, comprising nearly 10% of the ECI workforce, down from 12% in 2021[1].

The occupational structure reflects the industry's recovery from the pandemic, which has seen a greater focus on construction and decommissioning phases leading to an increase in the share of craft, semi-skilled and supervisory roles. A higher proportion of managers and professionals[2] suggests a focus on project execution and delivery, with project managers and planners ranking among the top roles in these categories (c. 5,380 and 1,860 workers respectively).

The share of workers over 60 increased to 14.7%, up from 11.6% in 2021. Meanwhile, the share of workers under 30 rose from 14.7% to 16.8%, indicating progress but underscoring the need for succession planning as senior workers approach retirement. Certain roles, such as platers, welders and pipefitters, have a significant proportion of workers nearing and beyond retirement age, raising concerns about the industry's ability to effectively transfer skills between generations.

Women now represent 16.9% of the workforce, up from 13.8% in 2021, although some roles remain highly gendered. Ethnic diversity has improved as well, though representation varies widely by region, with some regions already aligned with local population demographics.

1 It is important to note that according to the Industrial Training Act and the supporting legislation, in relation to the offshore wind sector, the ECITB's scope is limited to activities carried out within GB Territorial Waters.
2 Examples of occupations in the professionals category include planners, data and analysis specialists, quality assurance and quality control professionals and health and safety specialists. Please see Annex B for the full list.

ECITB scholars at North East Scotland College.

Hiring challenges have intensified, with 71% of employers reporting difficulties in 2024, up from 53% in 2021. The primary challenges cited include a shortage of qualifications and skills, a mismatch between candidate expectations and what employers can offer, a limited applicant pool, mobility and location issues and increased competition among employers as well as with companies in other engineering sectors. Roles such as pipefitting, commissioning engineering, mechanical fitting, non-destructive testing and project management are among the most difficult to fill.

Looking forward, the industry anticipates a workforce growth of 11.7% through 2027. Employers expect growth in sectors including nuclear, energy from waste, hydrogen as well as from conventional oil and gas projects[3]. However, contractors may be reluctant to invest in workforce growth until the uncertainty surrounding these projects is resolved. Conversely, investors may hesitate to commit funds unless they are confident there is a sufficiently large and skilled workforce available to undertake the projects. This paradox could further constrain growth potential.

3 Employers may identify opportunities in decommissioning existing oil and gas infrastructure as well as in field development in the UK (e.g. Rosebank, Lochnagar, Bressay, Clair) and abroad.

Introduction

ECITB Scholars at Richmond upon Thames College.

The Engineering Construction Industry Training Board (ECITB) is the statutory skills body for Great Britain's Engineering Construction Industry (ECI). A non-departmental public body sponsored by the Department for Education (DfE) and accountable to Parliament, the ECITB collaborates with employers, government bodies and various stakeholders to attract, develop and qualify personnel across a broad spectrum of craft, technical and managerial roles within the industry.

Employers primarily involved in engineering construction are considered 'in-scope' of the ECITB's remit. Those exceeding a certain size are legally required to contribute to an industrial training levy.Regardless of size, all in-scope employers are entitled to receive grants for training their workforce.

The engineering construction industry consists of employers providing services spanning engineering design, project management, construction, maintenance and decommissioning of process plant and machinery on industrial sites, across a range of sectors including:

Chemicals

Food and drink

Nuclear

Oil and gas

Pharmaceuticals

Power generation

Renewables

Water Treatment

The ECITB launched its first workforce census in 2021 to address the lack of dedicated and detailed labour market intelligence in the engineering construction industry. Since then, the ECITB and the industry have used this data to gain a more refined understanding of workforce trends, training needs and skills transferability potential.

In 2023, the ECITB launched its Labour Forecasting Tool (LFT) built on the census data, which helps stakeholders anticipate future challenges, define priorities and inform decision-making. The tool provides insights into workforce numbers across regions and sectors up to 2035.

The census and the LFT have contributed - either through direct ECITB involvement or as a data source – to the development of strategies aimed at addressing skills shortages and ensuring that the needs of engineering construction projects are properly understood and analysed. Examples include efforts related to the national infrastructure and construction pipeline[4], sectoral[5] and regional[6] skills gaps, industrial clusters[7] and the previous UK Government's green jobs action plan[8].

The 2024 Workforce Census aims to continue monitoring and assessing structural changes in the ECI workforce while also informing priorities for the next three years. The report covers topics such as the occupations of the 94,680 in-scope workers, sectoral and regional data based on work locations, demographics, growth and hiring challenges. This report provides a comprehensive overview of the entire industry, highlighting trends across all sectors and regions. It is the first in a series of reports that will offer more detailed breakdowns wherever the data permits.

4 Analysis of the National Infrastructure and Construction Pipeline 2023 (Infrastructure and Projects Authority – 2024)
5 Delivering nuclear power (House of Commons – 2023)
6 The labour market of tomorrow (Data Cymru – 2022)
7 Humber industrial cluster plan (HICP – 2023)
8 Green Jobs Delivery Group – CCS Task and Finish Group (2024)

Methodology

The methodology for this second iteration of the census, while still based on the same guidelines, has been refined in several key areas. These improvements are the result of feedback from respondents and efforts to collect more detailed data in a flexible manner. This allows the data to better address various research questions related to locations, sectors and occupations.

The main changes are:

- A more user-friendly data collection process, improving industry representation by considering differences in company size and resources. This included printable documents, a dedicated online platform and the option to share anonymised data from employers' databases.
- Greater flexibility in submitting data, particularly for occupational information, by no longer restricting responses to predefined job role categories.

The survey, which can be reviewed in Annex A, was completed by employers during May and June 2024, resulting in a database containing information on 74,609 workers representing 78.8% of the in-scope workforce, which is estimated to total 90,680 workers. The 162 in-scope establishments that took part in the census shared detailed data for 1,621 locations which included head office/satellite offices and engineering construction sites including offshore installations. Unless otherwise stated, all results presented in this report are statistically significant at the 95% confidence level.

The decision not to limit responses to predefined job role categories for occupational questions resulted in a list of over 11,000 different job roles. While many of these are variations of similar occupations, the level of detail allows for classifications that come as close as possible to accurately reflecting the realities of the ECI labour market.

The categorisation used in this report maintains some similarities with that of the 2021 census for comparison purposes but can also be explored in greater detail for a more nuanced understanding of the workforce. To that end, the following pages will sometimes include more granular overviews of specific occupations. The list of 403 consolidated occupations and their corresponding headcounts, as used in this report, can be found in Annex B.

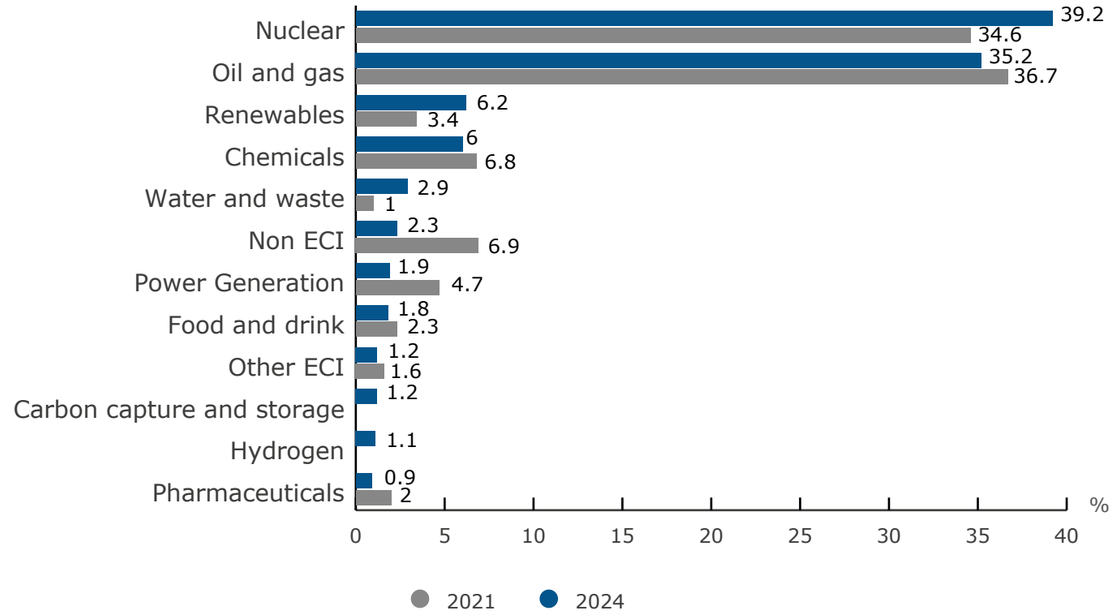
Given the level of detail in the initial database and the fact this report provides an overview of the industry, the ECITB encourages readers to request more detailed analyses or specific data that may not be included in the report. Such information is available upon request and will be considered on a case-by-case basis to address particular research questions.[9]

9 To submit a request please email research@ecitb.org.uk.

Findings

Sectoral distribution of the workforce

Figure 1: ECI workforce distribution



The nuclear sector is now the largest in the ECI in terms of workforce size, accounting for 39.2% of the workforce in 2024, up from 34.6% in 2021. The sector currently enjoys strong jobs growth prospects, which are less affected by fluctuations in local content compared to other high-growth areas like renewables. In 2024, major developments[10] - ranging from large-scale projects to small modular reactors - have further boosted the sector's outlook. Additionally, the decommissioning of existing infrastructure remains a significant driver of activity.

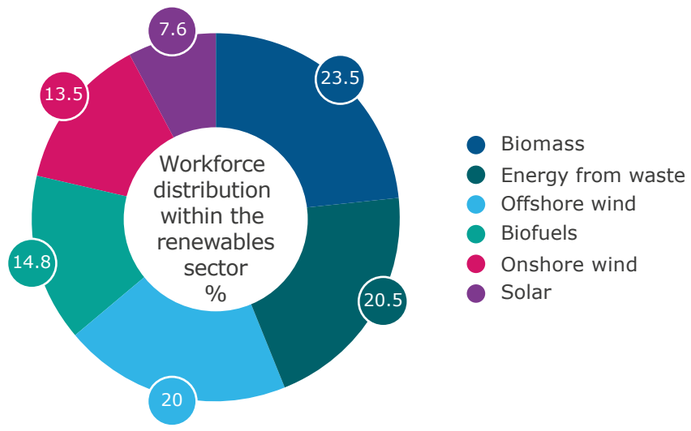
The nuclear sector has overtaken the oil and gas sector, which saw a decrease from 36.7% in 2021 to 35.2% in 2024. It is important to note that the overall engineering construction workforce has grown in recent years. Therefore, the percentage decrease in the oil and gas sector does not indicate a loss of workers. Indeed, 2021 saw a decrease in workforce numbers due to the pandemic. Between 2021 and 2024, the oil and gas workforce in the engineering construction industry increased from 30,700 to 33,350 workers. OEUK's Workforce Insight reports[11] show an increase in headcount between 2020 and 2022 in the oil and gas sector. However, the cessation of new licenses for exploration[12] may accelerate the sector's shift from UK waters to other regions, as it transitions to more decommissioning-focused activities in the North Sea, which typically require fewer workers. The Robert Gordon University's[13] and ECITB's[14] forecasts suggest that the sector's workforce may begin to decline from 2025 and 2026, respectively.

10 Great British Nuclear press release (2024)
11 Workforce Insight 2023 and 2022 (OEUK – 2023 and 2022)
12 Offshore industry: Licensing – Question for DESNZ (2024)
13 Powering up the Workforce (RGU Energy Transition Institute – 2023)
14 Labour Forecasting Tool (ECITB – 2024)

In 2021, very few ECI establishments were involved in hydrogen and carbon capture projects. As a result, these sectors were previously reported under either the renewables or conventional power generation sectors, depending on the project. However, hydrogen and carbon capture have increasingly become central to government priorities, local economic development initiatives and industrial cluster projects. Consequently, these sectors are now treated as independent categories. Caution should therefore be exercised when comparing the 2021 and 2024 sectoral workforce distribution, particularly in relation to renewables and conventional power generation sectors. It is estimated that 2.3% of the ECI workforce was directly involved in hydrogen and carbon capture and storage projects in 2024. Delays in final investment decisions (FID) have slowed the uptake in these sectors. An analysis of projects initially set to reach FID in 2024 or later reveals that, between December 2023 and December 2024, the average announced FID date was delayed by 9 months for hydrogen projects and 7 months for carbon capture projects. However, 2024 has seen major advancements, including the North Sea Transition Authority awarding the UK's first-ever carbon storage permit to the East Coast Cluster.[15]

The renewables sector nearly doubled its share of the workforce in three years, reaching 6.2% in 2024. Within the sector, biomass (24%), energy from waste (21%) and offshore wind (20%) are the top three subsectors by workforce size. The percentage of local content will ultimately determine how much additional pressure the renewables sector places on the ECI labour market. The manufacturing and procurement phases of an offshore wind farm account for 59% of the human resources required along the value chain, compared to just 11% for installation and grid connection[16]. The decision to import or manufacture foundations, towers, nacelles, hubs or blades would therefore have a significant impact on the labour market.

Figure 2: Workforce distribution within the renewables sector



15 NSTA awards Endurance first ever UK carbon storage permit (North Sea Transition Authority - 2024)
16 Renewable energy benefits: Leveraging local capacity for offshore wind (IRENA – 2018)

Photo courtesy of Ledwood Mechanical Engineering.

The share of the ECI workforce involved in non-ECI projects (typically in defence and construction) decreased from 6.9% in 2021 to 2.3% in 2024, suggesting a stronger refocus on core ECI activities. This shift can be attributed to positive industry prospects, which have increased the certainty and viability of certain projects. It also raises questions about the feasibility of other sectors recruiting from the engineering construction industry in the current climate, as well as the transferability of skills from the ECI to other industries to some extent.

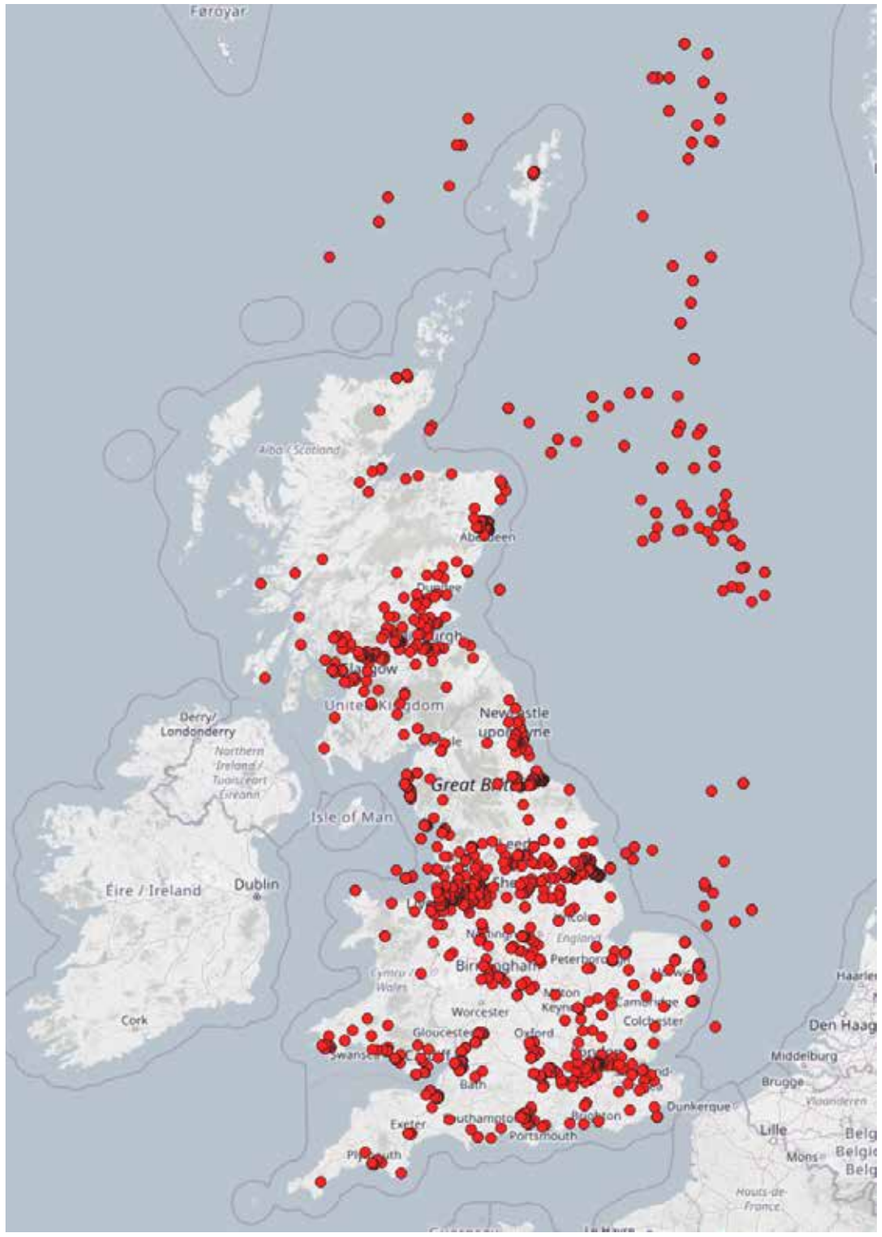
The increase in the water treatment sector is partly due to the previous underrepresentation of the sector in the 2021 data. The 2024 data now includes a greater number of office-based workers from the sector. Furthermore, the timing of the 2024 Census coincides with the end of the current five-year asset management plan, which concludes in April 2025, a period when much of the project work is carried out. The water industry in England must achieve operational Net Zero emissions by 2030, which will likely impact workforce size as new infrastructure and retrofit activity are implemented.

Spatial distribution of the workforce

The database contains information on 1,622 locations. The main workforce hotspots are highlighted in Map 2, which shows the relative significance of various areas across Great Britain, including offshore regions.

The main hotspots are located in Aberdeenshire, the Central Belt of Scotland, Cumbria, Middlesbrough, the Humber estuary, the River Mersey up to Warrington and its surroundings, as well as along the Reading-London and Bridgwater-Bristol axes.

Map 1: ECI work locations (data points)



Map 2: ECI work locations (heatmap, weighted by workforce numbers)

England accounts for 70.8% of the ECI workforce, with the North West alone representing 28.1% of the entire workforce. Scotland makes up 17% of the workforce, with 7.7% located in the North East. In Wales, 2.3% of the workforce is distributed relatively evenly between the north and south, although the main hotspot is in Pembrokeshire.

The offshore workforce, which comprises 9.9% of the total, is primarily deployed in the Central North Sea (3.1%) and Northern North Sea (4.2%). More details about what each region in this report encompasses can be found in Annex C.

Figure 3: Distribution of the workforce by nation

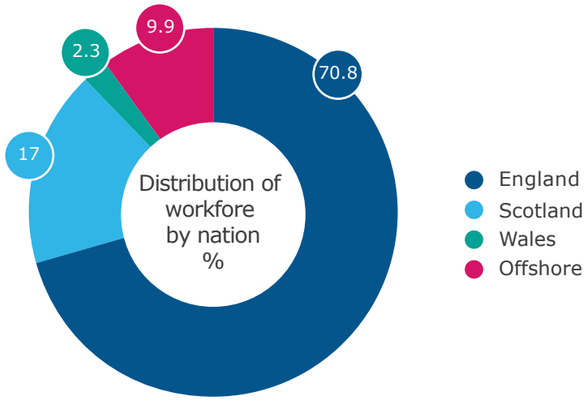


Table 1: Distribution of the workforce by region

Region	%
(ENG) North West	28.1%
(ENG) South East	10.0%
(ENG) South West	8.2%
(SCO) North East	7.7%
(ENG) Yorkshire and the Humber	6.8%
(ENG) North East	6.3%
(ENG) Greater London	5.2%
(Offshore) Northern North Sea	4.2%
(SCO) South West	3.8%
(Offshore) Central North Sea	3.1%
(SCO) East	3.0%
(SCO) Highlands and Islands	2.7%
(ENG) East	2.6%
(ENG) West Midlands	2.2%
(ENG) East Midlands	1.3%
(WAL) South	1.2%
(WAL) North	1.1%
(Offshore) Moray Firth	0.8%
(Offshore) Southern North Sea	0.8%
(Offshore) Irish Sea	0.5%
(Offshore) Atlantic Ocean	0.5%

Occupational structure

The 11,000 different job roles initially collected can ultimately be consolidated into ten broad categories. However, it is important to note that these categories are not rigid and some roles may overlap between categories; for instance, when an engineer also manages a team of engineers. In such cases, job titles are typically specific enough to allow for categorisation that best reflects the individual's everyday tasks. When categorisation is unclear, the role is assigned to the category that suggests higher seniority (e.g., between engineers and managers) or greater specialisation (e.g. between support workers and professionals). The complete list of occupations can be found in Annex B.

Table 2: Workforce distribution across occupational categories.

Category	2024
Engineers	19.6%
Managers	18.0%
Technicians	12.5%
Craft	13.5%
Professionals[17]	11.2%
Support	7.1%
Supervisors	7.0%
Semi-skilled	6.3%
Apprentices and trainees	2.4%
Other and unidentified	2.2%

The new data collection methodology allows apprentices and trainees to form a distinct category, which will be explored in more detail in the following pages. To enable a meaningful comparison between the 2021 and 2024 data, the table presenting the evolution of the occupational structure temporarily excludes this group.

The share of engineers (-4.0%), support staff (-2.7%) and technicians (-1.8%) decreased, while the share of craft workers (+1.2%), semi-skilled workers (+1.3%), supervisors (+1.6%) and managers (+2.7%) increased over the past three years. This shift aligns with the resumption of construction phases following the post-pandemic recovery, during which some site-based workers were made redundant, while the office-based staff was sometimes able to continue working remotely. Vital operations and maintenance work, typically performed by technicians, was less impacted than new construction, which partly explains the slight decline in the share of technicians.

The increase in the share of managers and professionals suggests a shift towards project execution and delivery, with project management and planning ranking among the top roles in these categories.

Additionally, the increased adoption of new digital technologies [18] in industry may explain the decline in the share of some office-based roles, such as in the engineers and support staff categories. The resulting productivity gains could suggest that the office-based workforce is now able to support more site-based activities.

17 Examples of occupations in the professionals category include planners, data and analysis specialists, quality assurance and quality control professionals and health and safety specialists. Please see Annex B for the full list.
18 Offshore energy: Data and digital maturity survey (OEUK – 2023)

Table 3: Change in occupational structure (excluding apprentices and trainees).

Category	Percentage-points change between 2021 and 2024
Craft	+1.2%
Engineers	-4.0%
Managers	+2.7%
Professionals	+1.9%
Semi-skilled	+1.3%
Supervisors	+1.6%
Support	-2.7%
Technicians	-1.8%
Other	-0.2%

Focus on key occupations

This section of the report offers a more in-depth analysis of 15 occupations, either those with the largest workforces or those that typically present specific recruitment challenges. More information on recruitment difficulties can be found on pages 68 to 70.

Caution is advised when aggregating figures from different occupations. The data includes multi-skilled roles, which may lead to double counting - such as when aggregating welders and pipefitters, as welding and pipefitting can appear in both categories. After correcting for double-counting, the occupations highlighted in this section represent 41.1% of the workforce, primarily within the craft, technician, engineer and supervisor categories. For occupations directly related to engineering, technician or craft tasks (e.g. welding, pipefitting), pure management roles have been excluded. This allows the focus to remain on occupations that are typically the target of policies addressing skills shortages and practical training initiatives.

Absolute figures are extrapolated to represent the entire in-scope workforce, based on the fact that the 2024 census data covers 78.8% of the ECI workforce in 2023. All individual occupations with fewer than 20 workers are grouped into "not elsewhere classified" (n.e.c.) categories. Where applicable, workers' specialisations are indicated in parentheses. The classification aims to closely reflect how the workforce is structured within the industry.

The heatmaps are based on the geographical aggregation of data points, weighted by the number of workers. This means that, at a very local level, a hotspot may not always be precisely centred on the location with the highest concentration of workers within the hotspot's boundaries. For instance, a hotspot centred in Warrington may indicate that most workers are located in Warrington, but it can also suggest that workers are closely and evenly distributed around the city.

Design (3,027 workers)

Designers create detailed plans and specifications using engineering principles to develop solutions that meet project requirements. This includes designing structures, systems or components.

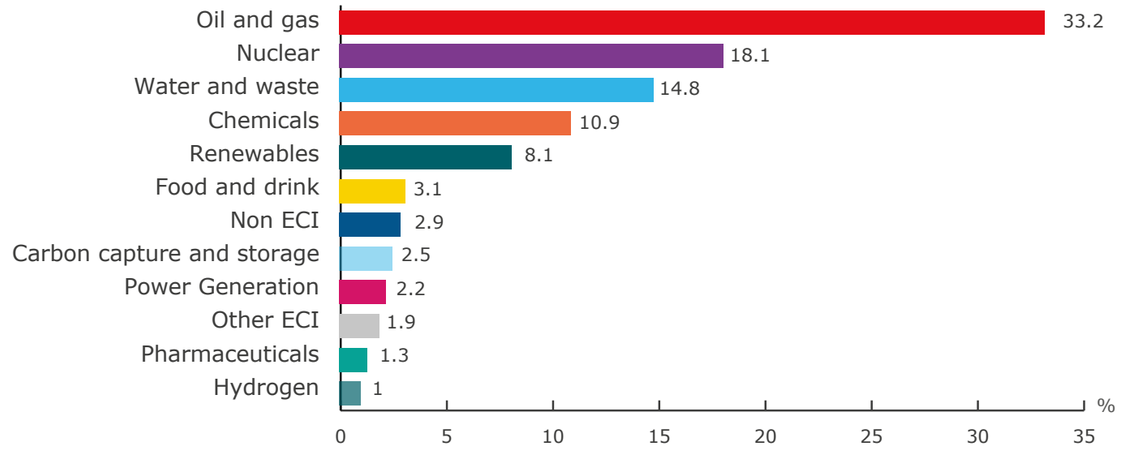
Workers in the design category represent 3.3% of the workforce. The most common specialisations in the design category are piping, structural, mechanical, electrical and instrumentation. Designers predominantly work in the oil and gas (33.2%), nuclear (18.1%) and water and waste (14.8%) sectors. They are primarily based in and around Aberdeen, Middlesbrough, Warrington and along the Reading-London axis.

The reason the water and waste treatment sector has the third-largest workforce in the design category may be that the upcoming Asset Management Plan period, starting in April 2025, will involve more than double the investment of the current cycle. Water companies are under substantial pressure to create a cleaner and more resilient water industry, including reducing water leakage, preparing for major weather events, protecting agricultural land and achieving Net Zero. Systems, processes and infrastructure will need to be designed to support these goals.

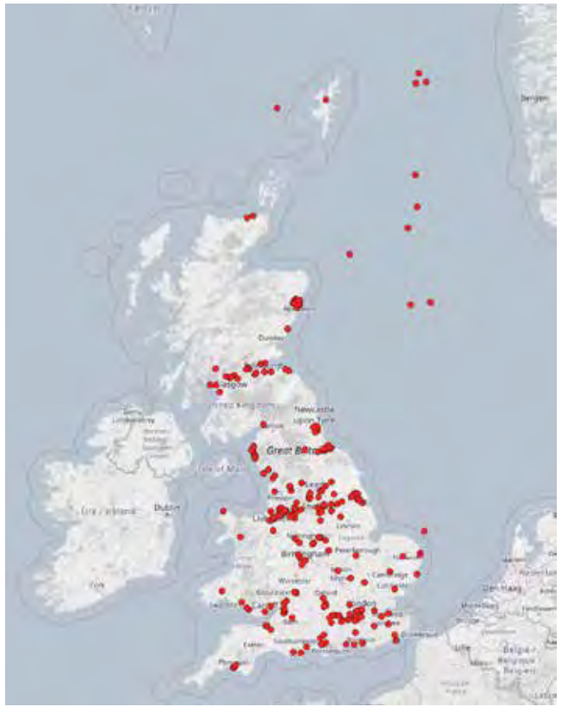
Table 4: Occupations in the Design category

Design occupations	#	%
Design technicians	1,023	33.8%
Design engineers	460	15.2%
Design (piping) technicians	450	14.9%
Design (structural) technicians	132	4.4%
Design (mechanical) engineers	125	4.1%
Design (mechanical) technicians	121	4.0%
Design (electrical) technicians	111	3.7%
Design (instrumentation) technicians	94	3.1%
Design apprentices and trainees	58	1.9%
Design (civil) technicians	50	1.6%
Design (electrical, instrumentation and control) technicians	44	1.5%
Design (electrical) engineers	30	1.0%
Design (civil and structural) technicians	28	0.9%
Design (mechanical) apprentices and trainees	27	0.9%
Design (electrical and instrumentation) technicians	25	0.8%
Design (civil, structural and architectural) technicians	21	0.7%
Design (piping) supervisors	20	0.7%
Design technicians n.e.c.	76	2.5%
Design engineers n.e.c.	61	2.0%
Design supervisors n.e.c.	42	1.4%
Design semi-skilled n.e.c.	15	0.5%
Design apprentices and trainees n.e.c.	14	0.5%

Figure 4: Sectoral distribution of the workforce in the design category



Maps 3 and 4: Location of workers in the design category (data points and heatmap)



Electrical (4,630 workers)

The electrical category encompasses a wide range of disciplines, from maintenance to fitting. While many workers in this category are general electrical workers, some may focus on specific tasks, such as maintenance or fitting, which may not always be reflected in their job titles[19]. Electrical engineers are often qualified in instrumentation and control and some technicians may also hold certifications for rope access.

Workers in the electrical category represent 4.9% of the workforce, primarily operating in the oil and gas (37.2%) and nuclear (24.5%) sectors. Geographically, they are concentrated near the river Mersey up to Warrington and its surroundings, Cumbria, Middlesbrough and along the Reading-London axis and the Humber estuary. They are also significantly present offshore, particularly in the central and northern North Sea.

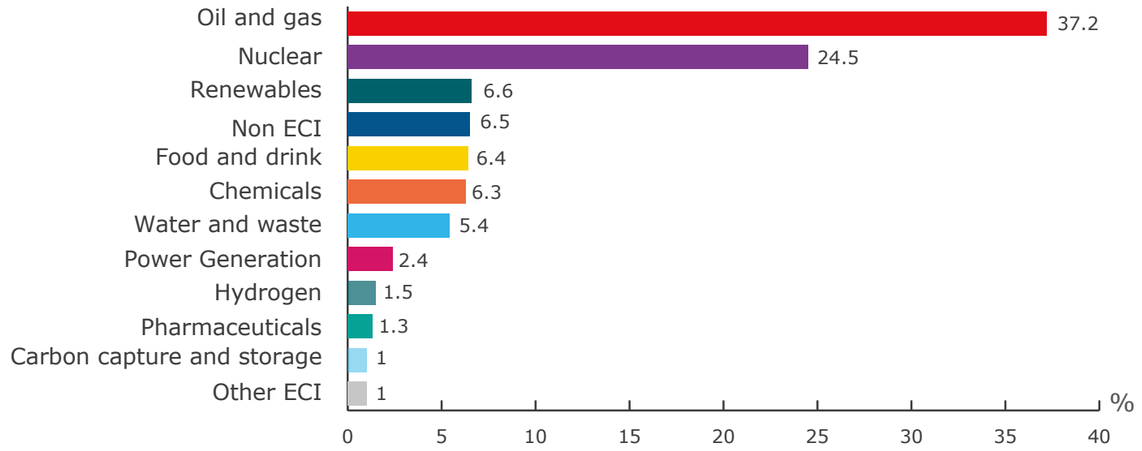
19 Most tasks they will perform either relate to installation, maintenance and decommissioning.

Table 5: Occupations in the electrical category.

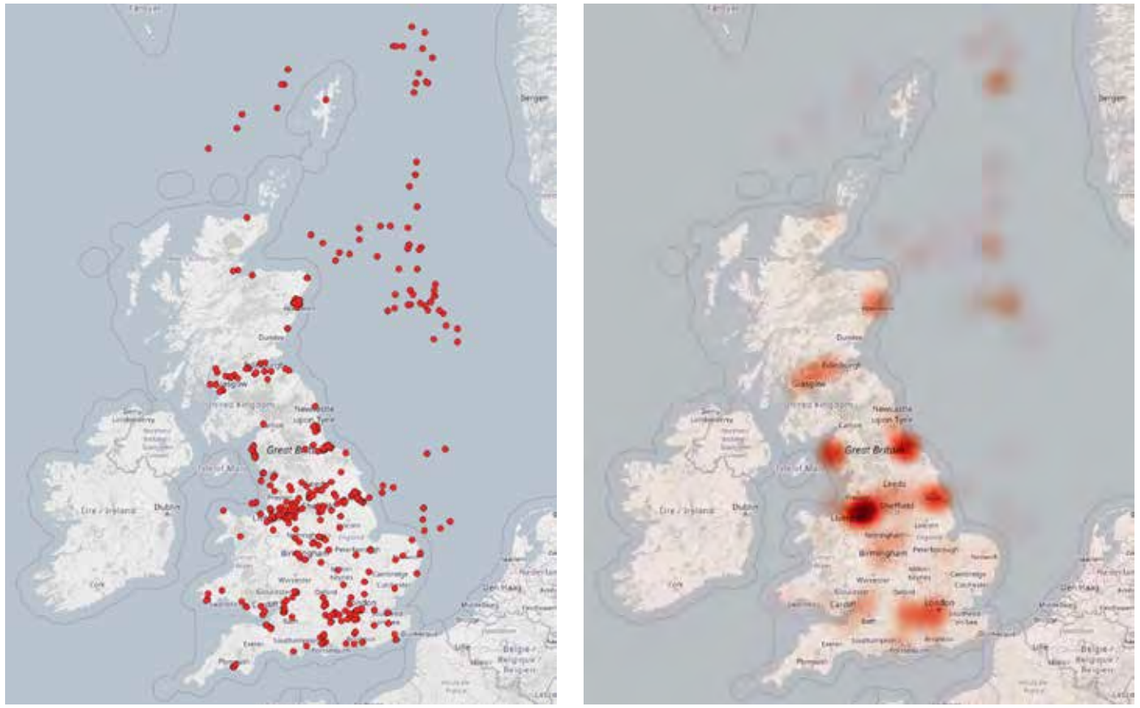
Electrical occupations	#	%
Electrical technicians	1,418	30.6%
Electrical engineers	886	19.1%
Electrical, instrumentation and control engineers	432	9.3%
Electrical craft*	418	9.0%
Electrical fitting craft	301	6.5%
Electrical supervisors	298	6.4%
Electrical apprentices and trainees	216	4.7%
Electrical professionals	165	3.6%
Electrical (rope access) technicians	67	1.4%
Maintenance (electrical) technicians	66	1.4%
Electrical semi-skilled	57	1.2%
Electrical technicians supervisors	42	0.9%
Electrical fitting supervisors	36	0.8%
Electrical and instrumentation engineers	23	0.5%
Electrical, instrumentation and control apprentices and trainees	22	0.5%
Production (electrical, instrumentation and control) technicians	22	0.5%
Maintenance (electrical) apprentices and trainees	22	0.5%
Electrical fitting semi-skilled	21	0.5%
Electrical technicians n.e.c.	56	1.2%
Electrical supervisors n.e.c.	31	0.7%
Electrical engineers n.e.c.	21	0.4%
Electrical professionals n.e.c.	11	0.2%

* Electrical craft workers are kept separate from other electrical craft occupations (such as electrical fitters), as they are considered to be general electrical-qualified craftspeople not specifically focused on fitting or maintenance.

Figure 5: Sectoral distribution of the workforce in the electrical category



Maps 5 and 6: Location of workers in the electrical category (data points and heatmap)



General operatives, operators and labourers (2,696 workers)

This category focuses on semi-skilled general operatives and labourers. These roles typically require Level 2 qualifications in England and Wales or Level 5 qualifications in Scotland. They are essential for the construction and operation of engineering construction projects and are expected to remain in high demand, not only in construction[20] but also across the broader economy[21].

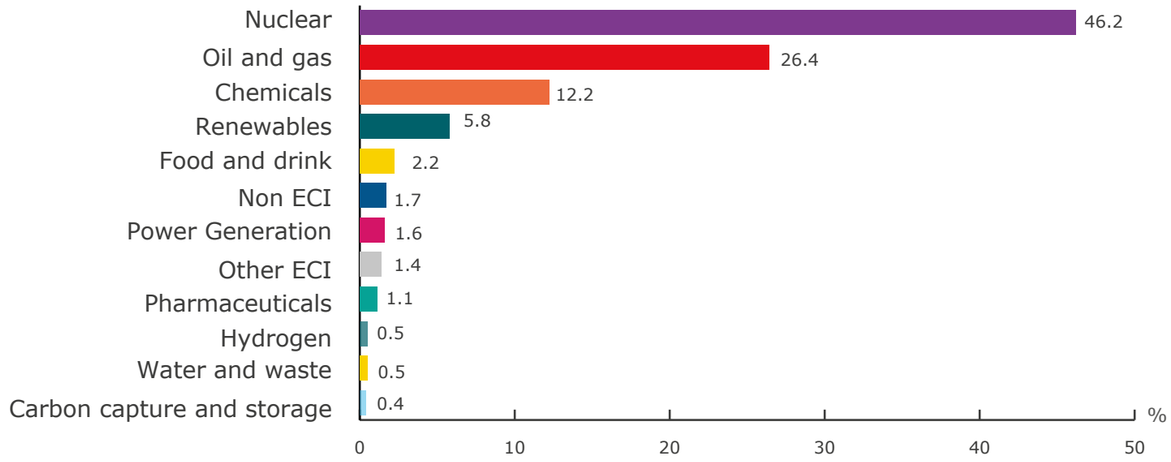
The most significant sectors for this category are nuclear (46.2%), oil and gas (26.4%), chemicals (12.2%). Significant hotspots include Cumbria, the river Mersey, the Humber estuary, Middlesbrough, but also Grangemouth, Bridgwater, Pembrokeshire, Southampton and Great Yarmouth.

20 CNS Industry Outlook: 2024-2028 – CITB (2024)
21 Occupations in demand – Department for Education (2024)

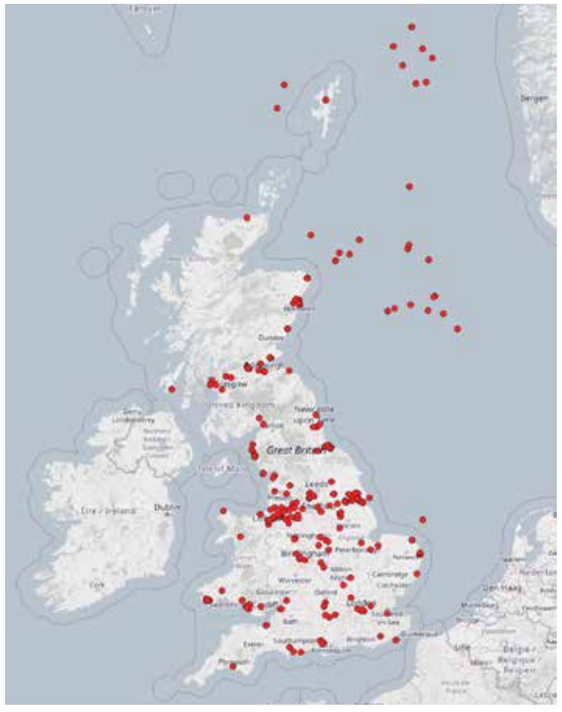
Table 6: Occupations in the general operatives, operators and labourers category

General operatives and, operators labourers occupations	#	%
General operatives semi-skilled	1,755	65.1%
Labourers semi-skilled	509	25.3%
Operators semi-skilled	259	9.4%

Figure 6: Sectoral distribution of the workforce in the general operatives, operators and labourers category



Maps 7 and 8: Location of workers in the general operatives, operators and labourers category (data points and heatmap)



Instrumentation and control (2,174 workers)

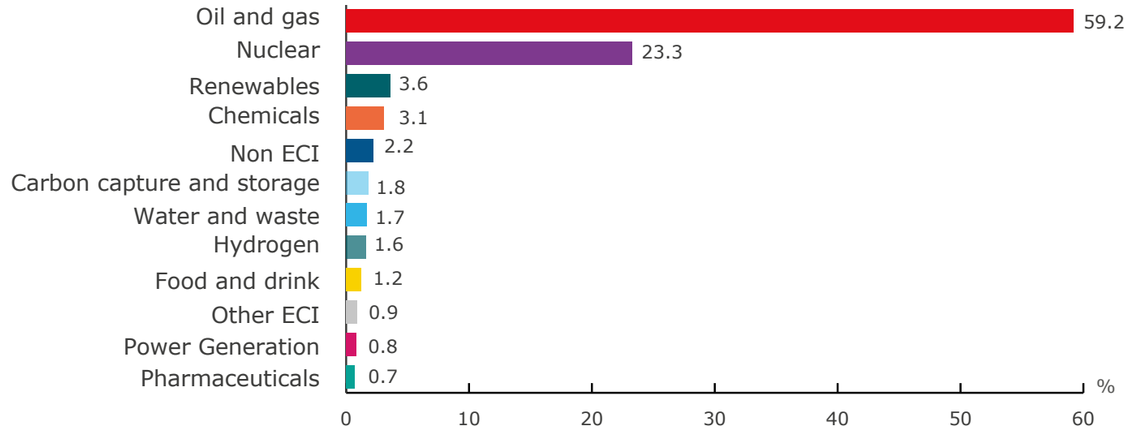
Instrumentation and control workers specialise in the development and maintenance of systems that monitor and control various processes such as temperature, pressure, flow and level. Most workers in the instrumentation and control category are engineers and technicians operating in the oil and gas (59.2%) and nuclear (23.3%) sectors.

Consequently, they are concentrated in these sectors' main hotspots: offshore, near Aberdeen, Warrington, Middlesbrough and along the Reading-London axis.

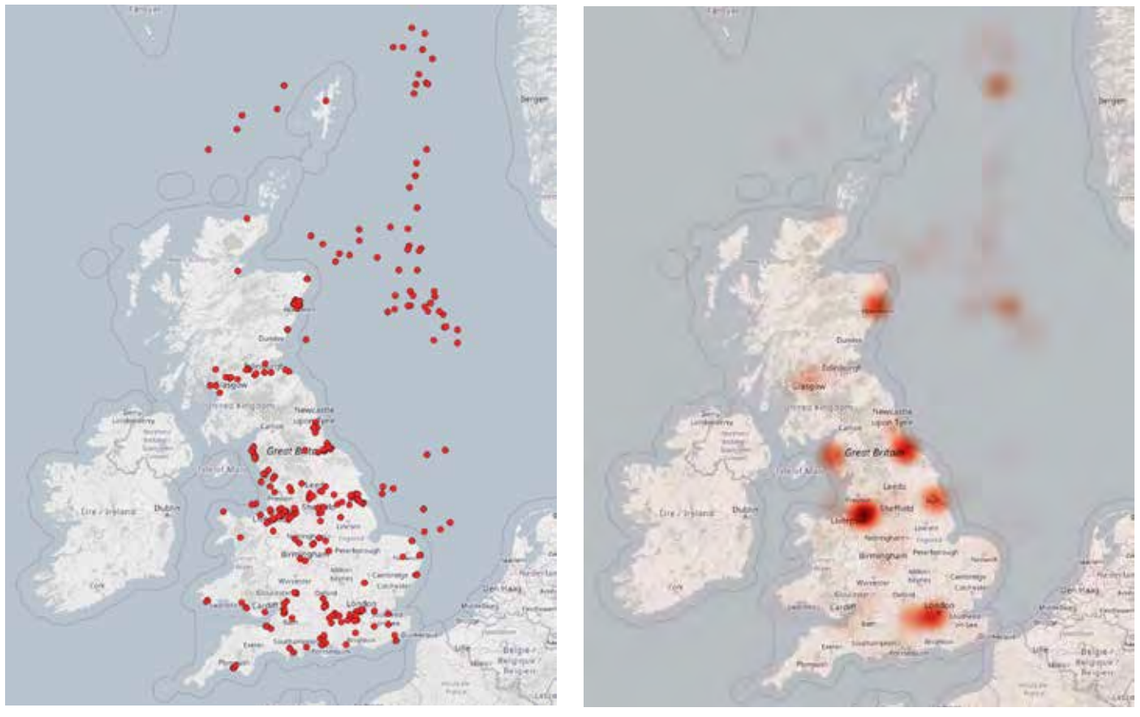
Table 7: Occupations in the instrumentation and control category

Instrumentation and control occupations	#	%
Instrumentation and control engineers	682	31.4%
Instrumentation and control technicians	659	30.3%
Electrical, instrumentation and control engineers	432	19.9%
Instrumentation and control craft	86	4.0%
Instrumentation and control apprentices and trainees	71	3.3%
Instrumentation and control supervisors	71	3.3%
Commissioning (instrumentation) technicians	25	1.2%
Electrical and instrumentation engineers	23	1.0%
Electrical, instrumentation and control apprentices and trainees	22	1.0%
Production (electrical, instrumentation and control) technicians	22	1.0%
Instrumentation and control technicians n.e.c.	26	1.2%
Instrumentation and control professionals n.e.c.	21	1.0%
Instrumentation and control engineers n.e.c.	19	0.9%
Instrumentation and control supervisors n.e.c.	13	0.6%

Figure 7: Sectoral distribution of the workforce in the instrumentation and control category



Maps 9 and 10: Location of workers in the instrumentation and control category (data points and heatmap)



Mechanical (4,665 workers)

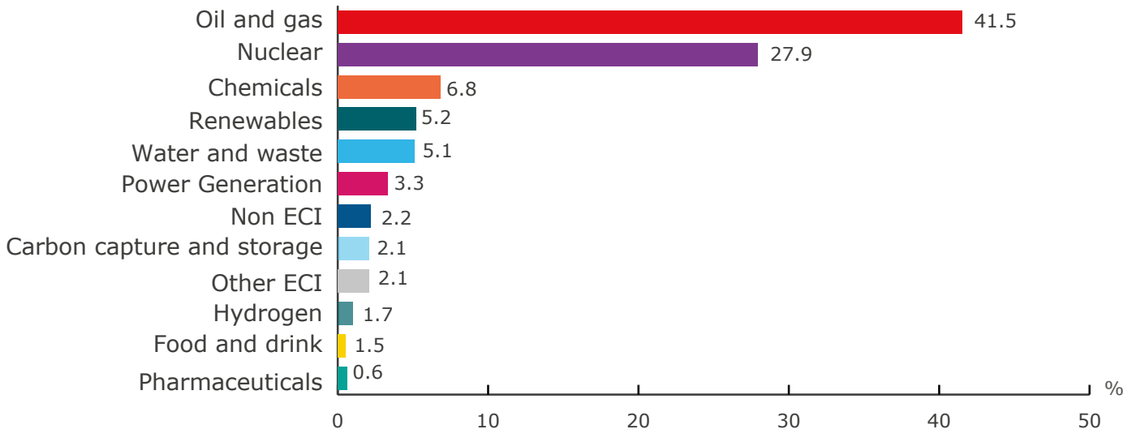
Most mechanical workers in the industry are engineers, fitters and technicians, with some specialising in commissioning or maintenance activities. They manufacture, assemble, install and ensure the reliability of mechanical systems and equipment.

The oil and gas sector employs the largest share (41.5%), followed by the nuclear sector (27.9%) and, to a lesser extent, the chemicals sector (6.8%). The highest concentration of mechanical workers is found along the Humber estuary, as well as offshore and in Warrington and its surrounding areas.

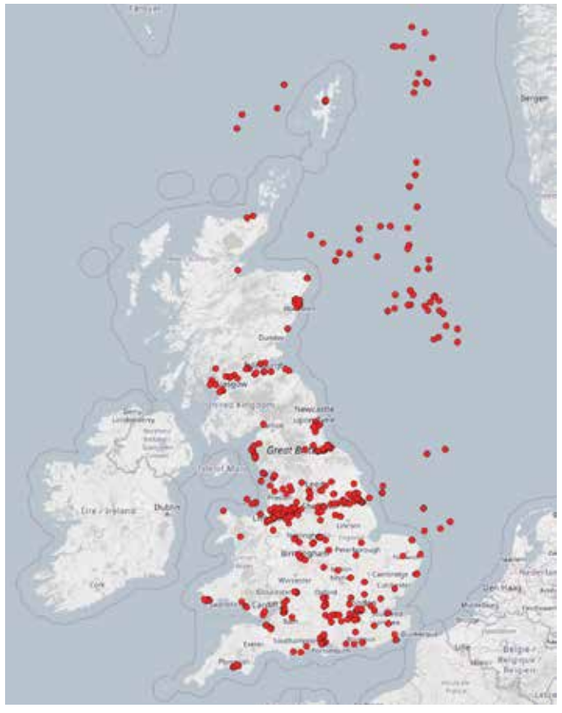
Table 8: Occupations in the mechanical category

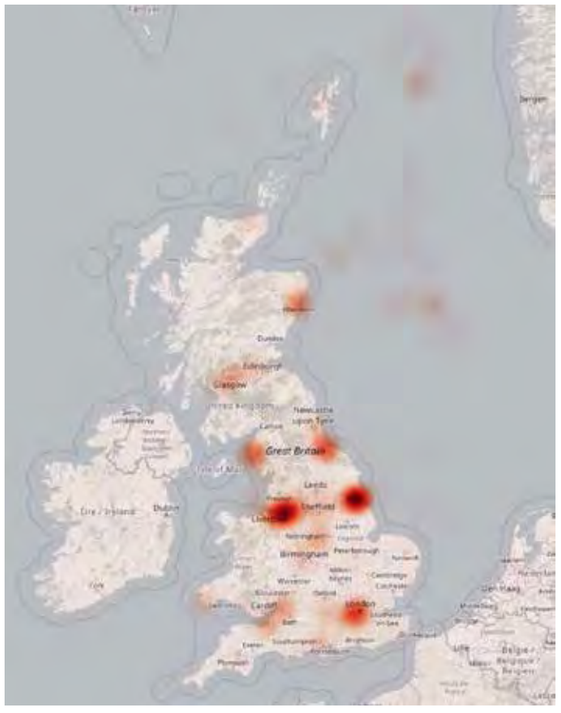
Mechanical occupations	#	%
Mechanical engineers	1,957	42.0%
Mechanical fitting craft	1,233	26.4%
Mechanical technicians	745	16.0%
Mechanical fitting supervisors	310	6.7%
Commissioning (mechanical) engineers	74	1.6%
Mechanical fitting apprentices and trainees	51	1.1%
Maintenance (mechanical) technicians	38	0.8%
Mechanical supervisors	35	0.7%
Maintenance (mechanical) apprentices and trainees	29	0.6%
Piping and mechanical engineers	24	0.5%
Mechanical maintenance technicians	21	0.5%
Mechanical apprentices and trainees	20	0.4%
Mechanical technicians n.e.c.	38	0.8%
Mechanical supervisors n.e.c.	24	0.5%
Mechanical craft n.e.c.	19	0.4%
Mechanical professionals n.e.c.	15	0.3%
Mechanical semi-skilled n.e.c.	14	0.3%
Mechanical apprentices and trainees n.e.c.	9	0.2%
Mechanical engineers n.e.c.	8	0.2%

Figure 8: Sectoral distribution of the workforce in the mechanical category



Maps 11 and 12: Location of workers in the mechanical category (data points and heatmap)





Non-destructive testing (592 workers)

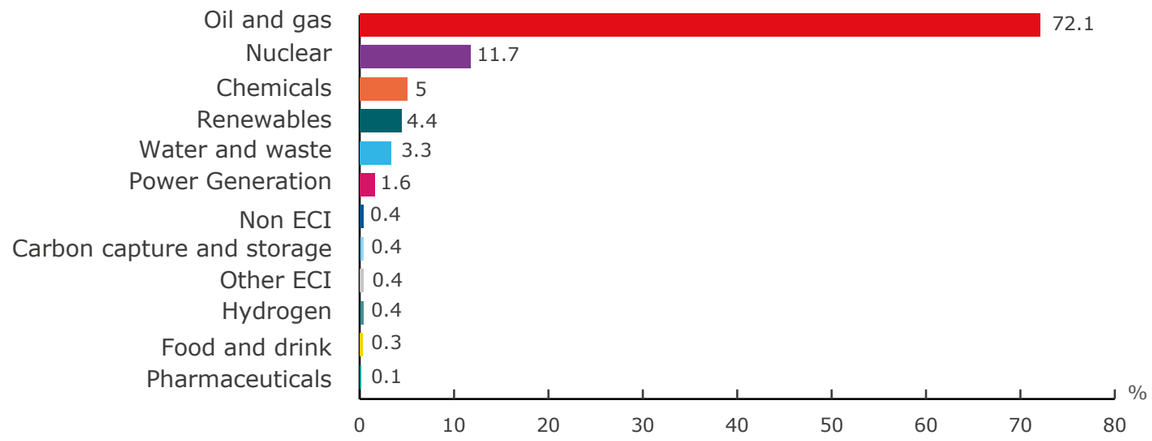
Workers in the non-destructive testing category assess the integrity and quality of materials and structures using methods such as acoustic emission, electromagnetic or ground penetrating radar testing. The oil and gas sector employs the vast majority of non-destructive testing workers (72.1%), many of whom are also qualified for rope access.

These workers are primarily deployed offshore, but are also based along the Humber estuary, near Warrington, Aberdeen and Southampton.

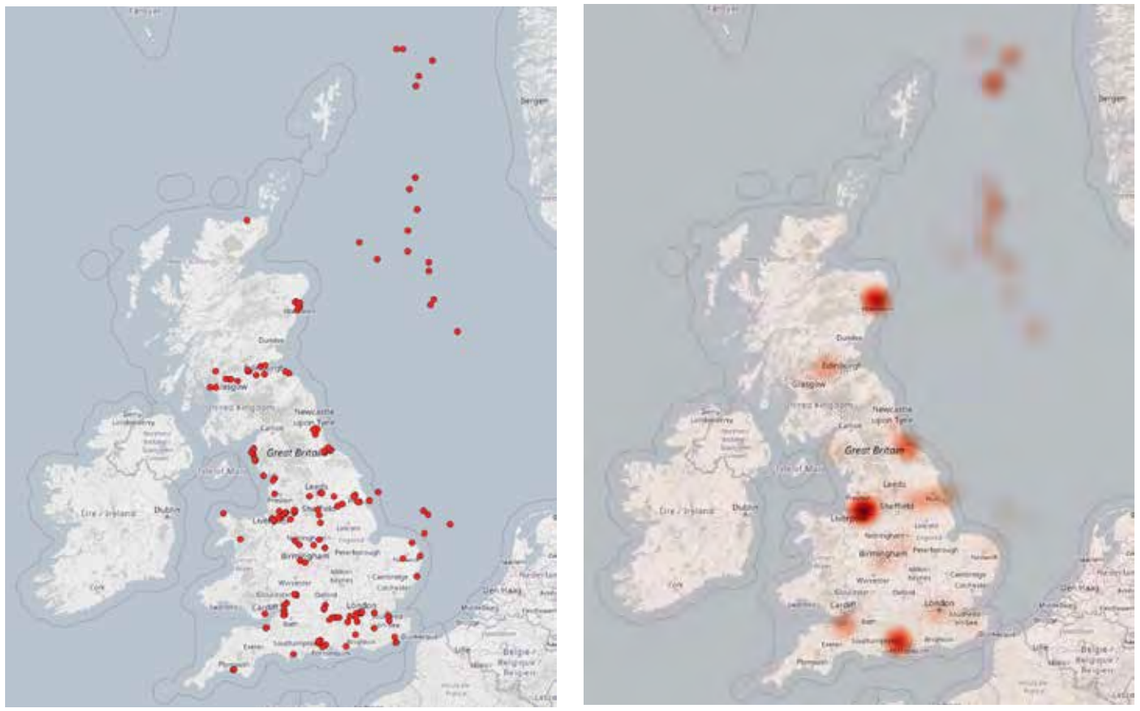
Table 9: Occupations in the non-destructive testing category

Non-destructive testing occupations	#	%
Non-destructing testing technicians	295	49.8%
Non-destructing testing (rope access) technicians	169	28.5%
Non-destructing testing (rope access) supervisors	55	9.3%
Non-destructing testing engineers	39	6.6%
Non-destructing testing supervisors	23	3.8%
Non-destructing testing apprentices and trainees n.e.c.	12	2.0%

Figure 9: Sectoral distribution of the workforce in the non-destructive testing category



Maps 13 and 14: Location of workers in the non-destructive testing category (data points and heatmap)



Pipefitting (1,885 workers)

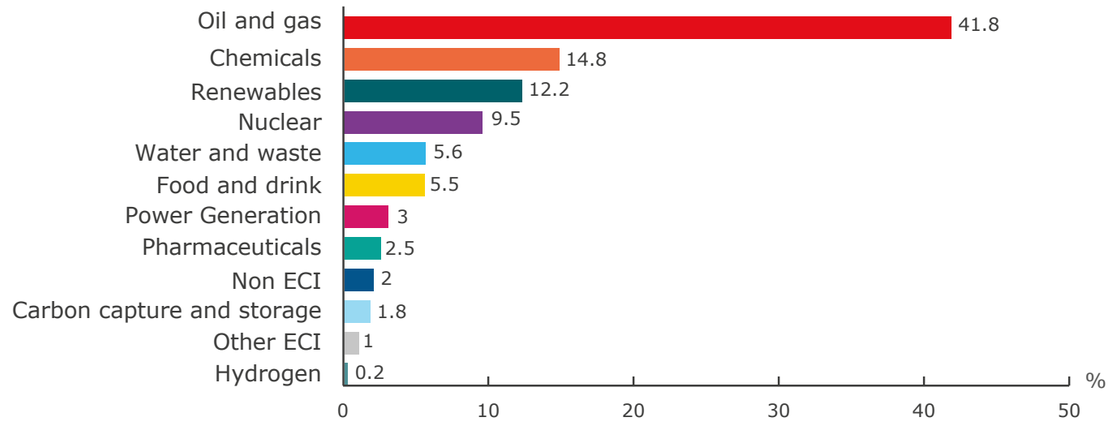
Pipefitters install, repair and maintain piping systems used for transporting fluids and gases. The oil and gas (41.8%), chemicals (14.8%) and renewables (12.2%) sectors are the main employers in the pipefitting category.

Pipefitters are typically deployed along the river Mersey, the Humber estuary, the Scottish Central Belt, near Middlesbrough and offshore.

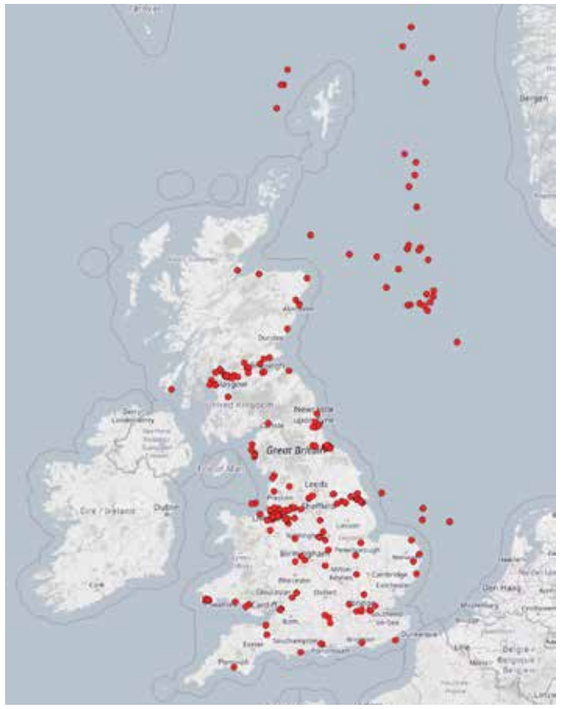
Table 10: Occupations in the pipefitting category

Pipefitting occupations	#	%
Pipefitting craft	1,398	74.1%
Pipefitting supervisors	181	9.6%
Pipefitting apprentices and trainees	120	6.4%
Instrument pipefitters craft	75	4.0%
Pipefitting (rope access) craft	38	2.0%
Welding and pipefitting craft	35	1.8%
Pipefitting craft n.e.c.	24	1.3%
Pipefitting supervisors n.e.c.	15	0.8%

Figure 10: Sectoral distribution of the workforce in the pipefitting category



Maps 15 and 16: Location of workers in the pipefitting category (data points and heatmap)



Planning (1,860 workers)

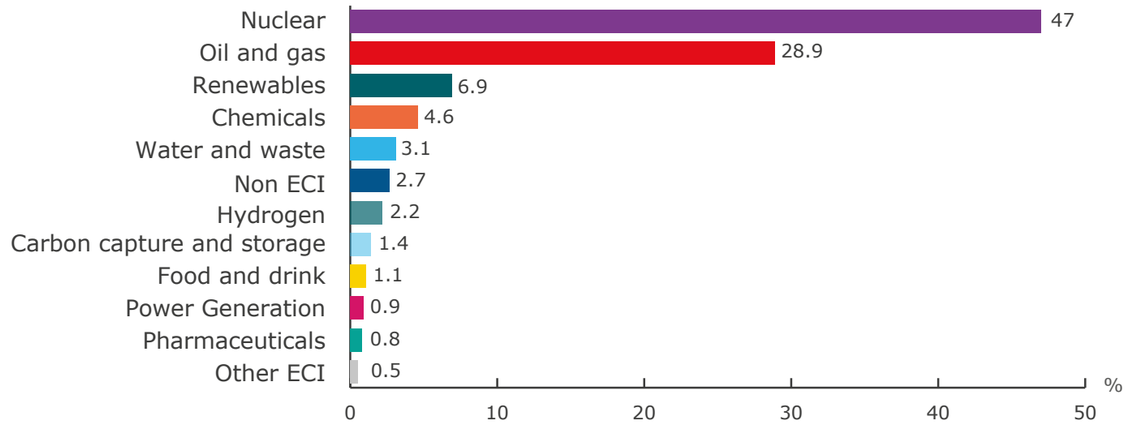
Planners develop and manage project schedules and resource allocations to ensure projects are completed on time and within budget. Planners are primarily employed by the nuclear sector (47%), with a smaller proportion working in the oil and gas sector (28.9%).

Consequently, key hotspots for planners are in Cumbria, Warrington, Aberdeen, as well as along the Bridgwater-Bristol and Reading-London axes.

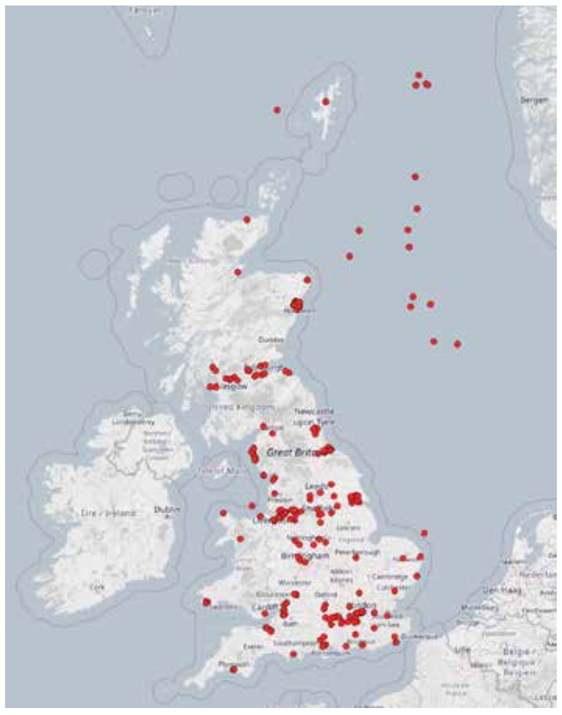
Table 11: Occupations in the planning category.

Planning occupations	#	%
Planning professionals	1,455	78.3%
Planning managers	342	18.4%
Planning engineers	33	1.8%
Planning apprentices and trainees	21	1.2%
Planning professionals n.e.c.	8	0.4%

Figure 11: Sectoral distribution of the workforce in the planning category



Maps 17 and 18: Location of workers in the planning category (data points and heatmap)



Plating (797 workers)

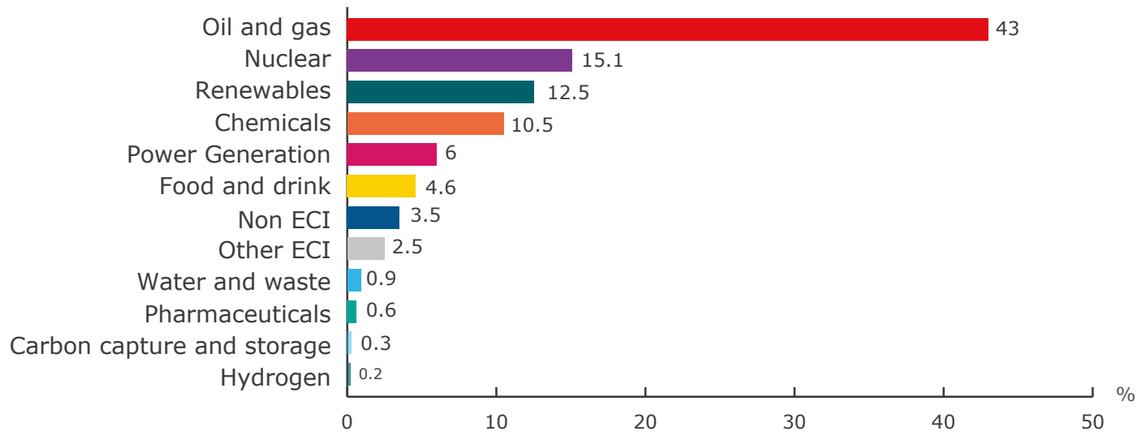
Platers cut, shape and assemble metal plates, structures, machinery and piping systems. Platers primarily work in the oil and gas sector (43%), with other key sectors including nuclear (15.1%), renewables (12.5%) and chemicals (10.5%).

A notable portion of the plating workforce is qualified for rope access. The main hotspots are along the Humber estuary, near Bridgwater, Southampton and Middlesbrough, with a strong presence offshore.

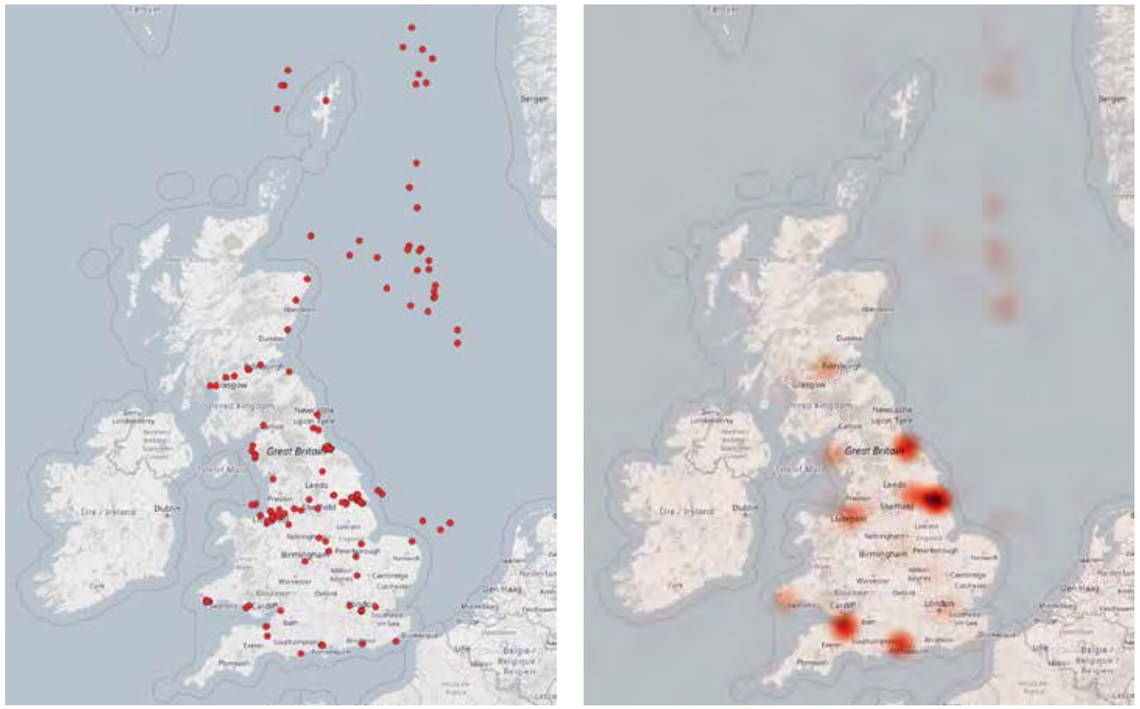
Table 12: Occupations in the plating category

Plating occupations	#	%
Plating craft	599	75.1%
Plating supervisors	83	10.4%
Plating (rope access) craft	70	8.7%
Welding and plating craft	27	3.4%
Plating apprentices and trainees n.e.c.	13	1.7%
Plating supervisors n.e.c.	5	0.7%

Figure 12: Sectoral distribution of the workforce in the plating category



Maps 19 and 20: Location of workers in the plating category (data points and heatmap)



Procurement and supply chain (1,217 workers)

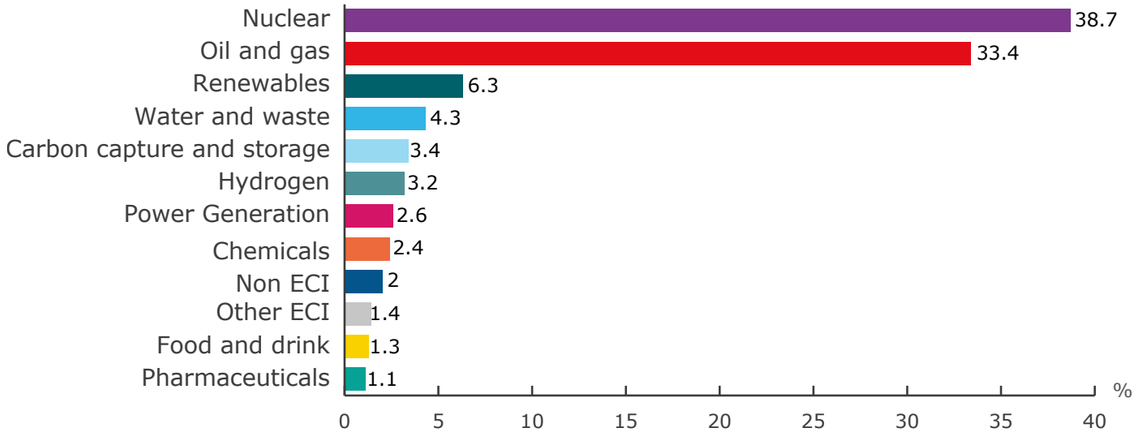
Workers in this category ensure projects are supplied with the necessary materials, equipment and services.

Most procurement and supply chain workers operate in the nuclear (38.7%) and oil and gas (33.4%) sectors, especially near Aberdeen, Birchwood, Cumbria and London.

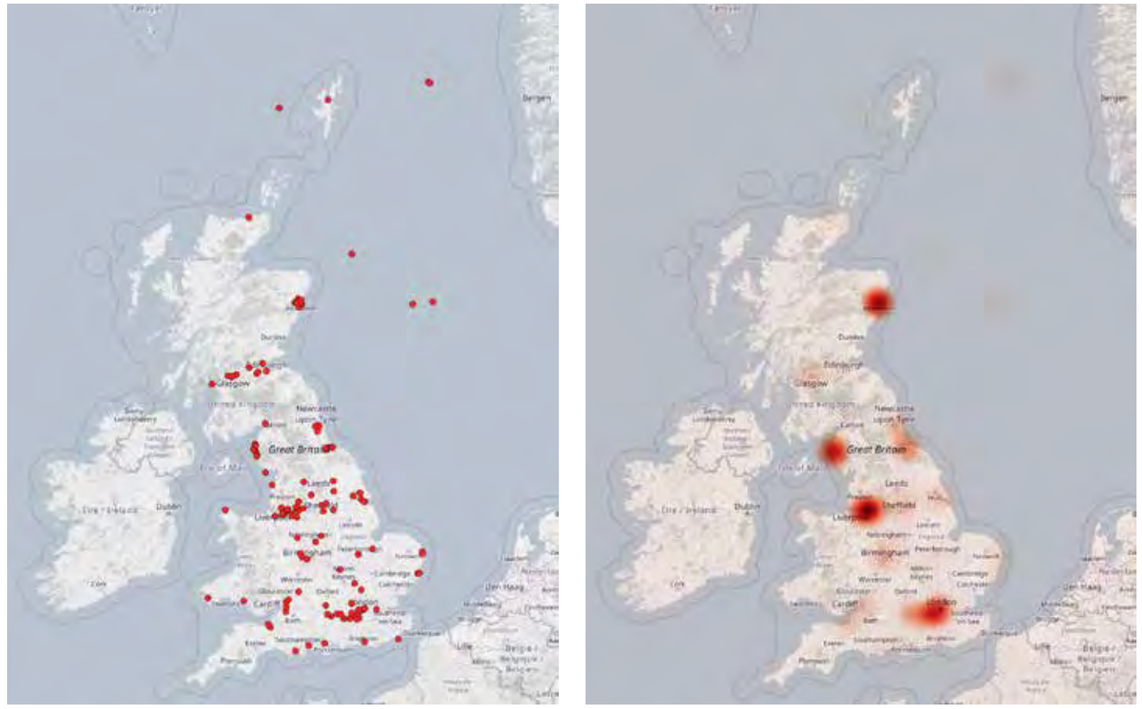
Table 13: Occupations in the procurement and supply chain category

Procurement and supply chain occupations	#	%
Procurement professionals	635	52.2%
Supply chain managers	256	21.1%
Procurement managers	138	11.3%
Supply chain professionals	92	7.6%
Supply chain support	52	4.3%
Waste (supply chain) managers	20	1.6%
Procurement support n.e.c.	17	1.4%
Procurement apprentices and trainees n.e.c.	7	0.6%

Figure 13: Sectoral distribution of the workforce in the procurement and supply chain category



Maps 21 and 22: Location of workers in the procurement and supply chain category (data points and heatmap)



Project management (5,380 workers)

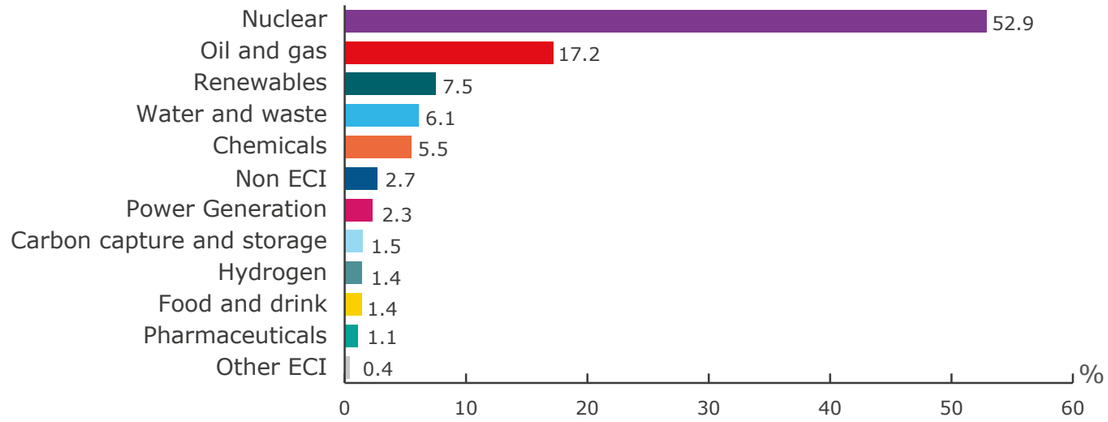
Project managers oversee and coordinate all aspects of ECI projects to ensure they are completed on time and within budget. While most project managers are not explicitly tied to a specific scope of work, some may focus on commercial, engineering, procurement and construction (EPC) or IT projects. The latter underscores the growing importance of IT infrastructure renewal in some ECI companies.

The nuclear sector employs 52.9% of project managers in the industry, reflecting the complexity of large-scale nuclear projects, which involve significant risk management and health and safety concerns. Project managers are primarily located near Warrington, along the Reading-London and Bridgwater-Bristol axes and in Cumbria.

Table 14: Occupations in the project management and supply chain category

Project management occupations	#	%
Project managers	4,648	86.4%
Project management support	346	6.4%
Project (IT) managers	98	1.8%
Project (commercial) managers	59	1.1%
Project management apprentices and trainees	46	0.9%
Project (civil) managers	46	0.8%
Project (EPC) managers	40	0.7%
Project (health and safety) managers	23	0.4%
Project managers n.e.c.	70	1.3%
Project management professionals n.e.c.	4	0.1%

Figure 14: Sectoral distribution of the workforce in the project management and supply chain category



Maps 23 and 24: Location of workers in the project management and supply chain category (data points and heatmap)

Quality assurance and quality control (1,899 workers)

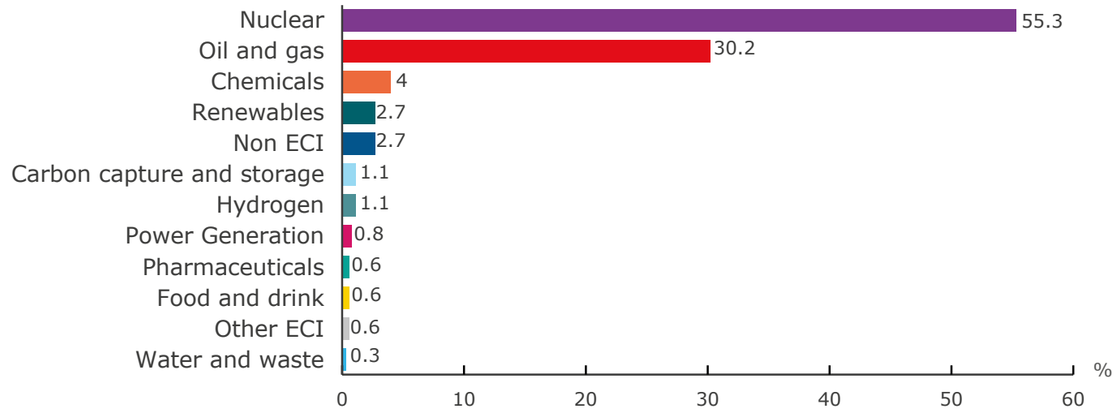
Quality assurance and quality control workers ensure projects meet established quality standards and comply with regulatory requirements. Workers in this category are primarily employed by the nuclear (55.3%) and oil and gas (30.2%) sectors.

Some specialise in areas such as welding, electrical work or rope access. They are predominantly located in Cumbria, near Middlesbrough, Warrington, Aberdeen, Bridgwater and along the Reading-London axis.

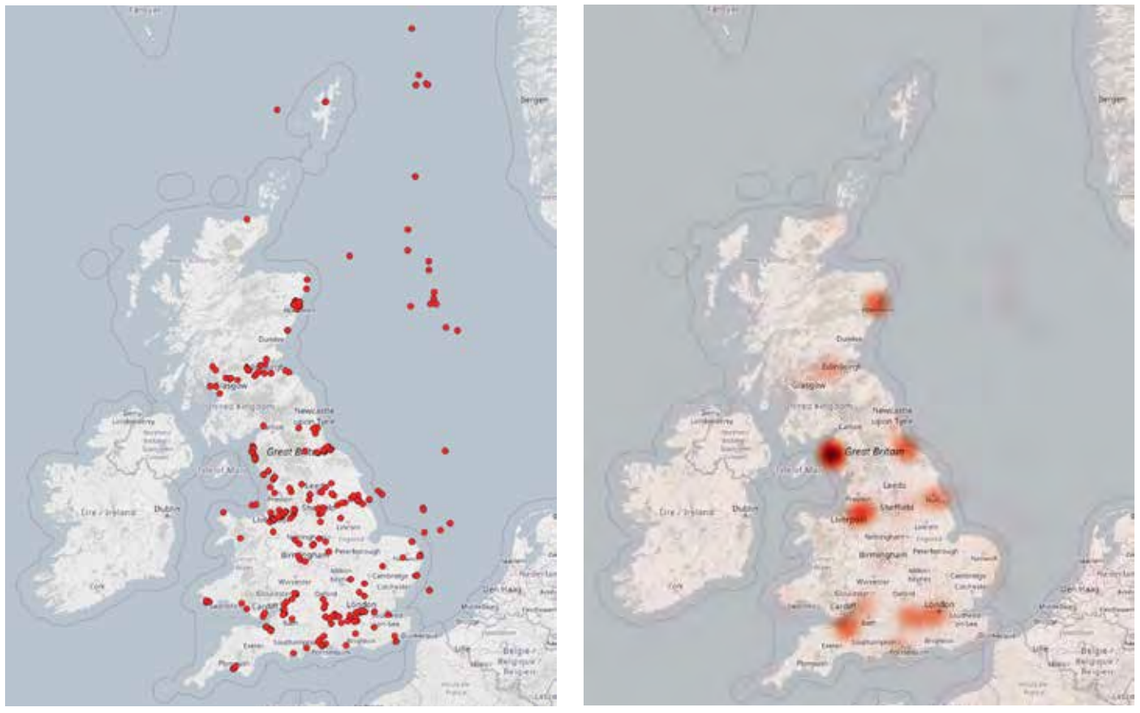
Table 15: Occupations in the quality assurance and quality control category

Quality assurance and quality control occupations	#	%
Quality assurance/quality controls professionals	761	40.1%
Quality assurance/quality controls managers	365	19.2%
Quality assurance/quality controls technicians	355	18.7%
Quality assurance/quality controls engineers	198	10.4%
Quality assurance/quality controls (electrical) technicians	40	2.1%
Quality assurance/quality controls (welding) technicians	40	2.1%
Quality assurance/quality controls (rope access) engineers	20	1.1%
Quality assurance/quality controls apprentices and trainees	20	1.1%
Quality assurance/quality controls technicians n.e.c.	38	2.0%
Quality assurance/quality controls professionals n.e.c.	21	1.1%
Quality assurance/quality controls supervisors n.e.c.	17	0.9%
Quality assurance/quality controls semi-skilled n.e.c.	13	0.7%
Quality assurance/quality controls support n.e.c.	10	0.5%

Figure 15: Sectoral distribution of the workforce in the quality assurance and quality control category



Maps 25 and 26: Location of workers in the quality assurance and quality control category (data points and heatmap)



Rigging (1,426 workers)

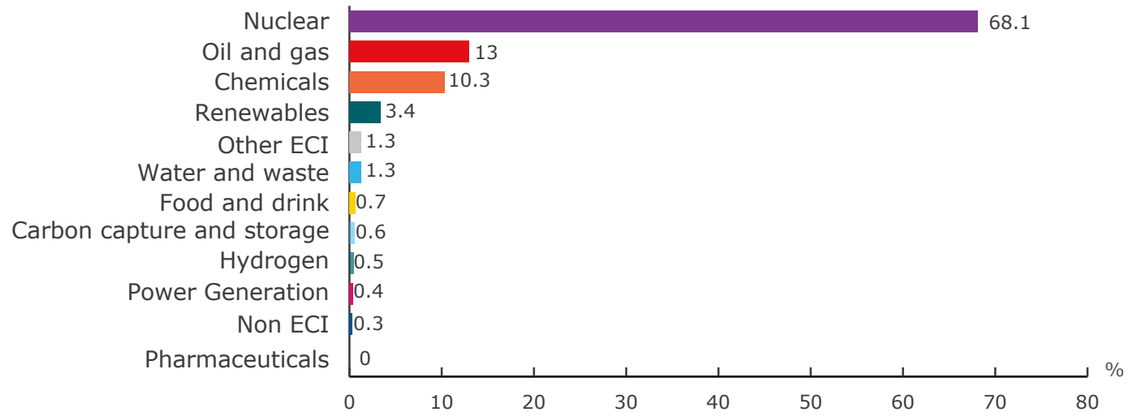
Riggers are responsible for the movement of heavy equipment and materials. They install slings, chains and hoists and assess the weight and balance of loads to determine the appropriate techniques to apply.

Riggers are mostly deployed offshore and along the Humber estuary, with a strong focus on the oil and gas sector (68.1%). The nuclear and chemicals sectors employ 13% and 10.3% of riggers respectively.

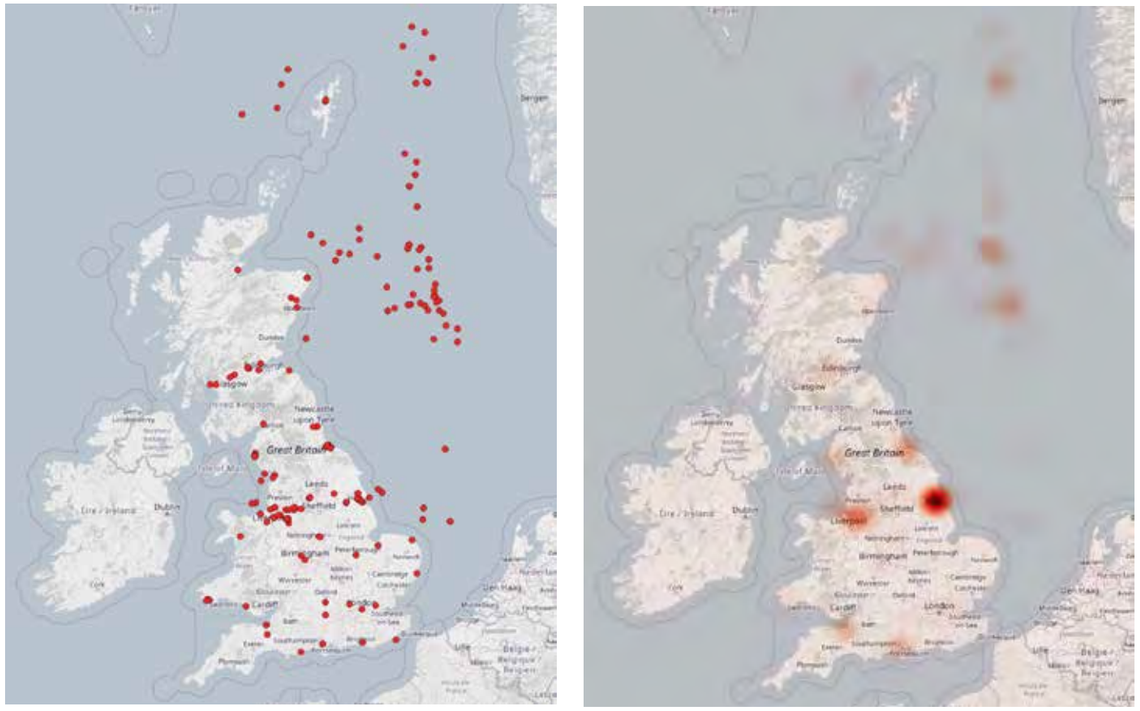
Table 16: Occupations in the rigging category

Rigging occupations	#	%
Rigging craft	1087	76.3%
Rigging supervisors	140	9.8%
Rigging (deck crew) craft	111	7.8%
Rigging (steel erectors) craft	70	4.9%
Rigging apprentices and trainees n.e.c.	17	1.2%

Figure 16: Sectoral distribution of the workforce in the rigging category



Maps 27 and 28: Location of workers in the rigging category (data points and heatmap)



Scaffolding (5,423 workers)

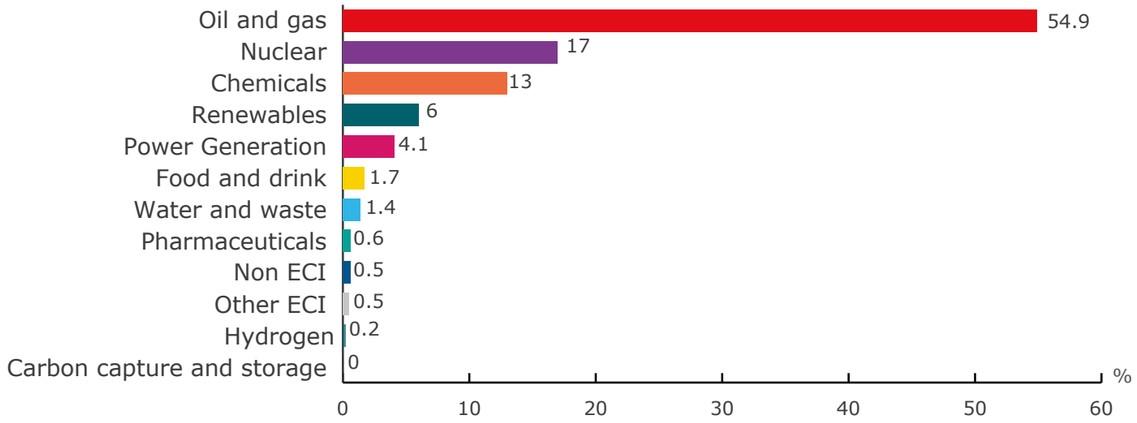
Scaffolders provide temporary support and access in many ECI sites by assembling, maintaining and dismantling scaffolding structures. They typically operate offshore, as well as around the river Mersey.

Other significant hotspots include the Humber estuary, Middlesbrough and, to a lesser extent, near Bridgwater, Southampton, Grangemouth and Aberdeen. They primarily work in the oil and gas sector (54.9%).

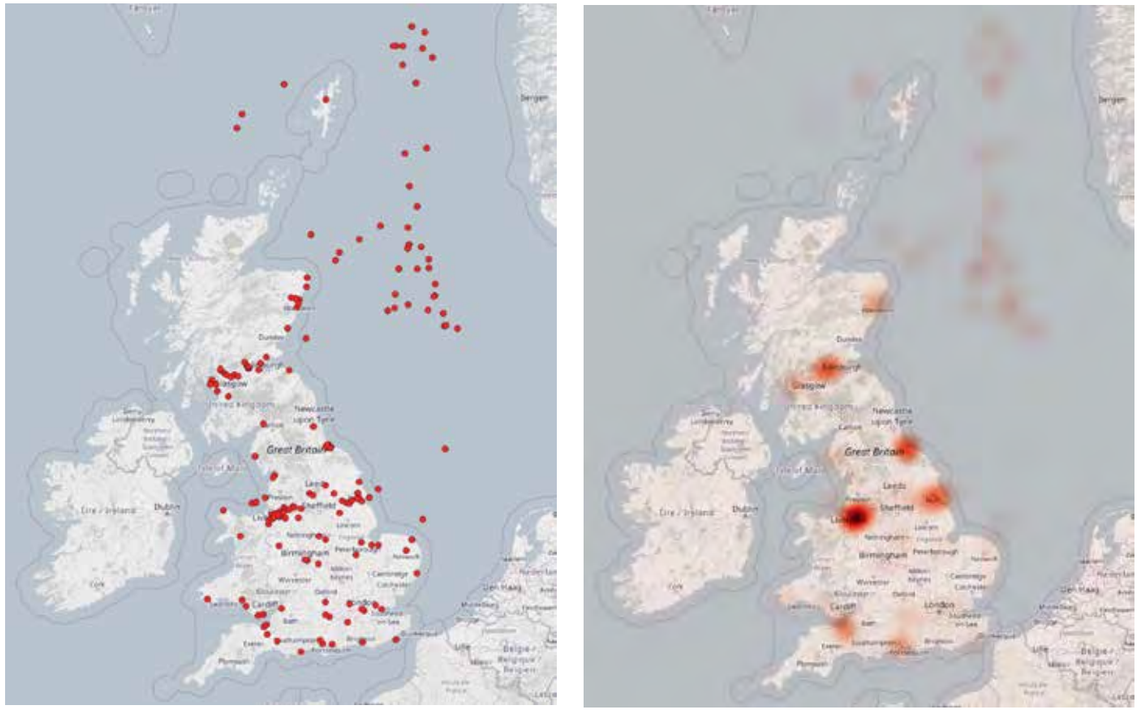
Table 17: Occupations in the scaffolding category

Scaffolding occupations	#	%
Scaffolding craft	4,198	77.4%
Scaffolding supervisors	548	10.1%
Scaffolding semi-skilled	517	9.5%
Scaffolding apprentices and trainees	159	2.9%

Figure 17: Sectoral distribution of the workforce in the scaffolding category



Maps 29 and 30: Location of workers in the scaffolding category (data points and heatmap)



Welding (1,155 workers)

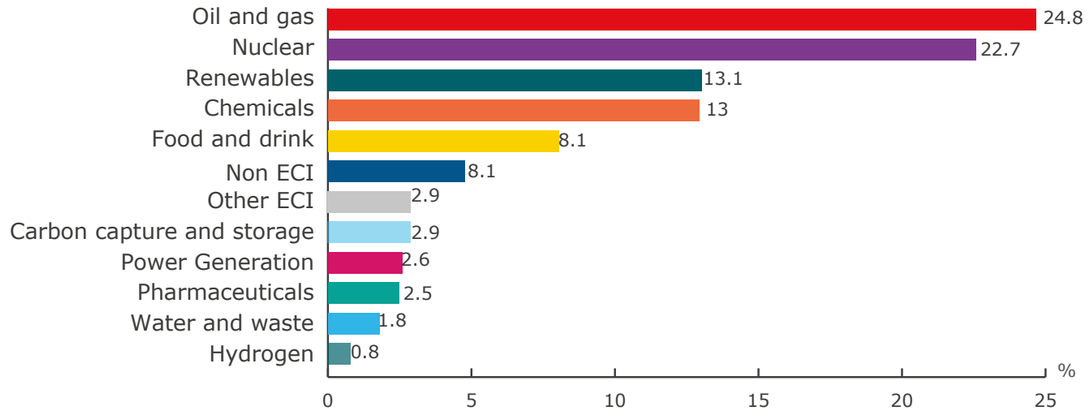
Welders join metal components together through various welding techniques such as manual arc, tungsten inert gas or flux-cored arc welding. The sectors employing the largest shares of welders are oil and gas (24.8%), nuclear (22.7%), renewables (13.1%) and chemicals (13%). Welders are especially central to the food and drink workforce, as this sector employs 8.1% of welders while representing only 1.8% of the ECI workforce. Key hotspots include the areas near the river Mersey, the Humber estuary, Middlesbrough, the Scottish Central Belt and Bridgwater.

The importance of apprentices and trainees in the welding workforce is encouraging and represents a strong response to concerns about an ageing welder population. As shown in the demographics section, the age profile of welders is younger than that of pipefitters or platers. Efforts to recruit from other segments of the population also appear to be successful, suggesting that strategies adopted for the welding workforce could be applied more broadly to other occupational groups.

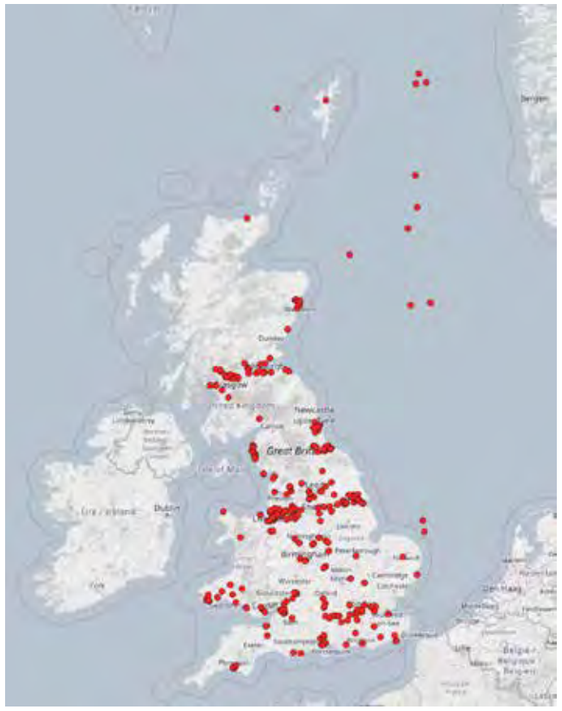
Table 18: Occupations in the welding category

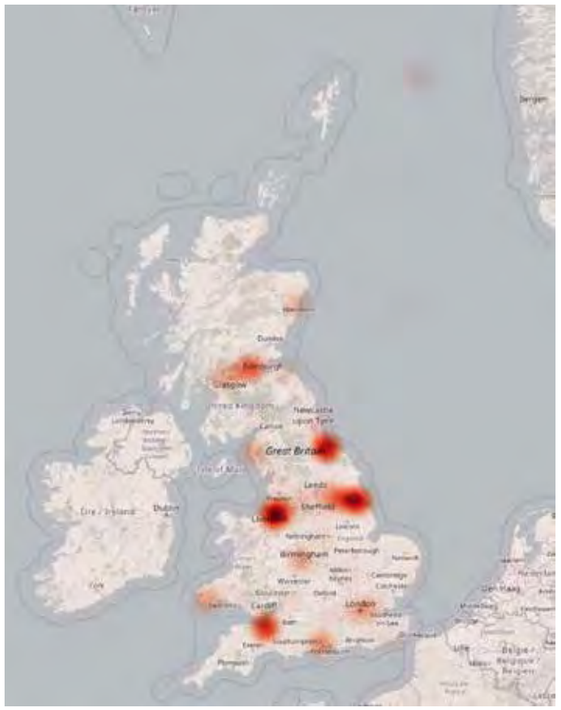
Welding occupations	#	%
Welding craft	677	58.6%
Welding supervisors	150	13.0%
Welding apprentices and trainees	122	10.5%
Welding and fabricators craft	87	7.5%
Welding engineers	47	4.1%
Welding and pipefitting craft	35	3.0%
Welding and plating craft	27	2.4%
Welding craft n.e.c.	9	0.8%

Figure 18: Sectoral distribution of the workforce in the welding category



Maps 31 and 32: Location of workers in the welding category (data points and heatmap)



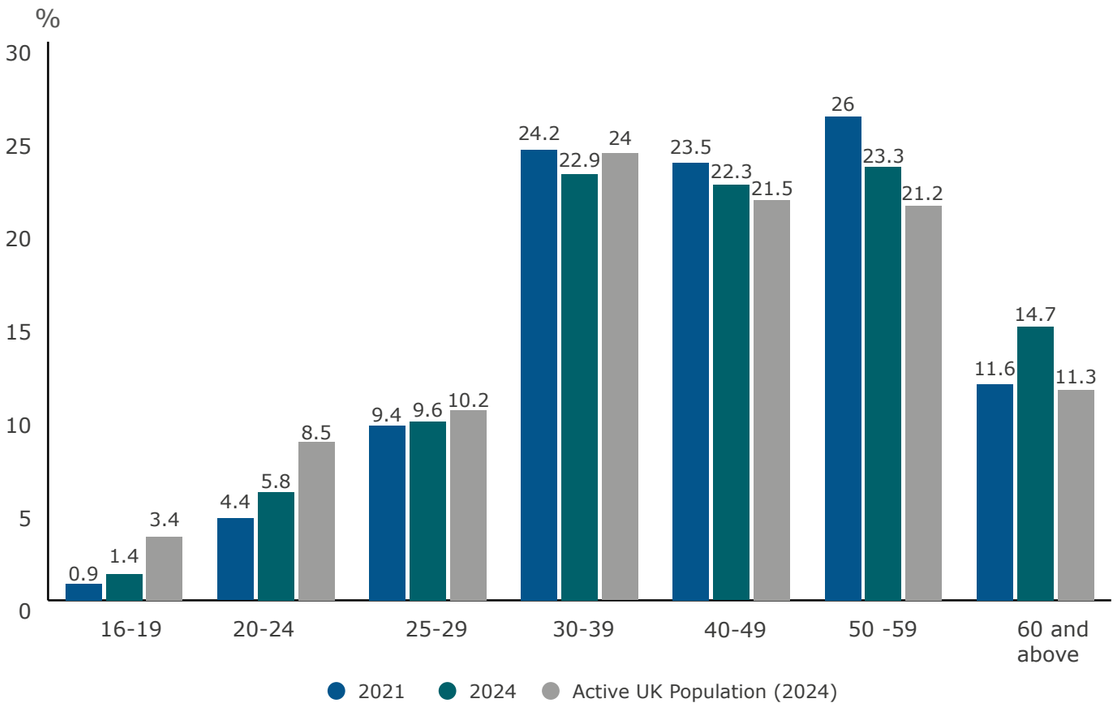


Demographics

Age

Age data was collected for 67,174 workers, representing 90% of the census database.

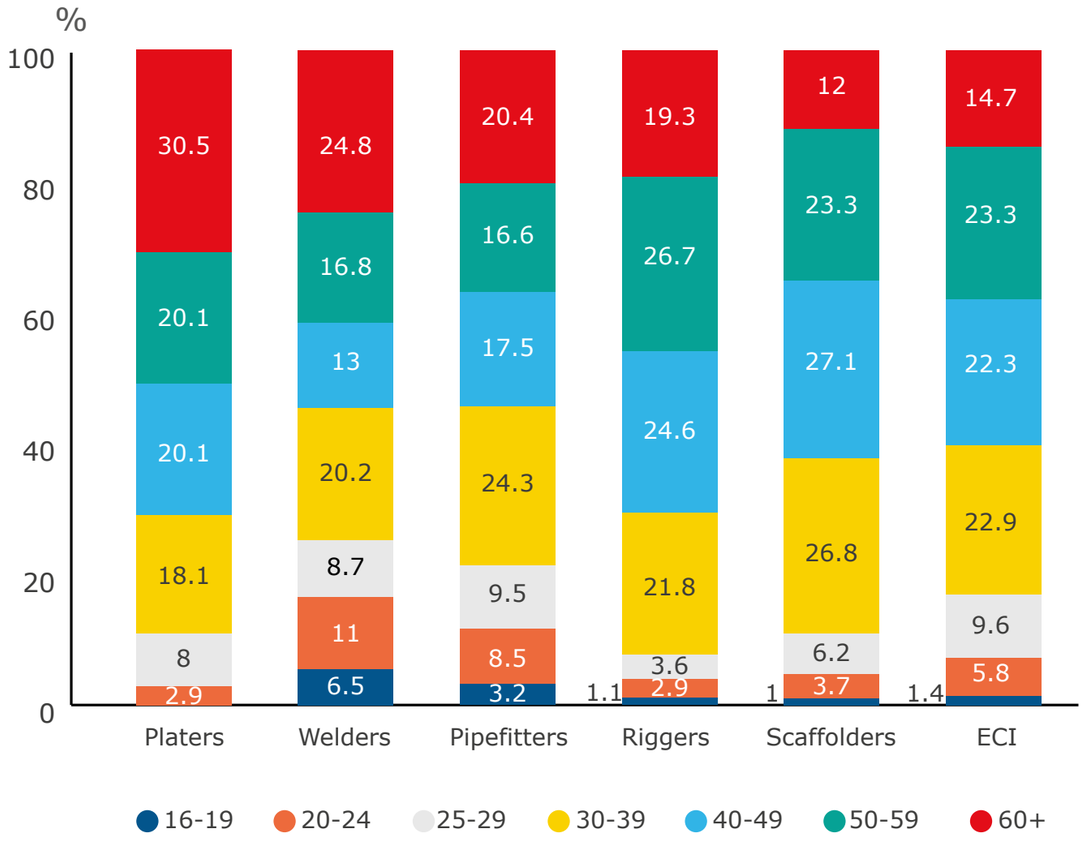
Figure 19: Age profile of the ECI workforce, comparison between 2024 and 2021.



The share of workers under 30 and over 60 has increased over the past three years, rising from 14.7% to 16.8% for those under 30 and from 11.6% to 14.7% for those over 60. Meanwhile, the share of workers aged 30 to 59 has decreased from 73.7% to 68.5%. The ECI is still behind the GB economically active population when considering people under 25s (representing 11.9% of the active population, while under 25 represent 7.2% of the ECI workforce). These results indicate that the ageing workforce issue, already highlighted by employers in the 2021 census, prompted significant efforts to increase the share of young people in the industry. However, the decrease in the 50-59 age group is almost exactly offset by the rise in the over-60 group, suggesting that a large portion of the workforce is set to retire in the coming years. While the increase in workers under 30 is encouraging, it is not yet sufficient to counterbalance the impact of the upcoming wave of likely retirements.

This is especially true for craft roles, where the average worker tends to be older than the industry average. For example, 30.5% of platers are over 60, compared to 14.7% of the entire industry workforce.

Figure 20: Age profile in selected craft roles, compared with the entire ECI



A recent ECITB study[22] found that ECI learners and workers, based on a sample with an average age of 23, prioritise security and stability, along with lifestyle, as the two most important aspects in their careers. Additionally, the top three motivating factors for them are opportunities for progression, financial considerations and working in a welcoming and inclusive environment - an aspect that is even more important to women. These factors outweigh employer reputation, location, task diversity, interest in a specific sector and opportunities to work on the energy transition.

Attracting new entrants from the general public presents different challenges, as public perceptions of industries differ significantly from those of ECI learners and workers. For instance, sectors like pharmaceuticals and food and drink are highly regarded by the general public, whereas oil and gas, chemicals and nuclear, usually favoured by ECI learners and workers, are often not considered.

Although there is no one-size-fits-all approach, the ECITB encourages employers to reflect on their ability to attract and retain new entrants and evaluate if their offerings align with career aspirations.

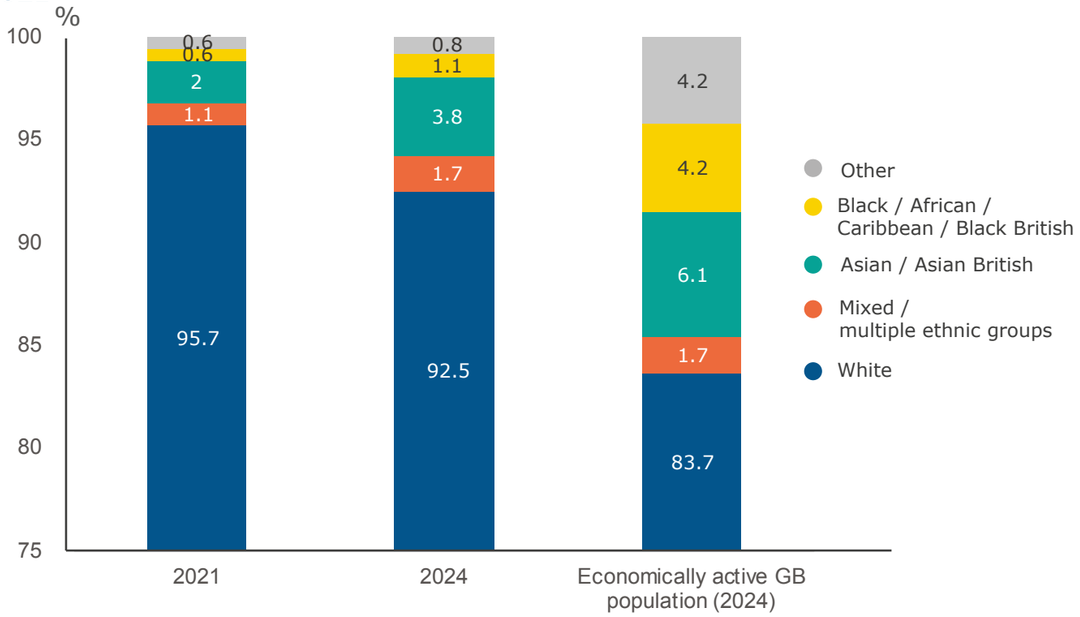
22 Inspiring directions: Understanding career choices to accelerate change (ECITB – 2024)

Ethnicity

Ethnicity data was collected for 20,651 workers, representing 27.7% of the census database. There are significant disparities in the collection of ethnicity data across sectors, with the nuclear sector accounting for two-thirds of the census ethnicity data. As a result, the ECI averages presented in this section closely reflect the nuclear sector.

Therefore, generalisations about specific sectors should be made with caution. Sector-specific analyses can be found in the sectoral report that will be published alongside this main report. In order to better visualise the percentage of workers belonging to ethnic groups that represent significantly smaller shares of the workforce compared to White workers, please note that the following graphs often zoom in on the top 25% or 50% of the bars.

Figure 21: Ethnicity profile of the ECI workforce, comparison between 2024 and 2021



The ECI workforce is more diverse in 2024 than it was in 2021. While comparisons with the active UK population are useful and indicate that the industry is still not aligned with the general population, it is important to note that sites and offices of ECI companies are not geographically distributed in the same way as the general population.

In other words, ethnicity data should also be considered based on where companies operate and compared with the local population.

Two examples are London and the South West of England, which rank among the most and least diverse regions in the UK, respectively. The following graphs, illustrate the importance of comparing this data with greater nuance.

Figure 22: Ethnicity profile of the ECI workforce in London

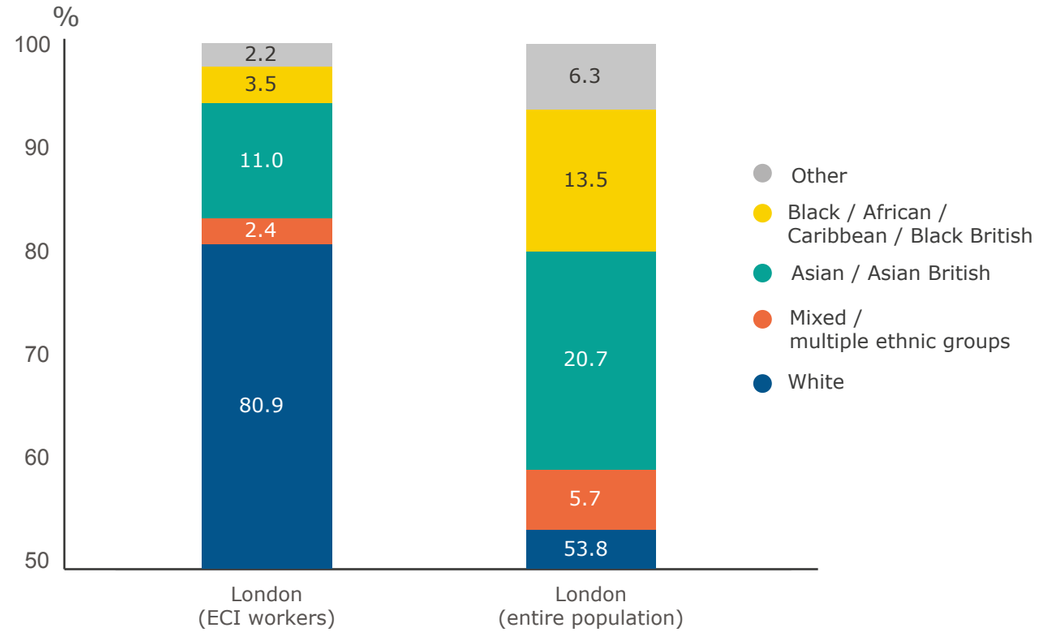
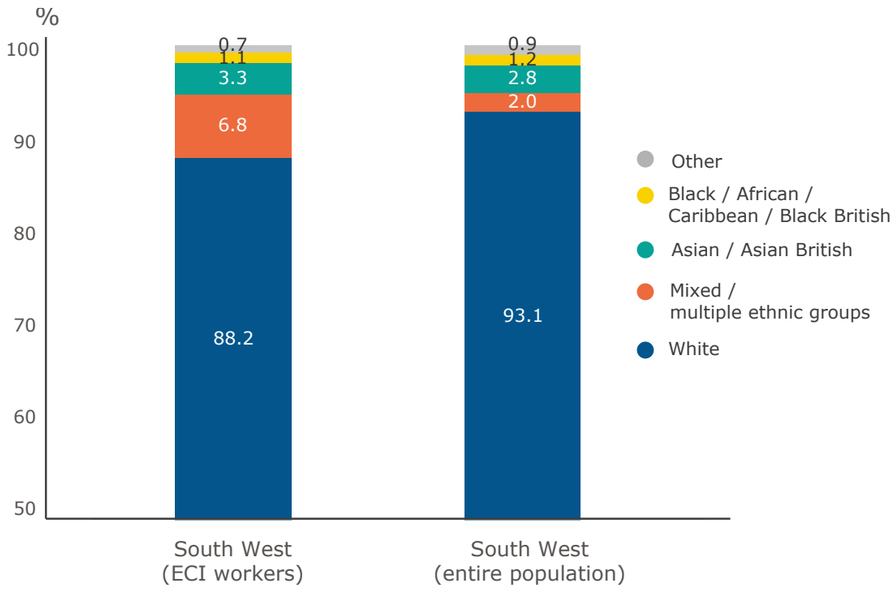


Figure 23: Ethnicity profile of the ECI workforce in the South West of England



The ECI workforce in London is significantly less diverse than the surrounding general population, despite being more diverse than the ECI average. In contrast, the ECI workforce in the South West is more diverse than the general population in that region.

A subsequent report focusing on regional differences will be made available alongside this main report to explore these nuances in greater detail.

Gender

Gender data was collected for 57,966 workers, representing 77.7% of the census database.

The share of women in the ECI increased from 13.8% to 16.9% over the past three years.

Figure 24: Gender profile of the ECI workforce, comparison between 2024 and 2021

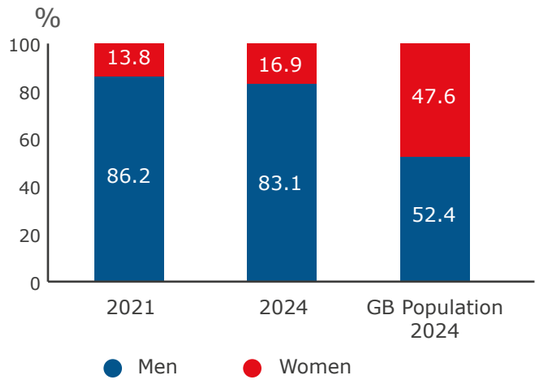
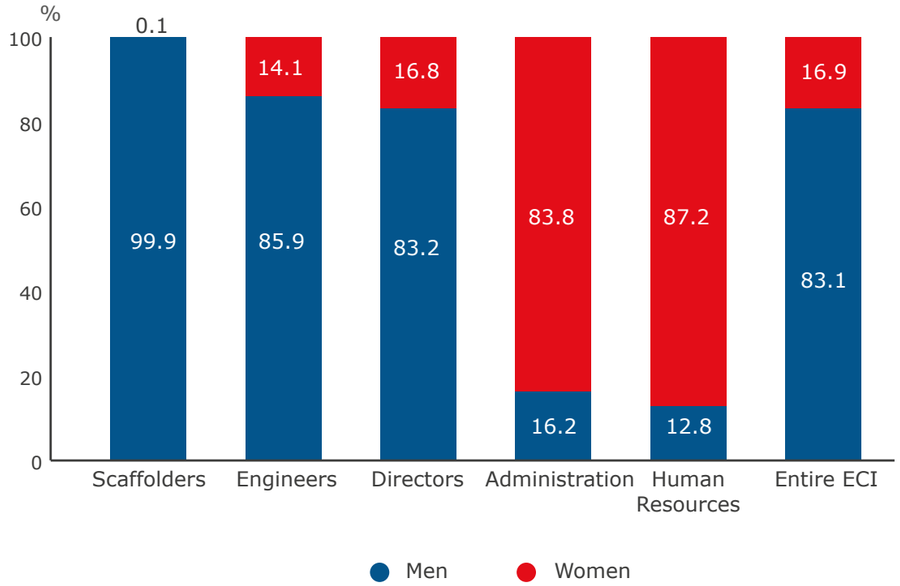


Photo courtesy of NETA Training.

Figure 25: Gender profile in selected occupations, compared with the entire ECI



While the overall share of women in the workforce has increased over the past three years, there has been little change in some specific roles and engineering construction remains a heavily gendered industry across many occupations. The most acute skills shortages are in occupations where men make up the vast majority of the workforce. Expanding the talent pool is crucial for addressing these shortages, which requires improving women's access to all ECI roles.

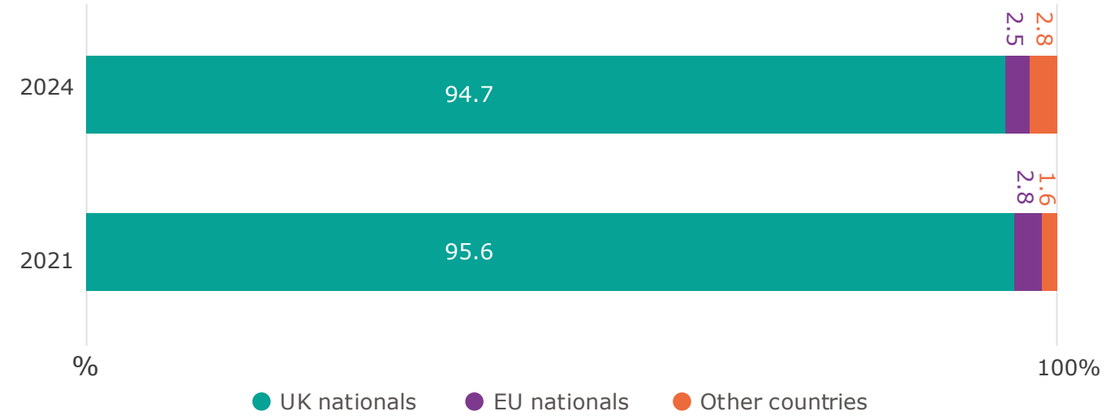
Although employers cannot always influence the profile of applicants for certain occupations, they can help ensure that women who enter the industry feel included, thus increasing their likelihood of staying. Overall gender statistics should not be used as the sole basis for assessing the success of campaigns and policies aimed at increasing the share of women in the industry. Detailed reporting based on occupations is needed to assess the extent to which gender balance differences evolve over time. Reporting solely on the overall gender split may obscure stagnation or worsening in certain occupations.

Nationality

Nationality data was collected for 32,312 workers, representing 43.3% of the census database. The share of UK nationals decreased from 95.6% in 2021 to 94.7% in 2024. Data on the nationalities of the economically active population in Great Britain, which would enable comparison with the ECITB census, does not differentiate between EU and other countries, grouping them together as non-UK nationals.

It shows that 86.7% of the economically active population are UK nationals. To better visualise the percentage of foreign workers, who represent significantly smaller shares of the workforce compared to UK workers, please note that the following graph zooms in on the top 10% of the bar.

Figure 26: Nationalities of the ECI workforce, comparison between 2021 and 2024



The data from 2021 was collected in March and April, just months after the UK officially withdrew from the European Union. The comparison with the data collected in 2024 suggests that the share of EU nationals either stagnated or decreased, while the share of nationals from other countries increased by 1.2 percentage points [23].

Nationality data at the national level can conceal regional disparities. A regional analysis reveals that the ECI workforce in some regions is generally well-aligned with the local economically active population, for instance North East England (see figure 28).

23 Given that the percentages are relatively close to each other, it is important to note that the 95% confidence intervals for UK nationals in 2021 and 2024 do not overlap, suggesting that the decrease is statistically significant. The increase in the percentage of nationals from other countries is also statistically significant. For EU nationals, the confidence intervals intersect at 2.6%, with the 2021 percentage ranging from 2.6% to 3.0% and the 2024 percentage ranging from 2.4% to 2.6%.

Figure 27: Nationalities of the ECI workforce in London

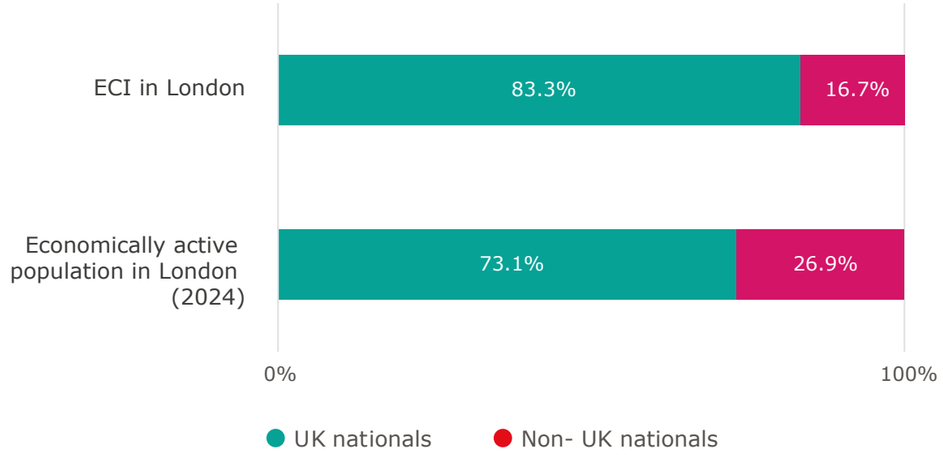
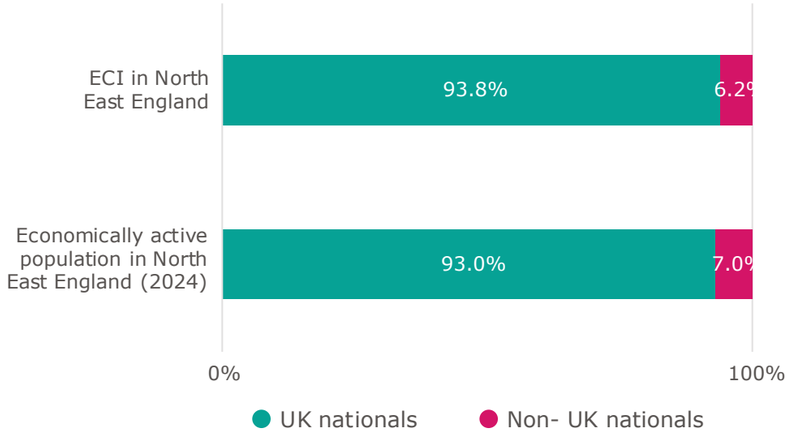


Figure 28: Nationalities of the ECI workforce in North East England



Three-year outlook

This section focuses on workforce growth projections and business opportunities for the years 2025 to 2027, as well as the main hiring difficulties that currently hamper ECI employers from meeting these expectations.

Workforce growth

On average, ECI employers expect their workforce to increase by 15.9% between 2024 and 2027. However, weighting employers' responses by their respective workforces shows that the aggregated employers' expectation is that the workforce could increase by 11.7% between 2024 to 2027.

Should these expectations materialise, the total engineering construction workforce could reach 105,750 workers by 2027. These projections reflect the industry's optimism but will ultimately depend on employers' ability to secure contracts.

SMEs[24] expectations are more optimistic in terms of growth percentage, although it is not necessarily the case in absolute numbers, since expanding a workforce from 10 to 11 employees implies a 10% growth rate. The following graphs use a base 100 index, equating the 2024 workforce to 100 to enable comparison of growth rates between SMEs and large companies.

24 Defined as companies with less than 250 employees.

Figure 29: Workforce growth expectations in the ECI (Base 100 index, SMEs)

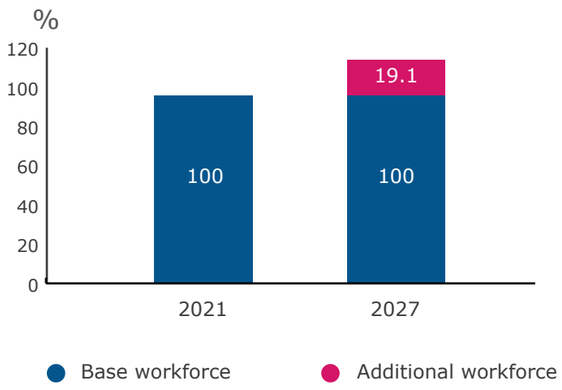
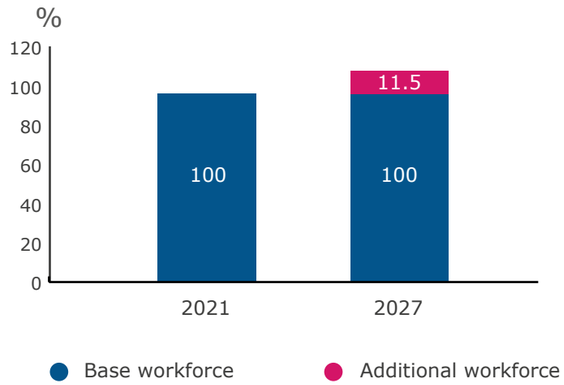


Figure 30: Workforce growth expectations in the ECI (Base 100 index, large companies)



It is important to note that data collection took place before the new UK Government announced its plans to consult on implementing its manifesto position not to issue new licenses to explore new oil and gas fields. However, nuclear new build, the increased emphasis on renewables especially in solar and wind, the next ambitious asset management plan in the water industry and the decarbonisation of industrial clusters all all imply growth in the size of the workforce.

Although these projections should be considered with caution, they still indicate a degree of optimism within the industry. Only 1.1% of employers expect a decrease in headcount, while 83.3% expect an increase. The remaining 15.6% anticipate their headcount will remain stable.

Workers at Hinkley Point C.

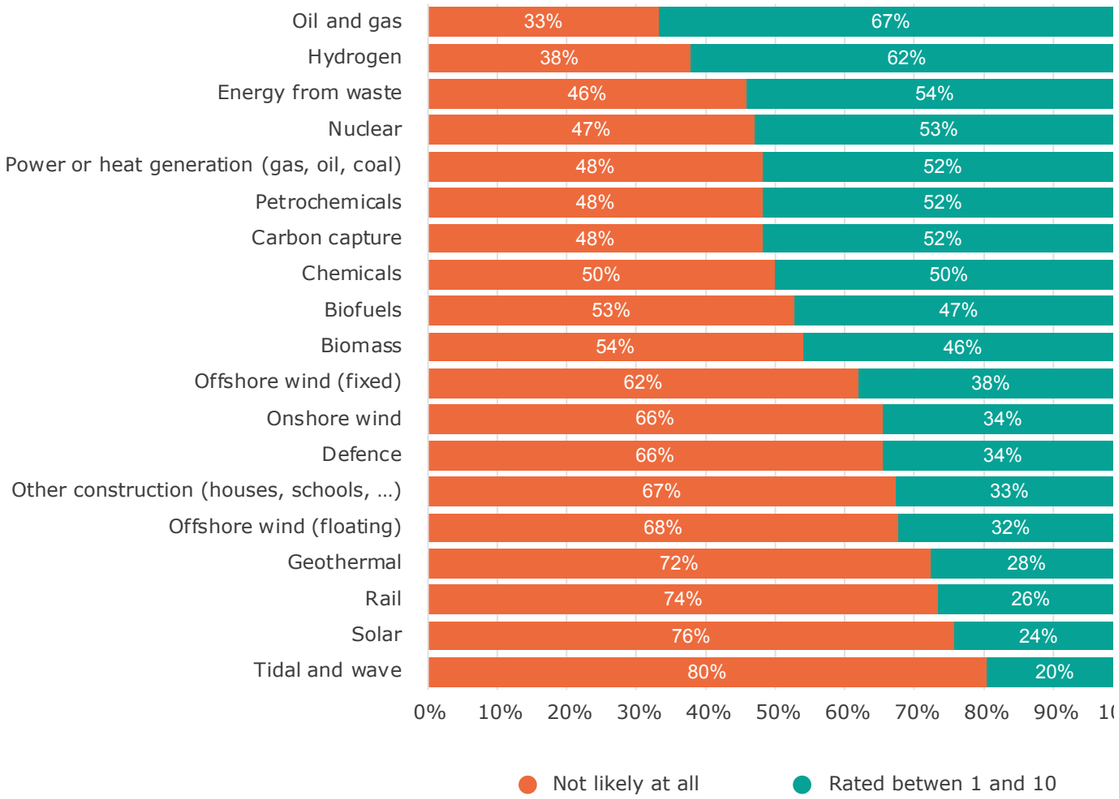
Business opportunities

This section aims to understand the direction the industry might take in terms of sectors. Employers were asked to rate the likelihood that their business will increase its operations associated with specific sectors in the next three years. This question is based on a scale from 0 ('not likely at all') to 10 'almost certain'. Respondents had the opportunity to list other sectors.

These have been grouped with existing sectors when appropriate or formed into their own group. However, none of these new groups contained enough responses to enable statistically significant reporting, resulting in a few notable absences.

On average, the 19 sectors were rated 0 by 58% of employers. However, a sectoral analysis reveals varying degrees of attractiveness among the sectors.

Figure 31: Likelihood of increasing operations associated with specific sectors (all employers, 'not likely at all' against scores between 1 and 10



ECITB learners at Pembrokeshire College

Oil and gas, along with hydrogen, are identified as the sectors companies expect to expand their operations in. It should be noted that employers have identified opportunities that may lie outside of the UK, as the shift from the North Sea to other regions in the oil and gas sector could accelerate in the coming years.

It is not uncommon for some UK-based companies to send their workforce abroad temporarily and a significant portion of the workforce in certain sectors also works on foreign projects from their UK-based offices. Furthermore, removing companies that primarily operate in the oil and gas sector[25] from the sample shows that only 38% of employers would consider their likelihood of increasing operations in the sector as 'not likely at all'.

Tidal and wave energy, solar, rail and geothermal are at the bottom of the list, with between 72% and 80% of employers stating that their likelihood of increasing operations in these areas is 'not likely at all.'

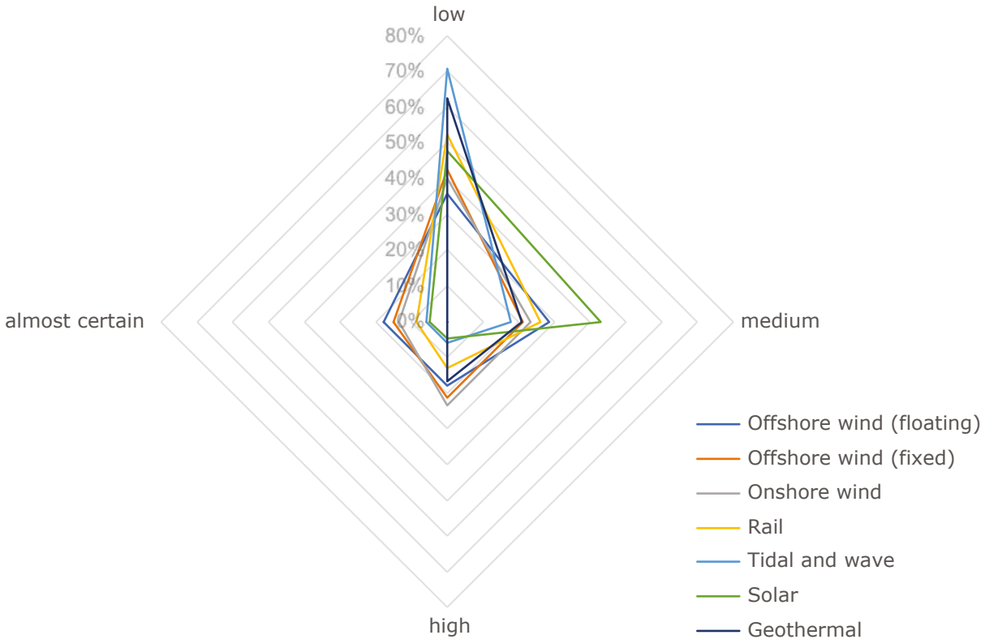
Analysing the distribution of responses from employers who rated the sectors above 0 provides additional insights into the level of interest these sectors generate within the industry. For clarity, the following graphs display ratings aggregated into four groups: low likelihood (ratings from 1 to 3), medium (4 to 6), high (7 to 9) and almost certain (10). Complete responses can be found in Table 19 below.

25 Companies primarily operating in the oil and gas sector are defined as those that have more than 50% of their workforce employed in that sector.

The wind (whether onshore or offshore, floating or fixed), rail, tidal and wave, solar and geothermal sectors show a decreasing distribution of likelihood ratings (see figure 32). This indicates that employers who did not rate these sectors as 0 still mostly consider them to present uncertain or low business opportunities.

The solar sector stands out slightly from the group, with 43% of employers who did not rate it 0 assigning it a likelihood between 4 and 6. In the three wind sub-sectors, at least 35% of employers who did not rate them as 0 have rated them 7 or above, indicating there is a small base of ECI employers seeing them as big opportunities.

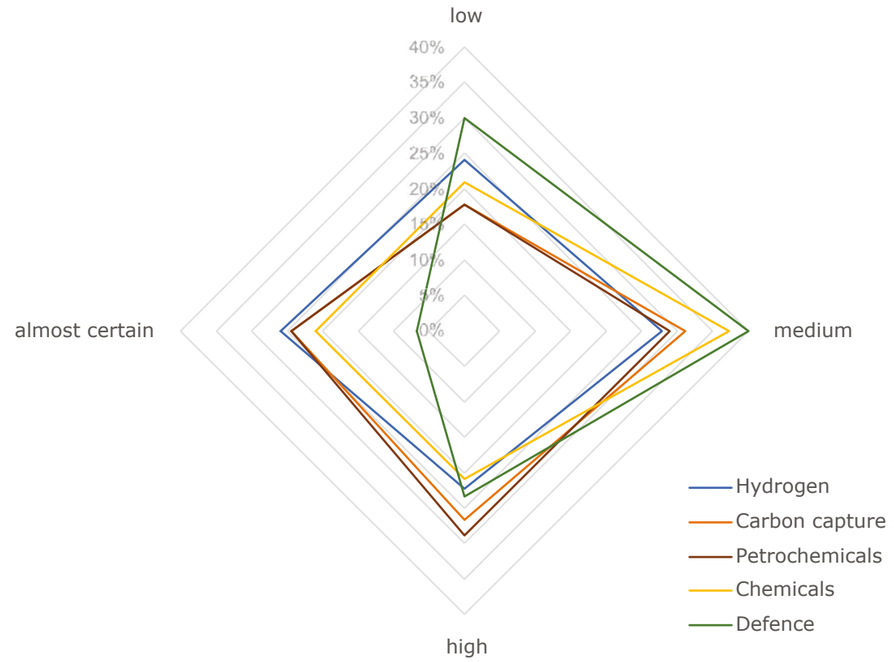
Figure 32: Distribution of ratings (decreasing distribution only)



The hydrogen, carbon capture, petrochemicals, chemicals and defence sectors have their highest scores in the 'medium' group, albeit sometimes by a very small margin (see figure 33). The hydrogen sector, which ranks second after oil and gas in Figure 31, falls into this category. This indicates that although many employers are positioning themselves to potentially increase their operations in the sector, there is a relatively high degree of uncertainty associated with it that prevents them from being more confident in their ability to be involved in hydrogen projects.

Unlike the sectors highlighted in Figure 32, these sectors exhibit more evenly distributed ratings among the four categories. The defence sector stands out, however, with a very low score in the 'almost certain' category (7%), similar to rail (9%), which is also not classified as engineering construction.

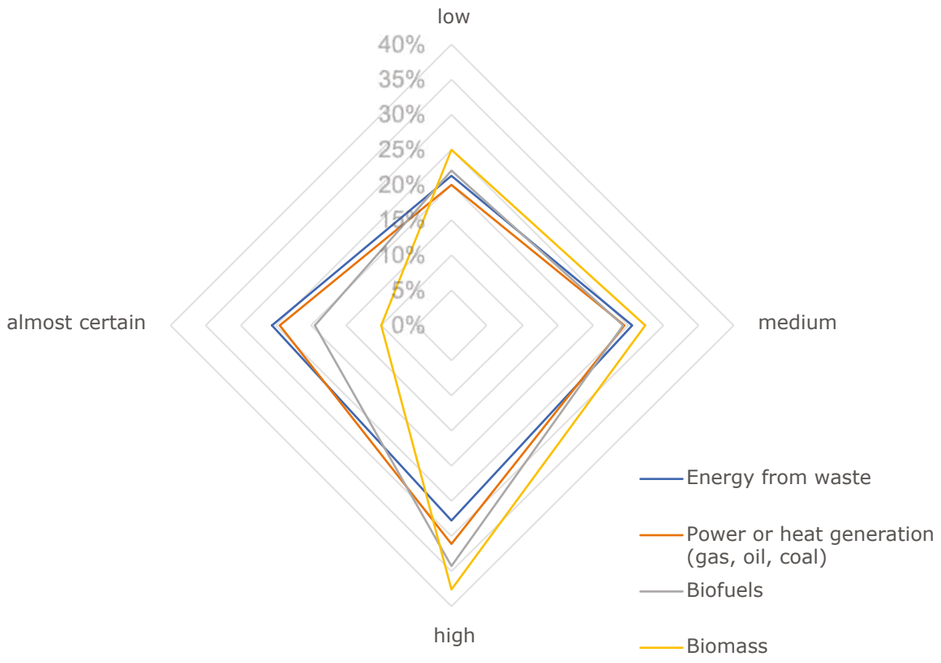
Figure 33: Distribution of ratings (sectors with the highest score in the medium category only)



Energy from waste, conventional power or heat generation, biofuels and biomass have their highest distribution of ratings in the 'high' category (see figure 34).

The energy from waste sector arguably has a fairly even distribution, while the biomass sector has a very low score in the 'almost certain' category, at just 10%.

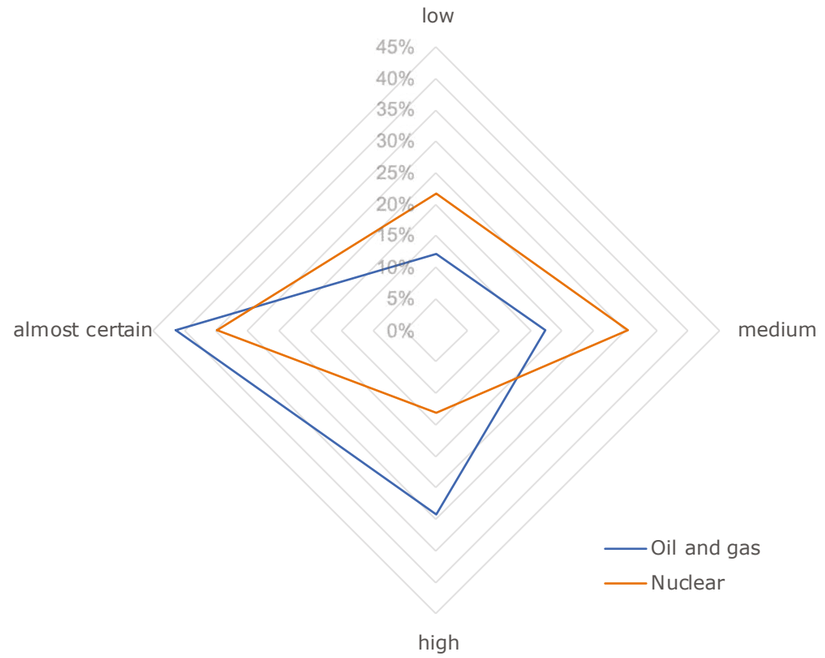
Figure 34: Distribution of ratings (sectors with the highest score in the high category only)



The oil and gas and nuclear sectors are the only sectors with a score in the 'almost certain' category that is greater than the scores in any other categories, confirming their central place within the engineering construction industry (see figure 35).

Additionally, the nuclear sector has higher scores in the medium and low categories, suggesting it is a more closed sector compared to oil and gas.

Figure 35: Distribution of ratings (sectors with the highest score in the 'almost certain' category only).



The construction sectors (construction of houses, hospitals or schools, …), exhibit a unique pattern. Among employers who did not rate it as 0, 25% rated it a 10, while 39% rated it between 1 and 3, suggesting a more polarised view of the sector within the engineering construction industry.

The relatively high percentage of 10s distinguishes this sector from other non-ECI sectors, such as rail or defence.

Table 19: Likelihood of surveyed companies to increase operations in the following sector (0: 'not likely at all', 10: 'almost certain')

	0	1	2	3	4	5	6	7	8	9	10
Biofuels	53%	6%	1%	3%	0%	8%	3%	8%	6%	2%	9%
Biomass	54%	5%	2%	5%	0%	8%	5%	6%	9%	2%	5%
Carbon capture	48%	0%	7%	2%	1%	6%	9%	5%	5%	5%	13%
Chemicals	50%	3%	6%	1%	6%	9%	3%	2%	2%	6%	10%
Defence	66%	3%	6%	1%	0%	13%	1%	6%	0%	2%	2%
Energy from waste	46%	5%	2%	5%	5%	7%	2%	2%	9%	3%	14%
Geothermal	72%	8%	7%	2%	3%	2%	0%	1%	1%	2%	0%
Hydrogen	38%	6%	7%	2%	2%	9%	6%	3%	7%	3%	16%
Nuclear	47%	3%	2%	6%	7%	8%	1%	1%	3%	2%	18%
Offshore wind (fixed)	62%	5%	7%	5%	0%	6%	2%	1%	5%	2%	6%
Offshore wind (floating)	68%	6%	3%	2%	2%	6%	1%	1%	3%	1%	6%
Onshore wind	66%	7%	6%	1%	2%	5%	1%	5%	2%	1%	5%
Oil and gas	33%	5%	2%	1%	2%	8%	1%	3%	9%	7%	28%
Other construction (houses, schools, …)	67%	7%	3%	2%	0%	6%	2%	2%	0%	1%	8%
Petrochemicals	48%	2%	3%	3%	3%	6%	6%	2%	8%	5%	13%
Power or heat generation (gas, oil, coal)	48%	3%	5%	2%	1%	8%	3%	3%	9%	3%	13%
Rail	74%	5%	7%	2%	0%	5%	2%	0%	3%	0%	2%
Solar	76%	6%	2%	3%	1%	6%	3%	1%	0%	0%	1%
Tidal and wave	80%	6%	3%	5%	1%	2%	0%	1%	0%	0%	1%

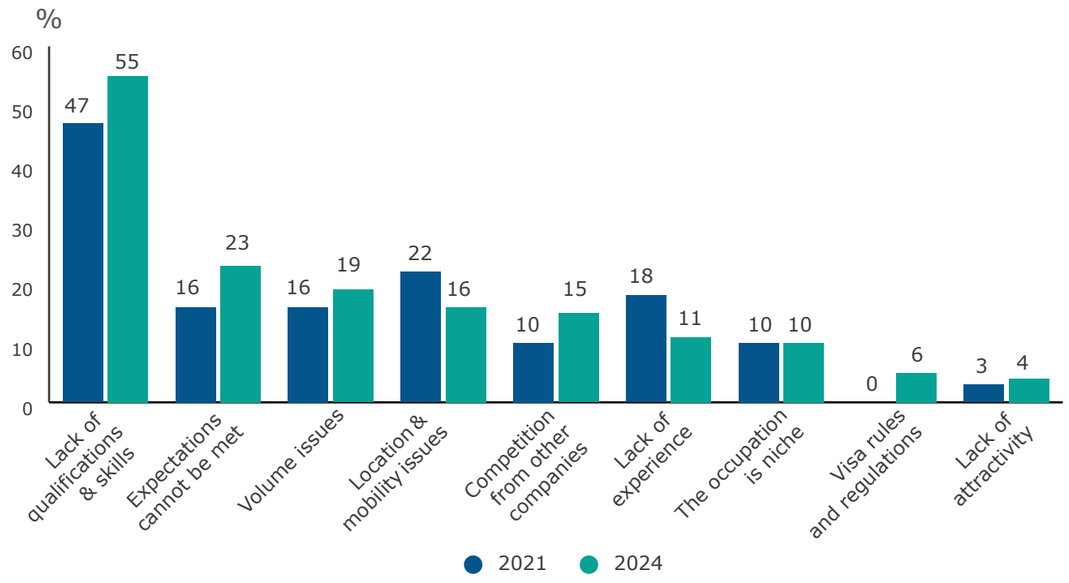
Hiring difficulties

Seventy-one percent of employers who answered questions on hiring difficulties reported experiencing challenges in hiring employees, up from 53% in 2021. A lack of candidates with qualifications and relevant skills remains the primary reason, with 55% of those facing hiring difficulties citing this as a key issue, compared to 47% in 2021. Other significant increases in reasons for hiring challenges include:

- Expectations cannot be met (salaries, career progression, type of contract): 23%, up from 16% in 2021.
- Volume issue (too few candidates): 19%, up from 16% in 2021.
- Competition from other companies: 15%, up from 10% in 2021.
- Visa rules and regulations: 5%, previously negligible in 2021 responses.

Issues related to location and mobility or lack of experience, while still relevant, are cited less frequently among employer responses. Some employers recognise the importance of apprenticeships and collaboration at the sectoral or even industry-wide level to address these issues.

Figure 35: Reasons why employers face difficulties to fill vacancies, comparison with 2021



Employers experiencing difficulties have been asked to list and quantify the vacancies they struggle to fill. Electrical engineers, pipefitters and riggers represent the three most difficult vacancies to fill, accounting for 6%, 5% and 5% of all hard-to-fill positions, respectively.

In 2024, it is estimated that companies in the engineering construction industry collectively struggle to fill vacancies representing 4.8% of the total workforce, up from 2.5% in 2021 – indicating a greater level of difficulty.

Table 20: Top 20 hard to fill vacancies

Hard to fill vacancies	%
Electrical engineers	6%
Pipefitters	5%
Riggers	5%
Design technicians	5%
Project managers	4%
Welders	4%
Electrical fitters	4%
Electricians	4%
Process engineers	4%
Mechanical engineers	3%
Mechanical fitters	3%
Non-destructive testing technicians	3%
Instrument technicians	2%
Electrical, instrumentation and control engineers	2%
Platers	2%
Design engineers	2%
Project controllers	2%
Steel erectors	2%
Safety case	2%
Radiographers	2%
Other	35%

The Inspiring directions report published by the ECITB in 2024[26] explores in detail the discrepancy between candidates' expectations and what the industry currently offers. The ECITB encourages employers to consider expanding the use of skills passports, adopting programmes such as Connected Competence and developing a common skills taxonomy to maintain industry-wide standards that facilitate mobility between contracts and employers.

Prioritising skills development through personalised career plans is essential for motivating careers in the industry. Offering more flexibility and trial options when possible – especially in the context of relocation or working offshore - could help individuals explore new roles and settings before making longer-term commitments. This would make such prospects less daunting and could create new vocations.

26 Inspiring directions: Understanding career choices to accelerate change (ECITB – 2024)

Photo courtesy of Vogal Group.

Support for employees' partners, including assistance with job opportunities in new locations, guidance for local schools and childcare and fostering a welcoming network of colleagues can also ease transitions for new hires. The study also highlights the importance of policies and measures that help ensure everyone feels welcome in the industry.

Such policies are crucial to improve attraction and retention and ultimately mitigate skills shortages. Industry-wide collaborations, like ambassador programmes, may further enhance the appeal of the industry to a broader and usually unreached audience.

Annex

Annex A – Survey

The version of the survey presented in this annex is the paper or Word document version. Other methods of data collection, such as the online survey or data transfers, cannot be directly translated into the pages of this report. However, the questions remain identical across all formats.

Part 1 – Sectors, locations and occupations

Please complete the following for each location where you have workers deployed.

1. List of locations

Please list the locations in the UK where you have workers deployed. These can be sites, offices, warehouses or any other relevant location.

Location #	Postcode (if onshore) Region/block (if offshore) Region (if classified)	Name (if applicable)
Example 1	WD4 8LZ	Kings House Business Centre
Example 2	Block 35/22	
Location 1		
Location 2		
Location 3		
Location …		

2. Type of location

Please indicate with an "X" the relevant type of location.

	Loc.1	Loc.2	Loc.3	Loc. …
Onshore				
Headquarters / Main office				
Other office				
Site				
Training facilities				
Testing facilities				
Warehouse / Material yard				
Workshop				
Offshore				
Oil or gas platform and associated structures				
Offshore wind site				
Vessel				
Other (please specify)				

3. Sectors

If applicable (e.g. sites and offices), please indicate with an "X" the relevant sectors. Please tick all that apply.

Sectors	Loc.1	Loc.2	Loc.3	Loc. …
Biofuels				
Biomass				
Carbon capture (capture)				
Carbon capture (transportation and storage)				
Carbon capture (usage)				
Chemicals				
Defence				
Energy from waste				
Food and drink manufacturing				
Geothermal				
Hydrogen				
Nuclear				
Offshore wind (fixed)				
Offshore wind (floating)				
Onshore wind				
Oil and gas (upstream)				
Oil and gas (downstream)				
Other construction (houses, schools, …)				
Petrochemicals				
Pharmaceuticals				
Power or heat generation (gas, oil, coal)				
Rail				
Solar				
Tidal and wave				
Water and waste treatment				
If not listed, please specify:				

4. Type of work

If applicable (e.g. sites and offices), please indicate ("X") the type of work carried out at each location. Please select all that apply.

Type of work	Loc.1	Loc.2	Loc.3	Loc. …
Exploration or surveys				
Feasibility studies				
Design (incl. pre-FEED, FEED)				
Project management				
Procurement				
Permitting and regulatory approvals				
Drilling				
Construction (incl. installation)				
Commissioning and/or startup				
Operation				
Repair and maintenance				
Expansion, upgrade and repurposing				
Decommissioning				
If not listed, please specify:				

5. Work on overseas projects

If you have listed offices, please estimate the percentage of workers based in these offices involved in projects located in other countries and indicate the relevant sectors. The example below is that of an office where half (50%) of the staff are involved in projects abroad.

Location #	Estimated % of workforce involved in overseas projects and relevant sectors	Name (if applicable)
Example	Oil and gas (20%), nuclear (20%), offshore wind (10%)	Kings House Business Centre
Location 1		
Location 2		
Location 3		
Location …		
Location …		

6. Occupations

Please list all the occupations relevant to your company and estimate the number of full-time equivalent workers in each occupation for each location.

	Number of workers			
Occupations	**Loc.1**	**Loc.2**	**Loc.3**	**Loc. …**
Example: Pipefitters	7	10		

Part 2 – Demographics

Please complete the following for each location where you have workers deployed.

7. Age

How many of your workforce as a whole fall into the following categories?

If unknown, please indicate the number of employees for whom this information is not available in the last line of the table.

Age category	Number of workers
16-19	
20-24	
25-29	
30-39	
40-49	
50-59	
60+	
Do not know / Do not collect this data	

8. Gender

How many of your workforce as a whole fall into the following categories?
If unknown, please indicate the number of employees for whom this information is not available in the last line of the table.

Gender	Number of workers
Man	
Woman	
Non-binary	
Do not know / Do not collect this data	

9. Ethnic group

How many of your workforce as a whole fall into the following categories? Please provide a breakdown where possible.

If unknown, please indicate the number of employees for whom this information is not available in the last line of the table.

Ethnic group	Number of workers
White	
British/English/Northern Irish/Scottish/Welsh	
Irish	
Gypsy or Irish Traveller	
Any other white background	
Mixed / multiple ethnicities	
White and Asian	
White and Black Caribbean	
White and Black African	
Any other mixed/multiple ethnic background	
Asian/Asian British	
Pakistani	
Indian	
Bangladeshi	
Chinese	
Any other Asian background	
Black / African / Caribbean / Black British	
African	
Caribbean	
Any other Black background	
Arabic / Middle Eastern background	
Any other ethnic background	
Don’t know / we do not collect this data	

10. Disability

How many of your workforce as a whole fall into the following categories?
If unknown, please indicate the number of employees for whom this information is not available in the last line of the table.

Disability	Number of workers
Physical disability	
Learning disability	
Do not know / Do not collect this data	

11. Nationality

How many of your workforce as a whole fall into the following categories?
If unknown, please indicate the number of employees for whom this information is not available in the last line of the table.

Nationality	Number of workers
British nationals	
EU nationals	
From other countries	
Do not know / Do not collect this data	

Part 3 – Three-year outlook

12. Workforce growth

Estimate the percentage of expected increase or decrease in your workforce in the next 3 years:

Growth	Percentage (%)
If increase, use this row	
If decrease, use this row	

13. Business opportunities

This question aims to understand the direction the industry might take in terms of sectors. It will provide information on skills transferability, diversification and sectoral attractivity and growth potential.

On a scale from 0 to 10, where 0 means 'not likely at all' and 10 means 'almost certain', please rate the likelihood that your business will increase its operations associated with each of the following sectors in the next 3 years.

Sectors	Score (between 0 and 10)
Biofuels	
Biomass	
Carbon capture	
Chemicals	
Defence	
Energy from waste	
Geothermal	
Hydrogen	
Nuclear	
Offshore wind (fixed)	
Offshore wind (floating)	
Onshore wind	
Oil and gas	
Other construction (houses, schools, …)	
Petrochemicals	
Power or heat generation (gas, oil, coal)	
Rail	
Solar	
Tidal and wave	
If not listed, please specify:	

14. Hiring difficulties

a. Do you face difficulties hiring employees? (Please indicate by inserting an "X" in the relevant box).

YES	
NO	

b. If you answered "Yes", please explain what causes these difficulties:

c. If you answered "Yes", please list the occupations for which you are having difficulty hiring. If possible, please provide an estimate of the number of workers you are having difficulty hiring for each of these occupations.

Occupation	Estimated number

End of survey

Annex B – Occupations

Apprentices and trainees	#
Electrical apprentices and trainees	216
Scaffolding apprentices and trainees	159
Welding apprentices and trainees	122
Pipefitting apprentices and trainees	120
Maintenance apprentices and trainees	88
Other apprentices and trainees	82
Instrumentation and control apprentices and trainees	71
Project controls apprentices and trainees	68
Health physics apprentices and trainees	61
Design apprentices and trainees	58
Mechanical fitting apprentices and trainees	51
Production technicians apprentices and trainees	49
Project management apprentices and trainees	46
IT apprentices and trainees	44
Integration apprentices and trainees	38
Nuclear apprentices and trainees	32
Maintenance (mechanical) apprentices and trainees	29
Unidentified engineers apprentices and trainees	27
Design (mechanical) apprentices and trainees	27
Radiological protection apprentices and trainees	26
Health and safety apprentices and trainees	23
Electrical, instrumentation and control apprentices and trainees	22
Maintenance (electrical) apprentices and trainees	22
Planning apprentices and trainees	21
Quantity surveyors apprentices and trainees	21
Insulation apprentices and trainees	20
Mechanical apprentices and trainees	20
Quality assurance/quality controls apprentices and trainees	20
Other apprentices and trainees	729
Unidentified Apprentices and trainees	518

Craft	#
Scaffolding craft	4,185
Pipefitting craft	1,398
Mechanical fitting craft	1,233
Rigging craft	1,087
Welding craft	677
Blasters and painters craft	609
Plating craft	599
Steel erecting craft	445
Electrical craft	418
Blasters and painters (rope access) craft	299
Electrical fitters craft	273
Fabrication craft	164
Rigging (deck crew) craft	111
Insulation (rope access) craft	102
Joiners craft	88
Welding and fabricators craft	87
Instrumentation and control craft	86
Instrument pipefitters craft	75
Insulation craft	75
Plating (rope access) craft	70
Rigging (steel erectors) craft	70
Grinders craft	64
Carpentry craft	43
Decommissioning craft	42
Pipefitting (rope access) craft	38
Welding and pipefitting craft	35
Electrical fitting craft	28
Welding and plating craft	27
Other craft	386

Engineers	#
Project engineers	2,507
Mechanical engineers	1,957
Process engineers	1,667
Electrical engineers	886
Systems engineers	782
Insulation engineers	715
Structural engineers	682
Instrumentation and control engineers	682
Cost engineers	544
Design engineers	543
Commissioning engineers	535
Piping engineers	505
Electrical, instrumentation and control engineers	432
Civil engineering engineers	403
Health and safety engineers	397
Waste engineers	344
Site engineers	338
Operations engineers	327
Civil and structural engineers	276
Maintenance engineers	268
Radiological protection engineers	244
Safety case engineers	241
Construction engineers	225
Quality assurance/quality controls engineers	198
Integrity engineers	168
IT engineers	160
Design (mechanical) engineers	159
Environmental engineers	158
Pipeline engineers	144
Automation engineers	133
Nuclear engineers	132
Civil, structural, and architectural engineers	128
Integration engineers	103
Subsea engineers	97
Proposals engineers	78
Commissioning (mechanical) engineers	74
HVAC engineers	65
Corrosion engineers	54
Welding engineers	47
Stress engineers	47
Compliance engineers	45
Wells engineers	45

Engineers	#
Non-destructing testing engineers	44
Asset management engineers	42
Materials engineers	42
Chemicals engineers	41
Telecommunications engineers	39
Data and analysis engineers	36
Design (electrical) engineers	35
Planning engineers	33
Drilling engineers	32
Safety engineers	30
Naval engineers	30
Other engineers	28
Robotics engineers	28
Estimating engineers	27
Unidentified engineers apprentices and trainees	27
Stress (piping) engineers	27
Piping and mechanical engineers	24
Architectural engineers	23
Electrical and instrumentation engineers	23
Project (electrical) engineers	22
Testing engineers	22
Insulation (rope access) engineers	22
Design (safety) engineers	21
Project (mechanical) engineers	21
Contracts engineers	21
Geotechnical engineers	20
Quality assurance/quality controls (rope access) engineers	20
Design (scaffolding) engineers	20
Other engineers	251

Managers	#
Project managers	4,648
Commercial managers	982
Other directors managers	801
General management managers	779
Operations managers	717
Engineering management managers	569
Construction managers	540
Health and safety managers	493
Site management managers	476
Human resources managers	456
Process managers	455
Quality assurance/quality controls managers	365
Finance managers	363
Planning managers	342
Project controls managers	331
Supply chain managers	256
IT managers	239
Maintenance managers	196
Waste managers	195
Legal and compliance managers	191
Contracts managers	175
Technologists managers	153
Procurement managers	138
Commissioning managers	130
Presidents	127
Communications managers	117
Risk managers	112
Integration managers	112
Learning and development managers	109
Design managers	104
Environmental managers	99
Project (it) managers	98
Facilities management managers	90
Safety case managers	90
Radiological protection managers	90
Estimating managers	84
Asset management managers	83
Civil engineering managers	78
Technical management managers	76
Strategy managers	75
Security managers	72
Testing managers	72

Managers	#
Document controls managers	70
Project engineering managers	70
Proposals managers	63
Systems managers	60
Project (commercial) managers	59
Logistics managers	55
Cost controls managers	53
Lifting managers	49
Marketing managers	48
Project (civil) managers	46
Administrative managers	44
Project (EPC) managers	40
Other managers	38
Products managers	36
Data and analysis managers	34
Materials managers	33
Compliance managers	33
Mechanical managers	28
Decommissioning managers	27
IT (cybersecurity) managers	27
Production managers	25
Project (health and safety) managers	23
Electrical managers	21
Waste (supply chain) managers	20
Other managers	396

Professionals	#
Planning professionals	1,455
Data and analysis professionals	892
Quality assurance/quality controls professionals	761
Health and safety professionals	691
Other consultants professionals	640
Procurement professionals	635
Document controls professionals	489
Quantity surveyors professionals	469
Waste professionals	467
Project controls professionals	432
Technologists professionals	407
Estimating professionals	302
Health physics professionals	282
It professionals	263
Environmental professionals	228
Electrical professionals	165
Human resources professionals	141
Cost controls professionals	127
Radiological protection professionals	126
Legal and compliance professionals	122
Commercial professionals	93
Supply chain professionals	92
Construction professionals	82
Learning and development professionals	78
Risk professionals	70
Physicists professionals	66
IT (cybersecurity) professionals	64
Process professionals	54
Logistics professionals	47
Surveyors professionals	46
Geotechnical professionals	43
Contracts professionals	43
Commissioning professionals	39
Products professionals	37
Chemicals professionals	36
Communications professionals	35
Materials professionals	35
Other professionals	30
Compliance professionals	24
Training professionals	24
Corrosion professionals	22

Professionals	#
Decommissioning professionals	21
Systems professionals	20
Security professionals	20
Other professionals	422

Semi-skilled	#
General operatives semi-skilled	1,744
Labourers semi-skilled	682
Scaffolding semi-skilled	517
Decommissioning semi-skilled	444
Deck crew semi-skilled	355
Cleaning semi-skilled	315
Operators semi-skilled	259
Security semi-skilled	247
Drivers semi-skilled	194
Asbestos removal semi-skilled	187
Insulation semi-skilled	114
Blasters and painters (rope access) semi-skilled	110
Materials semi-skilled	90
Crane semi-skilled	82
Construction semi-skilled	58
Electrical semi-skilled	57
Blasters and painters semi-skilled	50
Environmental semi-skilled	42
Helicopter crew semi-skilled	29
Logistics semi-skilled	29
Radiological protection semi-skilled	26
Electrical fitters semi-skilled	21
Waste semi-skilled	20
Other semi-skilled	291

Supervisors	#
General supervisors	1,042
Scaffolding supervisors	548
Mechanical fitting supervisors	310
Electrical supervisors	298
Lifting supervisors	232
Security supervisors	213
Site supervisors	204
Pipefitting supervisors	181
Construction supervisors	165
General supervisors (rope access) supervisors	163
Maintenance supervisors	160
Insulation supervisors	159
Operations supervisors	156
Welding supervisors	150
Decommissioning supervisors	141
Rigging supervisors	140
Deck crew supervisors	126
Waste supervisors	100
Blasters and painters (rope access) supervisors	86
Plating supervisors	83
Asbestos removal supervisors	80
Blasters and painters supervisors	76
Instrumentation and control supervisors	71
Radiological protection supervisors	65
Facilities management supervisors	60
Piping supervisors	56
Non-destructing testing (rope access) supervisors	55
Steel erecting supervisors	52
Health physics supervisors	50
Helicopter crew supervisors	46
Electrical technicians supervisors	42
Architectural supervisors	39
Commissioning supervisors	38
Other supervisors	36
Electrical fitters supervisors	36
Civil engineering supervisors	36
Mechanical supervisors	35
Production technicians supervisors	31
Integrity supervisors	27
Labourers supervisors	24
Insulation (rope access) supervisors	23
Non-destructing testing supervisors	23

Supervisors	#
Safety supervisors	22
Cleaning supervisors	21
Design (piping) supervisors	20
Other supervisors	936

Support	#
Administrative support	2,025
Finance support	994
Commercial support	663
Health and safety support	393
Human resources support	390
Project management support	346
Personal assistants support	285
IT support	214
Logistics support	206
Facilities management support	146
Radiological protection support	89
Compliance support	85
Operations support	80
Contracts support	74
Training support	67
Communications support	67
Project controls support	65
Legal and compliance support	65
Supply chain support	52
Learning and development support	43
Marketing support	35
Other support	35
Site support	33
Asset management support	23
Data and analysis support	20
Other support	244

Technicians	#
Electrical technicians	1,418
Production technicians	1,139
Design technicians	1,023
Mechanical technicians	745
Instrumentation and control technicians	659
General technicians	658
Radiological protection technicians	509
Design (piping) technicians	450
Operations technicians	400
Quality assurance/quality controls technicians	355
Production technicians (operations) technicians	297
Non-destructing testing technicians	295
Commissioning technicians	285
Decommissioning (waste) technicians	234
General technicians (rope access) technicians	220
Safety technicians	194
Material control technicians	190
Production technicians (maintenance) technicians	180
Non-destructing testing (rope access) technicians	169
Maintenance technicians	149
Subsea technicians	138
Design (structural) technicians	132
Design (mechanical) technicians	121
Architectural technicians	118
Health and safety technicians	117
Design (electrical) technicians	111
Waste technicians	99
Design (instrumentation) technicians	94
Materials technicians	69
Electrical (rope access) technicians	67
Maintenance (electrical) technicians	66
Mechanics technicians	60
Logistics technicians	60
Process technicians	59
Design (civil) technicians	50
Production technicians apprentices and trainees	49
Design (electrical, instrumentation and control) technicians	44
Telecommunications technicians	42
Quality assurance/quality controls (electrical) technicians	40
Quality assurance/quality controls (welding) technicians	40

Technicians	#
Laboratory technicians	38
Maintenance (mechanical) technicians	38
Production technicians supervisors	31
Surveyors technicians	29
Production technicians (waste) technicians	28
Design (civil and structural) technicians	28
Water technicians	26
Commissioning (instrumentation) technicians	25
Design (electrical and instrumentation) technicians	25
HVAC technicians	25
Insulation technicians	25
IT technicians	24
Production technicians (electrical, instrumentation and control) technicians	22
Mechanical maintenance technicians	21
Design (civil, structural and architectural) technicians	21
Other technicians	329

A total of 2,124 workers could not be linked to other categories and remain completely unidentified.

Annex C – Regional definitions

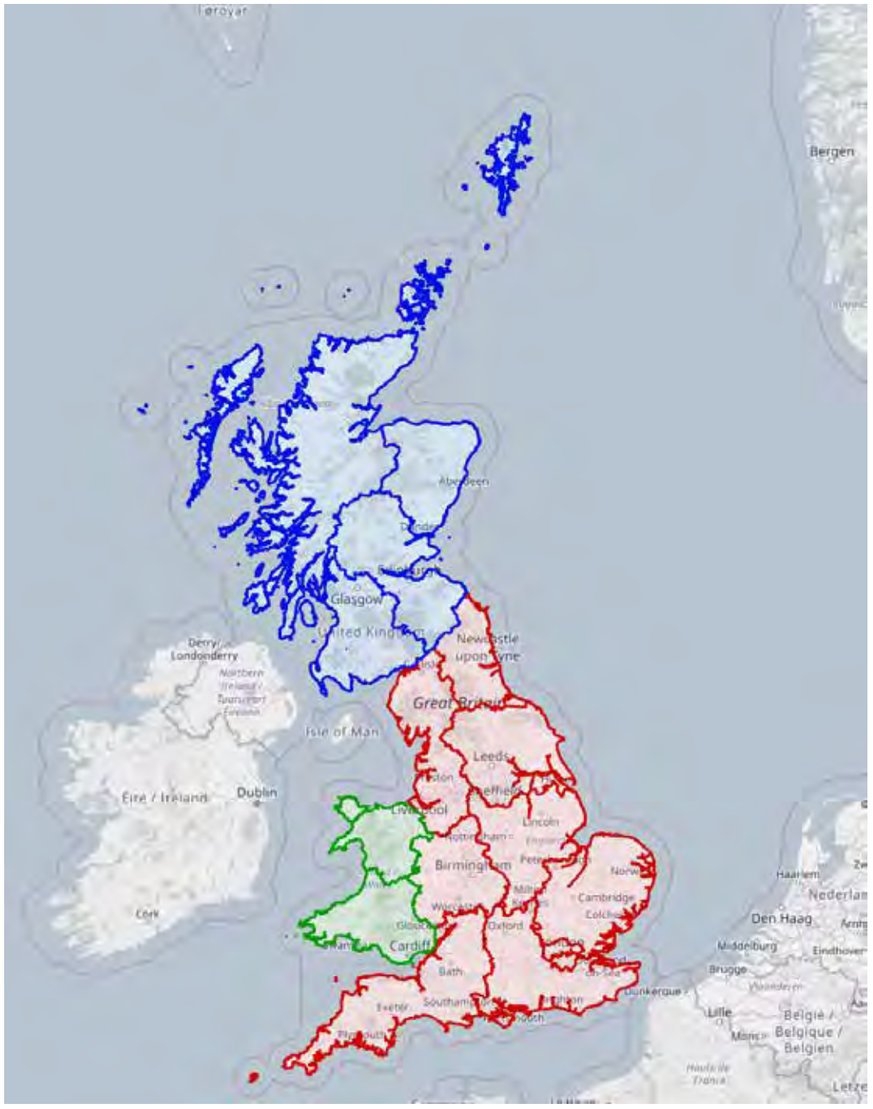
Onshore

The onshore regions are based on national regions, as well as aggregates of ceremonial counties, lieutenancy areas and electoral wards. These categories were created to ensure consistency with other statistics published by the ECITB and to allow for comparisons with official statistics. While economic dynamics within the industry were considered to create a sensible categorisation, the ECITB welcomes requests to reorganise the data using a different methodology. Such requests will be considered on a case-by-case basis.

Table C.1: List of onshore regions used in the report.

Region
(ENG) East
(ENG) East Midlands
(ENG) Greater London
(ENG) North East
(ENG) North West
(ENG) South East
(ENG) South West
(ENG) West Midlands
(ENG) Yorkshire and the Humber
(SCO) Eastern Scotland
(SCO) Highlands and Islands
(SCO) North Eastern Scotland
(SCO) South Western Scotland
(WAL) North
(WAL) South

Map C.1: Borders of onshore regions used in the report



Offshore

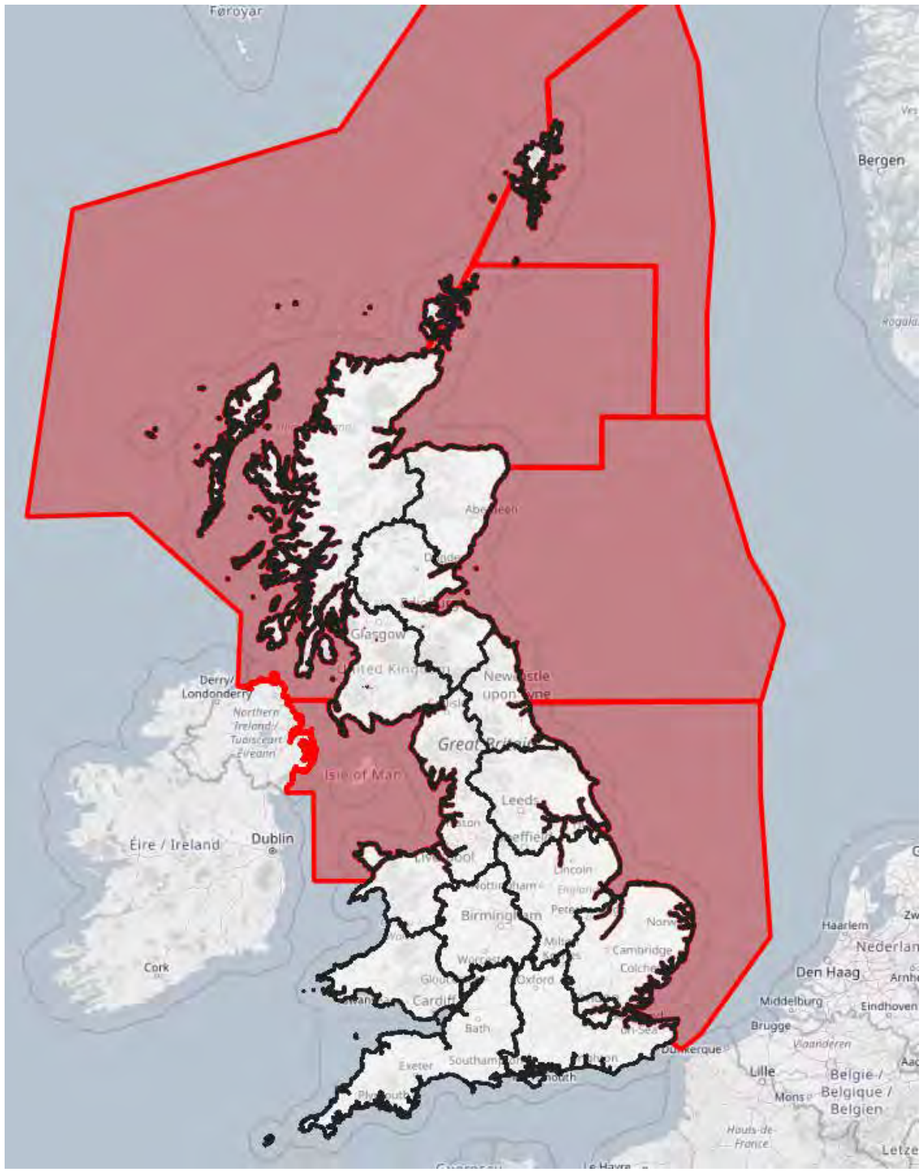
The offshore regions are based on definitions used by the British Geological Survey (BGS), a component body of UK Research and Innovation (UKRI). UKRI is a non-departmental public body of the UK Government, reporting to the Department for Science, Innovation and Technology. BGS publishes regional reports, available on its website[27], which detail the offshore blocks belonging to each region. Similar to the onshore data, the ECITB census data can be restructured to meet specific geographical needs. Some regions, such as the Celtic Sea, do not appear in the list because no workers in the data are deployed to these areas.

27 Offshore regional reports (British Geological Survey)

Table C.2: List of offshore regions used in the report

Region
(Offshore) Atlantic Ocean
(Offshore) Central North Sea
(Offshore) Irish Sea
(Offshore) Moray Firth
(Offshore) Northern North Sea
(Offshore) Southern North Sea

Map C.2: Borders of offshore regions used in the report



ecitb.org.uk