EC ITB*

ECITB Workforce Census 2021 Sectoral



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

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At a glance







Executive Summary

This report is the third and last in the series looking at the individual sectors that make up the engineering construction industry (ECI). The first two reports, dedicated to the oil and gas and the nuclear sectors, are available on the ECITB website¹.

Twenty-six percent of the ECI workforce work in the chemicals, conventional power generation, renewables, food and drink, and water treatment sectors. The data collected between the 1st of March and the 30th of April 2021 shed light on sectoral disparities at the height of the Covid-19 pandemic. Issues surrounding Skills shortages, workforce growth, and the lack of diversity translate in different ways across the sectoral spectrum.

The chemicals sector is the third largest within the ECI, employing 7% of the industry workforce. This sector faced the greatest decrease in headcount among ECI workers, dropping by 47% between 2019 and 2021. Despite a significant proportion of its workforce nearing retirement age (17% are above 60 years old), the sector successfully attracts younger talents, with 18% of the workforce being under 30.

Five percent of the engineering construction industry workforce work in the conventional power generation sector. This sector covers electrical energy generation from coal, oil, and gas. Our data show that employers operating in this sector are optimistic regarding workforce growth expectations, with a 33% increase anticipated from pre-pandemic levels up to 2023. The sector can rely on its relatively young workforce when compared to the wider ECI, with 67% of workers being under 50 against 62% for the entire industry.

¹ ECITB Workforce Census

The renewables sector is central in the transition to net-zero by 2050. The economic environment is clearly favourable for companies from the sector, with significant investment in the pipeline. The renewables sector has the second highest share of workers above 60 (16%), which means it will need to attract transferees from other ECI sectors as well as appealing to younger generations in order to meet the demand.

The food and drink sector is one of the key sectors that make up the UK's critical national infrastructure, and as such went through the pandemic without facing as many delays and downturn in work as other sectors. This reflects on headcount, which dropped by only 5% between 2019 and 2021, well below the 15% decrease observed in the wider industry. Employers' growth expectations are optimistic, bouncing back by 13% from 2021 to 2023. A quarter of the workforce is under 30, which is definitely a central asset for the sector. However, food and drink companies show the lowest percentage of women across the ECI, at just 8%.

Finally, ECI companies operating in the water treatment sector lost 21% of their manpower between 2019 and 2021, according to our data. Most companies in this sector are small and medium-sized enterprises, and do not expect to come back to their pre-pandemic headcount levels by 2023. A major challenge awaits the sector in the coming years, with 48% of the workforce over 50 years old at the time of data collection.

Introduction

he Engineering Construction Industry Training Board (ECITB) is the statutory skills body for the Engineering Construction Industry (ECI) in Great Britain. A non-departmental public body sponsored by the Department for Education (DfE) and accountable to Parliament, the ECITB works with employers, governments and many others to attract, develop and qualify personnel across a wide range of craft, technical and managerial disciplines in the industry.



Employers which are mainly engaged in engineering construction work fall within the scope of the ECITB. If such 'in-scope' employers are over a certain size, they are required by law to pay an industrial training levy to the ECITB. However, all in-scope employers, regardless of size, are eligible to receive grants for training undertaken by their workers.



Water

Treatment

Oil & Gas (Upstream/Downstream)





Engineering construction is a complex industry made up of a series of sectors specialising in the front end engineering design, construction, commissioning, repair, maintenance, decommissioning and dismantling of heavy industry, including the following:







In September 2021, the Engineering Construction Industry Training Board (ECITB) published its ECITB 2021 Workforce Census: An Overview of the Engineering Construction Industry. The Census asked engineering construction industry (ECI) employers to provide information about their workforce numbers, locations and roles. Data collected included demographic information and respondents were also asked for views on workforce growth, Net Zero, Covid-19 and Brexit.

This sector-focused report provides more detailed analysis of the data provided by companies operating in the chemicals, renewables, power generation, food and drink, and water treatment sectors. The oil and gas and the nuclear sectors, representing 37% and 35% of the ECI workforce respectively, have been analysed in two separate reports and have been excluded from the present analysis. These reports are available on the ECITB website³. Our analysis looks at key workforce characteristics, employer confidence and perceptions, and the external factors that affect the sector. This report should be read in conjunction with the aforementioned industry overview.

A focus on individual sectors in this report allows for comparison not only between the sectors, but also with the ECI as a whole. Sectoral analysis allows for better understanding of trends and whether they affect the industry as a whole, or are exacerbated in certain sectors. Similarly, this report will allow us to better understand any nuances within the sector. For more details regarding the methodology and how the data was collected, please refer to our main report: ECITB 2021 Workforce Census: An Overview of the Engineering Construction Industry.

Readers should note that the census was conducted with employers in-scope to the ECITB. It is therefore not possible to say whether the analysis is fully representative of the sectors in question, in which which many other, non ECI companies will operate. We are, however, confident that the analysis in our overview report is representative of the Engineering Construction industry. Sample sizes for particular sectors are significantly smaller than for the industry overall. We would therefore urge caution in making generalisations with regards to individual sectors, however, we are confident that the sectoral reports are indicative of each respective sector.

The Census reports contain two strands of analysis. The first focuses on occupational and geographical data and is based on individual locations in which companies employ workers. This allows for precise characterisation of the workforce and provides a detailed breakdown of the workforce across the different sectors that make up the ECI. The second strand is based on data collected at company level, irrespective of individual locations. It provides output on workforce demographics (age, ethnicity, gender), workforce growth expectations, vacancies, and Covid-19.

³ www.ecitb.org.uk/blog/portfolio-items/ecitb-workforce-census-2021

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L Chemicals

A total of 45,351 workers from 153 inscope establishments (representing 50% of ECITB's in-scope establishments), covering 1,360 locations are captured in the Census⁴. According to our research based on ECITB in-scope companies, the chemicals sector is the third largest (following oil and gas and nuclear) in terms of distribution of the workforce, with 7% engaged in the sector.

Forty-one companies (27%) are involved in the chemicals sector (or have some activity in chemicals). Chemicals is the main sector for 12 out of these 41 companies. Three of these 41 companies work exclusively in chemicals.

Occupational Data

The Census asked employers to provide data for their workforce by occupation and by location. We were further able to break this down by sector.

In total, the Census registered 800 occupations, which have been consolidated for the purposes of analysis⁵.

Chemicals occupational categories and most prevalent occupations:

Category	Occupation	Count	%
Craft – 830	Scaffolders	180	22%
individuals	Pipefitters	158	19%
	Mechanical Fitters	126	15%
	TOTAL	464	56%
Semi-	Labourers	45	18%
skilled – 252	Blaster / Painter	40	16%
Inuividuais	General Mates	37	15%
	TOTAL	122	48%
Technicians	Non Destructive Testing	25	24%
– 106 individuals	Design/ Draughtspersons	22	21%
	TOTAL	47	45%
Supervisors – 285 individuals	Mechanical	44	15%
	General Foreman / Superintendent	37	13%
	Electrical	28	10%
	Scaffolding	25	9%
	Welding	24	8%
	TOTAL	158	55%

⁵ For a full list of all occupations in the ECI please see Annex B in our main report ECITB 2021 Workforce Census: Overview of the Engineering Construction Industry. For a full list of all occupations including count referring only to the chemicals sector, please see Annex A in this report.

92 engineers remain unidentified. This represents 17% of engineer occupations from the chemicals database.

Companies by percentage of total workforce in chemicals



The 41 companies that are engaged in the sector employ 3,071 individuals across 204 locations. The maps below show the location and the concentration of the chemicals workforce:



www.ecitb.org.uk

Occupations were split into the following general categories, which were made up of specific occupations (for example, within craft, occupations such as welding, pipefitting etc).

Whilst the figures in the table below are representative of the ECITB in-scope chemicals workforce, it cannot be concluded at this point that these figures are representative of the wider occupational pools or indeed the entirety of the chemicals workforce.

Category	Occupation	Count	%
Engineers	Mechanical Engineer	73	13%
-547	Process Engineers	62	11%
Individuals	Design Engineer	56	10%
	Thermal Insulation Engineers	51	9%
	Pipeline Engineer	45	8%
	TOTAL	287	51%
Management	Directors & Managers	129	18%
and	Project Managers	95	13%
- 719	Project Engineers	88	12%
individuals	Procurement Specialists	55	8%
	Commercial Support	53	7%
	TOTAL	420	58%
Support	Admin	86	30%
Staff – 286 individuals	Finance	74	26%
	HR and Learning and Development	42	15%
	TOTAL	202	71%

Gender

The following analysis takes into account only the 12 companies whose main activities are in chemicals.

All these 12 companies responded to our question regarding gender, accounting for 52% of the chemicals workforce. This creates a good baseline measure for the gender split of this sector as represented by ECITB in-scope employers. As the graph below demonstrates, the chemicals sector is significantly biased towards men, even when compared to the wider ECI, with only 9.51% of the workforce being women.

Age

Of the 12 employers working mostly in chemicals, all of them replied with age categorisations of their workforce:

Age profile in the chemicals sector compared to the wider ECI and active UK population average:



Although the ECI faces issues associated with an ageing workforce, it is encouraging to notice that despite a clear tilt toward the older end of the spectrum, nearly 10% of the chemicals workforce is under 25, compared to 5% for the wider ECI. However, the chemicals sector is the one for which the 60+ age bracket is the highest within the industry (17%).

Gender profile in the chemicals sector compared to wider ECI and active UK population average:



Nationality

Eight employers, representing 48% of the sector's workforce, replied to our question concerning nationality:



In contrast to the oil and gas sector and its 5% of non-British workers, the chemicals workforce draws 1.16% of its workforce from the EU and less than 1% from other countries.

Data on ethnicity was requested but due to the small number of companies from the chemicals sector, it is not possible to provide a full breakdown of ethnicities. However, out of the 12 companies mainly operating in the chemicals sector, 10 of them provided ethnicity data showing a 97% White workforce, in line with what can be found for the ECI workforce as a whole.

Workforce Growth

All 12 companies mainly involved in the chemicals sector, representing 52% of the sector's workforce, answered our question about workforce growth expectations up to 2023. Although the small sample size calls for caution, the figures presented below are indicative of the chemical sector's expectations. These workforce growth projections represent the view of the supply chain rather than that of clients.

The graph below uses a base 100 index, equating the 2019 workforce to 100. This enables a comparison with the current situation in 2021, as well as to employer expectations for 2023. This has been compared in the graph, to the growth projections for the ECI in general.

The reduction in the workforce between 2019 and 2021 is noteable. The workforce decreased by 47% within the past two years. While most of this drop is associated with a small number of large companies, the average decrease among the 12 companies is nearly 18%.

Employer workforce growth expectations:



It is also important to note that several of these companies registering a significant decrease in workforce levels between 2019 and 2023 are also involved in the oil and gas sector. The ECITB oil and gas Census report focuses on companies mainly engaged in the oil and gas sector and reports a 4.12% reduction in workforce headcount between 2019 and 2021, followed by a surge of 14% up to 2023. Although it is impossible to be sure about what the main factor of decrease is, this suggests that chemicals companies for which the oil and gas sector represent a minor but significant share of their business were more severely hit by the combination of the oil price drop and the Covid-19 crisis, compared to companies primarily undertaking engineering construction activities in the oil and gas sector.

Employers operating in the chemicals sector do not expect to recover pre-pandemic workforce levels in 2023 and even forecast a 4.66% decrease compared to 2019. This could be linked to both the economic context and the high proportion of employees above 60 (17%) nearing retirement age. In these circumstances, the high proportion of younger entrants will probably help to mitigate negative impacts.

Hiring Difficulties

This section looks at hiring difficulties and hard to fill vacancies. The 12 companies from our subsample replied to these questions. Of these, 66% reported facing difficulties hiring employees.

As a whole, chemicals companies struggled to fill vacancies which account for the equivalent of 1.41% of their actual workforce, compared to 2.6% for the ECI overall.

9 employers provided reasons to explain why they face difficulties:

Deesen	% of employers		
Reason	Chemicals	ECI	
Location	56%	22%	
Candidates don't have the necessary qualifications	33%	47%	
Candidates don't have the necessary experience	22%	18%	
Salary or career progression offered by companies are below expectations	22%	16%	
Lack of candidates	11%	16%	
The occupation is niche	11%	10%	
Competition among companies to attract employees	11%	10%	
There is a lack of awareness about ECI among young people	0%	3%	

The main differences with the whole ECI are that qualifications seem to be less of a concern for chemicals companies, while location appears to be much more of an issue. However, 9 responses are not enough to derive any strong conclusions. Companies operating in the chemicals sector predominantly make use of word of mouth in order to fill vacancies, much like the rest of the ECI. Interestingly, no companies from this sub-sample mentioned their own website as a way of filling in vacancies, compared to 12% of employers from the ECI. Apart from that, the chemicals sector follows the trends that can be found in the ECI.

12 employers told us how they usually fill vacancies:

lan	% of employers		
items	Chemicals	ECI	
Word of mouth	67%	57%	
Agencies	58%	62%	
Recruitment website / social media	25%	38%	
Advertising	17%	35%	
Former workers / train workers	8%	11%	
Own company/agency/team	8%	11%	
Own website	0%	12%	
Local colleges	0%	4%	
Headhunting	0%	5%	
From Gov / local authority schemes	0%	2%	

Looking at occupational categories, these hard to fill vacancies are distributed as follows:

Category	Chemicals	ECI
Engineers	54%	50%
Management and Professional	37%	19%
Craft	7%	20%
Supervisors	2%	0.4%
Semi-skilled	0%	0.6%
Technicians	0%	8%

Covid-19

Given the unique circumstances presented by Covid 19 during 2020, questions were asked regarding how the pandemic impacted the ECI. These were discussed in the overview report and responses given by companies working in chemicals have been isolated here.

Eleven companies from the chemicals sector answered. The most important indicator from this sector is that delays and downturn in work seemed to impact more employers (55% against 30% for the ECI).

Answers to the question How has Covid 19 affected your business?

ltoms	% of employers	
items	Chemicals	ECI
Furlough	82%	69%
Delays and downturn in work	55%	30%
Redundancies	36%	29%
Turnover decreased	27%	26%
Change in working pattern, WFH	9%	17%
Lower productivity	9%	12%
Increase training	9%	4%
Increased hours	0%	2%
Reduced hours	0%	2%
Reduced training	0%	16%
Smaller workforce (no hiring or people leaving)	0%	14%

The power generation sector is the fourth largest covered by the Census and employs 5% of the ECI workforce. This sector covers conventional power generation, such as the production of electrical energy from coal, oil or gas, but omits nuclear and renewables

Companies by percentage of total workforce in power generation



The 29 companies engaged in the sector employ 2,131 individuals for power generation activities across 189 locations.

The maps below show the location and the concentration of the power generation workforce:



Power Generation

technologies. Twenty-nine companies (19%) are involved in this sector (or have some activity in power generation). Power generation is the main sector for 10 out of these 29 companies, and 5 of them work exclusively in chemicals.





Occupational Data

Power generation occupational categories and most prevalent occupations⁷:

Category	Occupation	Count	%
Craft – 452	Mechanical Fitters	157	35%
individuals	Pipe Welders	61	13%
	Pipefitters	61	13%
	Electrical Fitters	56	12%
	TOTAL	335	73%
Semi-	Electrical	55	32%
skilled – 171	General Mates	47	27%
Individuals	TOTAL	102	59%
Technicians – 131 individuals	Mechanical Maintenance	23	18%
	Instrument and Control	17	13%
	Turbine Technicians	17	13%
	Field Service Technician	16	12%
	TOTAL	73	56%
Supervisors	Electrical	38	19%
– 197 individuals	Mechanical	30	15%
	General Foreman / Superintendent	27	14%
	TOTAL	95	48%

Category	Occupation	Count	%
ingineers	Design Engineer	102	27%
383	Electrical Engineer	51	13%
ndividuals	Mechanical Engineer	36	9%
	TOTAL	287	51%
lanagement nd Professional 557 ndividuals	Project Managers	120	22%
	Directors & Managers	49	9%
	Safety, Health, Environment and Quality	43	8%
	Procurement Specialists	40	7%
	TOTAL	252	46%
Support Staff – 189 Individuals	Admin	69	37%
	Finance	56	30%
	TOTAL	125	67%

The largest categories in terms of workforce are engineers (18%), craft (21%), and

sector, followed by project managers and design engineers.

Gender

The following analysis focuses on the 10 companies for which power generation is their main sector. All these 10 companies responded to our question regarding gender, representing 49% of the power generation workforce.

Gender profile in the power generation sector compared to wider ECI and active UK population average:



Compared to the ECI, the power generation sector employs 1.72% more women. However, this still represents a significant bias towards men.

management and professional workers (26%). In contrast to larger sectors of the ECI, the power generation sector workforce has lower numbers of engineers in its ranks.

Craftspeople, and more specifically mechanical fitters, are the backbone of this

⁷ For a full list of all occupations in the ECI please see Annex B in our main report ECITB 2021 Workforce Census: Overview of the Engineering Construction Industry. For a full list of all occupations including count referring only to the power generation sector, please see Annex B in this report.

Age

Nine employers replied with age categorisations of their workforce.

Age profile in the power generation sector compared to the wider ECI and active UK population average:



The power generation sector benefits from a significantly high proportion of workers under 50 years old (67%) compared to the ECI as a whole (61%). It is particularly interesting to note that the percentage of workers between 50 and 59 in the sector is similar to what can be found in the active UK population. This means that the acute skills shortages expected for the ECI may not be as stark in the power generation sector, since workers nearing retirement age are less numerous than in other sectors.

There is no section about nationality for the power generation sector due to a lack of data. 7 companies employing 38% of the power generation sector workforce provided ethnicity data for their employees. These data show that the workforce is 93.1% White, compared to 96% for the ECI as a whole and 86% for the UK population.

Workforce growth

Seven companies mainly involved in the power generation sector, representing 23% of the power generation sector's workforce, answered our question about workforce growth expectations up to 2023. Considering the Census collected data for half of the entire ECI workforce, this percentage calls for caution. That being stated, the figure presented below shows a certain optimism from these power generation companies.

These workforce growth projections represent the view of the supply chain rather than that of clients.



The graph below uses a base 100 index, equating the 2019 workforce to 100. This enables a comparison with the current situation in 2021, as well as to employer expectations for 2023.

Companies that answered our questions about workforce growth are all SMEs⁸ and saw their workforce increase by nearly 12% from 2019 to 2021. Employers expect this expansion to continue up to 2023, with a further 18.5% increase on 2021 levels. According to these data, the headcount of SMEs mainly working in the power generation sector was not significantly impacted by the Covid-19 crisis.

Employer workforce growth expectations:



Hiring difficulties

Ten companies from the power generation sector replied to questions about hiring difficulties. 80% of these reported facing difficulties hiring employees. Collectively, the sector struggles to fill vacancies representing the equivalent of 6% of its workforce, higher than the 2.6% for the ECI. Bearing in mind the optimistic workforce growth expectations from these companies, it could be that these occupations for which they struggle to find adequate candidates are not central to their development.

8 employers provided reasons to explain why they face difficulties:

	% of employers	
Reason	Power generation	ECI
Candidates don't have the necessary qualifications	50%	47%
The occupation is niche	25%	10%
Candidates don't have the necessary experience	13%	18%
Competition among companies to attract employees	13%	10%
Location	13%	22%
Salary or career progression offered by companies are below expectations	0%	16%
There is a lack of awareness about the ECI among young people	0%	3%
Lack of candidates	0%	16%

Although the sample size is limited, it is interesting to note that no company mentioned that the salary or career progression they offer are not enough to attract new employees nor that there is a lack of candidates. The power generation sector follows the general trend in identifying the lack of necessary qualifications as the main factor behind hiring difficulties.

9 employers told us how they usually fill vacancies:

	% of employers	
Items	Power generation	ECI
Word of mouth	78%	57%
Agencies	78%	62%
Recruitment website / social media	56%	38%
Advertising	44%	35%
Local colleges	11%	4%
Headhunting	0%	5%
From Gov / local authority schemes	0%	2%
Own company/agency/team	0%	12%
Own website	0%	11%
Former workers / train workers	0%	11%

As with the ECI as a whole, companies operating in the power generation sector predominantly make use of word of mouth and agencies in order to fill vacancies.





The renewables sector is the fifth largest in terms of distribution of the ECI workforce, with 3% engaged in the sector. Wind, wave and tidal, hydro power, solar and biomass technologies are included in this sector.

Twenty-five companies (16%) are involved in renewables. Renewables is the main sector for 9 out of these 25 companies, and five of these work exclusively in renewables.

Whilst the data in this report are a snapshot of the industry from March to April 2021, other internal data suggest that 18% of ECITB in-scope companies have been involved in renewables projects within the last few years. In addition to what is analysed in this report, there are important levels of activity in the renewables sector in Scotland and East of England.

Occupational Data

Renewables occupational categories and most prevalent occupation⁹:

Category	Occupation	Count	%
Craft-171	Electrical Fitters	47	27%
individuals	Mechanical Fitters	25	15%
	Pipefitters	22	13%
	Platers	20	12%
	TOTAL	114	67%
Semi-	Labourers	24	26%
skilled – 92	Welding	17	18%
Individuals	TOTAL	41	44%
Technicians – 123 individuals	Turbine Technicians	49	40%
	Design/ Draughtspersons	19	15%
	TOTAL	68	55%
Supervisors	Mechanical	24	30%
–80 individuals	Appointed Person	22	28%
	TOTAL	46	58%

The largest categories in terms of workforce are support staff (13%), engineers (27%), and management and professional workers

Companies by percentage of total workforce in renewables



The 25 companies operating in the sector employ 1,547 individuals for renewables activities across 138 locations. The maps below show the location and the concentration of the renewables workforce:



⁹ For a full list of all occupations in the ECI please see Annex B in our main report ECITB 2021 Workforce Census: Overview of the Engineering Construction Industry. For a full list of all occupations including count referring only to the renewables sector, please see Annex C in this report. ¹⁰ 94 engineers remain unidentified. This represents 23% of engineer occupations from the renewables database.

Category	Occupation	Count	%
Engineers	Field Engineers	99	25%
-414	Process Engineers	54	13%
individuals ¹⁰	Electrical Engineer	32	8%
	Mechanical Engineer	18	4%
	Design Engineer	17	4%
	TOTAL	220	54%
Management and	Directors & Managers	120	27%
	Project Engineers	53	12%
- 447	Project Managers	53	12%
individuals	Commercial Support	44	10%
	TOTAL	270	61%
Support Staff – 202 individuals	Admin	66	33%
	Finance	48	24%
	TOTAL	114	57%

(29%). Turbine technicians and electrical fitters are notable in the renewables workforce, representing 40% of technicians and 27% of craftsperson respectively.

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Gender

The following analysis details answers from the 9 companies for which renewables is their main sector. All these companies, representing 59% of the sector's workforce, responded to our question about gender.

Gender profile in the renewables sector compared to wider ECI and active UK population average:



The renewables sector is slightly more diverse than the wider ECI when it comes to gender, with 16.10% of the workforce being women but is still significantly biased towards men.

Age

9 employers replied with age categorisations of their workforce.

Age profile in the renewables sector compared to the wider ECI and active UK population average:



The age distribution in the renewables sector follows the trend of the ECI for the 16 to 39 years old age bracket. However, significant differences arise towards the older end of the spectrum, with more workers above 60 and fewer workers between 30 and 59 in the renewables sector (16% and 47% respectively) than in the ECI (12% and 50% respectively). Although the renewables sector is often deemed to be more attractive for the younger generation than conventional energy, it seems the companies in-scope to ECITB are not benefitting from such an effect yet.

5 companies representing 32% of the renewables sector workforce provided ethnicity data for their employees. It appears from these that the renewables workforce is 94.65% White, while this number goes up to 96% for the ECI as a whole and is down to 86% for the UK population.

There is no section about nationality and workforce growth for the renewables sector due to a lack of data.

Hiring Difficulties

Eight companies from our subsample replied to questions about hiring difficulties. They represent 51% of the renewables sector workforce from our data. Of these, only one reported facing difficulties hiring employees. This is an exceptionally healthy indicator, suggesting that despite not significantly attracting younger new entrants when compared to the ECI, the sector is able to recruit quite effectively.

For the most part, companies from the renewables sector make use of word of mouth and agencies to fill vacancies, much like the rest of the ECI. These companies mostly echo the characteristics of the wider industry.

8 employers told us how they usually fill vacancies:

Itoms	% of employers		
items	Renewables	ECI	
Word of mouth	63%	57%	
Agencies	63%	62%	
Recruitment website / social media	25%	38%	
Headhunting	13%	5%	
Own company/agency/team	13%	12%	
Advertising	13%	35%	
Former workers / train workers	13%	11%	
Local colleges	0%	4%	
From Gov / local authority schemes	0%	2%	
Own website	0%	11%	

Covid-19

Nine companies from the renewables sector answered our questions about the Covid-19 impact on their business. Firms from the renewables sector seem to have faced a greater impact on productivity and training compared to the wider ECI. Interestingly, no employers from this subsample mentioned having resorted to redundancies.

Answers to the question How has Covid 19 affected your business?

	Renewables	ECI
Furlough	78%	69%
Delays and downturn in work	44%	30%
Lower productivity	33%	12.%
Reduced training	22%	2%
Turnover decreased	11%	26%
Change in working pattern, WFH	11%	17%
Increased hours	11%	2%
Smaller workforce (no hiring or people leaving)	11%	14%
Redundancies	0%	29%
Reduced hours	0%	2%
Increase training	0%	4%



The food and drink industry is the largest manufacturing sector in the UK¹¹. In our research focusing on ECITB in-scope companies, the food and drink sector, employing 2% of the engineering construction industry workforce, is the sixth largest sector. Twenty-nine companies (19%) are involved in this sector.

Companies by percentage of toal workforce in food & drink



The 29 companies engaged in the sector employ 1,033 individuals for food and drink projects across 146 locations. The maps below show the location and the concentration of the food and drink workforce:



¹¹ https://www.fdf.org.uk/fdf/business-insights-and-economics/facts-and-stats/ ECITB Workforce Census 2021 | Sectoral 32

Food and drink occupational categories and most prevalent occupations¹²:

Category	Occupation	Count	%
	Pipefitters	70	19%
Craft – 372	Platers	64	17%
individuals	Electrical Fitters	55	15%
	TOTAL	189	51%
	Labourers	28	23%
Semi-	Welding	27	22%
individuals	General Mates	24	20%
	TOTAL	79	65%
Technicians – 44	Design/ Draughtspersons	31	70%
individuals	TOTAL	31	70%
Supervisors —93 individuals	General Foreman / Superintendent	22	24%
	Electrical	19	20%
	TOTAL	41	44%

The largest categories in terms of workforce are engineers (12%), management and professional workers (19%), and craft (36%). Craft occupations make up the bulk of the workforce, with a focus on pipefitters, platers, and electrical fitters. Design technicians represent 70% of technicians roles in this sector, while electrical engineers dominate their category at 39%.

Category	Occupation	Count	%
Engineers	Electrical Engineer	50	39%
-128	Mechanical Engineer	20	16%
individuals	TOTAL	70	55%
Management	Directors & Managers	63	32%
and Professional - 195 individuals	Project Managers	39	20%
	TOTAL	102	52%
Support	Admin	26	39%
Staff-66	Finance	26	39%
individuals	TOTAL	52	78%

¹² For a full list of all occupations in the ECI please see Annex B in our main report ECITB 2021 Workforce Census: Overview of the Engineering Construction Industry. For a full list of all occupations including count referring only to the food and drink sector, please see Annex D in this report.

Gender

The following analysis focuses on the 13 companies predominantly working in the food and drink sector.

All these 13 companies responded to our question regarding gender. They employ 64% of the sector's workforce.

Gender profile in the food and drink sector compared to wider ECI and active UK population average:



The food and drink sector shows the lowest percentage of women across the ECI, at 7.6%. This is significantly lower than the percentage for the ECI of 13.8%.

Age

Thirteen employers replied with the age categorisations of their workforce.

Age profile in the food and drink sector compared to the wider ECI and active UK population average:



While the food and drink sector seems to be less diverse in terms of gender when compared to the ECI as a whole, this is a completely different picture when it comes to age. This sector reports the highest rates of employees under 30 years old (25%) and is perfectly aligned on the active UK population distribution for this age group.

11 companies employing 53% of the power generation sector workforce provided ethnicity data for their workforce, showing that the workforce is 98.8% White, compared to 96% for the ECI as a whole and 86% for the UK population.

There is no section about nationality for the food and drink sector due to a lack of data.

Workforce growth

Eleven companies mainly involved in the food and drink sector, representing 58% of the sector's workforce, answered our question about workforce growth expectations. These workforce growth projections represent the view of the supply chain rather than that of clients.

The graph below uses a base 100 index, equating the 2019 workforce to 100. This enables a comparison with the current situation in 2021, as well as to employer expectations for 2023. Companies that answered our questions about workforce growth saw their workforce diminish by nearly 5% from 2019 to 2021. However, employers expect their workforce headcount to bounce back by 13% from 2021 to 2023. Part of the explanation for the relatively small decrease in headcount in 2020 is that the food and drink sector was deemed key national infrastructure, which permitted it to stay open during the various lockdown waves.

Hiring difficulties

Thirteen companies from the food and drink sector replied to our questions regarding hiring difficulties. 54% of these reported facing difficulties hiring employees. Collectively, the sector struggles to fill vacancies representing the equivalent of 5% of its workforce, compared to 2.6% for the ECI as a whole. This relatively high figure can be partly explained by the sector's reliance on non-UK labour which has been compounded by Brexit, and partly by the jobs in the sector being perceived to be low skilled and poorly remunerated. Similarly to the power generation sector, it could be that these occupations for which they struggle to find adequate candidates are not central to their development.

6 employers provided reasons to explain why they face difficulties:

	% of employers	
Items	Food and drink	ECI
Salary or career progression offered by companies are below expectations	50%	16%
Candidates don't have the necessary qualifications	33%	47%
There is a lack of awareness about the ECI among young people	17%	3%
Candidates don't have the necessary experience	17%	18%
Lack of candidates	17%	16%
The occupation is niche	0%	10%
Competition among companies to attract employees	0%	10%
Location	0%	22%

Employer workforce growth expectations:



Although the sample size is limited, we can see that half of employers in the food and drink sector consider that the salary or career progression they offer are under new entrants expectations. Interestingly, this doesn't seem to impact on the inflow of younger new entrants.

13 employers told us how they usually fill vacancies:

	% of employers		
Items	Food and drink	ECI	
Word of mouth	77%	57%	
Recruitment website / social media	69%	38%	
Agencies	61%	62%	
Advertising	31%	35%	
Own website	15%	11%	
Local colleges	8%	4%	
Former workers / train workers	8%	11%	
Headhunting	0%	5%	
From Gov / local authority schemes	0%	2%	
Own company/agency/team	0%	12%	

Compared to the wider ECI, food and drink companies make a greater use of recruitment websites and social media (69% for the food and drink sector, against 38% for the ECI). This could partly explain why the sector seems to be successful in attracting younger individuals.

Covid-19

Thirteen companies from the food and drink sector answered to our questions about the Covid-19 impact on their business.

Firms from this sector have not been significantly impacted by delays and downturn in work compared to the wider industry. However, the impact on training has been stark, with 30% of companies reporting reduced training. Finally, 54% stated their turnover was negatively impacted.

The lower than average percentage for delays and higher than average percentage for reduced training can be explained by the food sector being one of the 13 key sectors¹³ that make up the UK's critical national infrastructure. Critical workers were able to pursue their work while other sectors were facing severe delays. This also means there was less opportunity for employers to train their workforce while experiencing delays. Since the data were collected in March and April 2021, several food and drink organisations¹⁴ have flagged disruptions in the sector's supply chain. Issues surrounding food price inflation, energy and shipping have affected resilience, and partly explain the high percentage of food and drink companies that reported a decreased turnover (54%).

Answers to the question How has Covid 19 affected your business?

	Food and drink	ECI
Furlough	77%	67%
Turnover decreased	54%	26%
Redundancies	39%	27%
Reduced training	31%	2%
Increase training	15%	4%
Smaller workforce (no hiring or people leaving)	15%	14%
Change in working pattern, WFH	8%	17%
Lower productivity	8%	12%
Reduced hours	8%	2%
Delays and downturn in work	8%	30%
Increased hours	0%	2%

¹³ www.cpni.gov.uk/critical-national-infrastructure-0

¹⁴ www.fdf.org.uk/globalassets/resources/publications/guidance/fdf-briefing-supply-chain-disruption.pdf www.nfuonline.com/updates-and-information/nfu-leads-food-coalition-in-calls-to-fix-supply-chain-crisis/

₩ Water Treatment

According to the census, the water treatment sector employs 1% of the engineering construction industry workforce and represents its 7th largest sector in terms of workforce. However, due to the nature of the work, often consisting of multiple short-term interventions, it is possible that the water treatment workforce was undervalued during the snapshot of Census data collection.

Twenty-four companies (16%) are involved in this sector. Water treatment is the main sector for 8 out of these 24 companies, and 5 of them work exclusively in water treatment.

Occupational Data

Water treatment occupational categories and most prevalent occupations¹⁵:

Category	Occupation	Count	%
0 0 70	Electrical Fitters	42	54%
Cratt – 78	TOTAL	42	54%
Individuals	TOTAL	189	51%
Technicians – 29	Design/ Draughtspersons	18	62%
individuals	TOTAL	18	62%
Supervisors	Mechanical	11	41%
-27	Electrical	10	37%
individuals	TOTAL	21	78%
Supervisors - 93	General Foreman / Superintendent	22	24%
	Electrical	19	20%
Individuals	TOTAL	41	44%

The largest categories in terms of workforce are craft (17%), engineers (21%), and management and professional workers (34%). Although it is impossible to be sure, the high proportion of management and professional workers, dominated by directors, managers and project managers would tend to confirm that the on-site workforce from the water treatment sector is underrepresented.





The 29 companies engaged in the sector employ 463 individuals for water treatment activities across 92 locations. The maps below show the location and the concentration of the water treatment workforce:



Category	Occupation	Count	%
	Electrical Engineer	40	40%
Engineers	Design Engineer	15	15%
– 99 individuals	Mechanical Engineer	13	13%
Individuals	TOTAL	68	68%
Management	Directors & Managers	44	28%
and Professional - 159 individuals Support Staff – 44 individuals	Project Managers	25	18%
	Project Engineers	19	12%
	TOTAL	88	58%
	Finance	17	39%
	Admin	13	30%
	TOTAL	30	69%

Electrical engineers and electrical fitters represent an important part of the sector's workforce, representing 40% of engineers and 54% of craft roles respectively.

¹⁵ For a full list of all occupations in the ECI please see Annex B in our main report ECITB 2021 Workforce Census:

Gender

The following analysis focuses on the 8 companies predominantly working in the water treatment sector. 7 of them responded to our question regarding gender, representing 32% of the sector's workforce.

The water treatment workforce follows the general trend of the ECI, with 13.3% of employees being women.

Gender profile in the water treatment sector compared to wider ECI and active UK population average:



Age

Eight employers replied with age categorisations of their workforce.

Age profile in the water treatment sector compared to the wider ECI and active UK population average:



The main element that stands out is the high proportion of workers within the 50 to 59 age group (36%). This means that nearly half of the actual workforce (48%) is expected to retire within the next 20 years. It is worrying to observe that the water treatment sector only has 21% of its workforce between 25 and 39 years old, compared to 33% for the entire ECI.



6 companies employing 30% of the water treatment sector workforce provided ethnicity data for their employees, showing that the workforce is 96% White, perfectly in line with the wider industry, and compared to 86% for the UK population.

There is no section about nationality for the water treatment sector due to a lack of data.

Workforce growth

Five companies mainly involved in the water treatment sector, representing 43% of the sector's workforce, answered our question about workforce growth expectations. These workforce growth projections represent the view of the supply chain rather than that of clients.

The graph below uses a base 100 index, equating the 2019 workforce to 100. This enables a comparison with the current situation in 2021, as well as to employer expectations for 2023.

Employer workforce growth expectations:



Water treatment companies faced a significant decrease of 21% in workforce levels from 2019 to 2021. Employers from this sector do not expect their workforce to recover to pre-covid levels by 2023.

Hiring difficulties

Seven companies from the water treatment sector replied to our questions about hiring difficulties. 57% reported facing difficulties to when hiring employees. There were insufficient data returns to include a table expanding on reasons for hiring difficulties.

Collectively, the sector struggles to fill vacancies representing the equivalent of 6% of its workforce, compared to 2.6% for the wider ECI.

Covid-19

Nine companies from the water treatment sector answered our questions about the Covid-19 impact on their business.

Water treatment companies faced severe reductions in training compared to the wider industry. It also seems that they had recourse to redundancies more frequently.

8 employers told us how they usually fill vacancies:

	% of employers		
Items	Water treatment	ECI	
Agencies	88%	62%	
Word of mouth	38%	57%	
Advertising	38%	35%	
Recruitment website / social media	25%	38%	
Headhunting	13%	5%	
From Gov / local authority schemes	13%	2%	
Local colleges	0%	4%	
Own company/agency/team	0%	12%	
Own website	0%	11%	
Former workers / train workers	0%	11%	

Answers to the question How has Covid 19 affected your business?

	Water treatment	ECI
Furlough	86%	69%
Redundancies	43%	29%
Reduced training	43%	2%
Delays and downturn in work	43%	30%
Turnover decreased	29%	26%
Change in working pattern, WFH	14%	17%
Smaller workforce (no hiring or people leaving or redundancies not linked with covid)	14%	14%
Lower productivity	0%	12%
Increased hours	0%	2%
Reduced hours	0%	2%
Increase training	0%	4%

List of occupations and count from the chemicals sector

Occupations with less than 10 workers are omitted to maintain anonymity.

• Craft – 830 individuals

Craft	
Occupation	Number
Scaffolders	180
Pipefitters	158
Mechanical Fitters	126
Electrical Fitters	64
Platers	62
Pipe Welders	58
Riggers	39
Steel Erectors	32
High Integrity Welders	18
Safety Advisers	-
Thermal Insulation Technicians (laggers)	-
Instrument Pipefitters	-
Plastic	-
Tray Fitters	-
Joiner	-
Plate Welders	-
Wirers	-
Unidentified Craft	61

Annex A

• Technicians – 106 individuals

Technicians	
Occupation	Number
Non Destructive Testing	25
Design/Draughtspersons	22
Electrical Maintenance	15
Field Service Technician	12
Instrument and Control	-
Mechanical Maintenance	-
Rope Access Technician	-
Winders	-
Inspector	-
Unidentified Technicians	16

• Semi-skilled – 252 individuals

Semi-Skilled	
Occupation	Number
Labourers	45
Blaster / Painter	40
General Mates	37
Welding	22
Steel Erector	21
Storeman	21
Electrical	-
Mechanical fitting	-
Pipefitting	-
Plating	-
Slinger/Banksman/Rigger	-
Thermal Insulation Operative	-
Unidentified Semi-Skilled	42

• Supervisors – 285 individuals

Supervisors	
Occupation	Number
Mechanical	44
General Foreman /	37
Superintendent	
Electrical	28
Scaffolding	25
Welding	24
Lifting (Rigging/Erecting)	19
Thermal Insulation (Lagging)	-
Pipefitters	-
Riggers	-
Appointed Person	-
Instrumentation	-
Painter	-
Plastic	-
Cables	-
Demolition	-
Field Service	-
Production	-
Unidentified Supervisors	76

• Engineers – 547 individuals

Engineers	
Occupation	Number
Mechanical Engineer	73
Process Engineers	62
Design Engineer	56
Thermal Insulation Engineers	51
Pipeline Engineer	45
Electrical Engineer	43
Field Engineers	32
Instrument and Control	27
IT / Telecom / Cybersecurity	24
Civil & Structural	10
Welding (Metallurgist) Engineer	-
Chemical Engineer	-
Technologist	-
Building Services Engineer	-
Commissioning Engineer	-
Safety Engineers	-
Demolition Engineers	-
Digitalisation Engineer	-
Distributed control system	-
Engineers	
Environmental Engineer	-
Improvement Engineers	-
Maintenance Engineers	-
Packing Engineers	-
Stress & Test Engineers	-
Technical Safety Engineer	-
Unidentified Engineers	92

 Management and professional – 719 individuals

Management and Profession	al Workers
Occupation	Number
Directors & Managers	129
Project Managers	95
Project Engineers	88
Procurement Specialists	55
Commercial Support	53
Planners	45
Construction Manager	42
Quality Control / QA staff	39
Cost Engineer / Quantity Surveyor	32
Site Managers	29
Safety, Health, Environment and Quality	24
Document Controllers	23
Project Controllers	23
Estimators	16
Area Manager	-
Business Development	-
Analysts	-
Product Managers	-
Consultants	-
Industrial Relation Manager (OIM)	-
Operations	-
Unidentified M&P	26
Data Controllers	-
Industrial Relation Manager (OIM)	-
Technical Specialists	-
Unidentified M&P	96

• Support staff – 286 individuals

Support Staff		
Occupation	Number	
Admin	86	
Finance	74	
Human Ressources + Learning and Develop.	42	
Health and Safety	24	
Canteen Workers and Cleaners	19	
Marketing	11	
Legal	-	
IT / Telecom / Cybersecurity	-	
Communications	-	
Unidentified Support Staff	21	



List of occupations and count from the power generation sector

Occupations with less than 10 workers are omitted to maintain anonymity.

• Craft – 452 individuals

Craft	
Occupation	Number
Mechanical Fitters	157
Pipe Welders	61
Pipefitters	61
Electrical Fitters	56
Riggers	34
Platers	25
Steel Erectors	17
Wirers	12
Plate Welders	-
Safety Advisers	-
Instrument Pipefitters	-
High Integrity Welders	-
Unidentified Craft	20

Annex B

• Technicians – 131 individuals

Technicians	
Occupation	Number
Mechanical Maintenance	23
Instrument and Control	17
Turbine Technicians	17
Field Service Technician	16
Design/Draughtpersons	11
Production or Process	10
Operators	
Winders	10
Commissioning Technicians	-
Electrical Maintenance	-
Non Destructive Testing	-
Metering Technicians	-
Unidentified Technicians	-

• Semi-skilled – 171 individuals

Semi-Skilled	
Occupation	Number
Electrical	55
General Mates	47
Labourers	16
Storeman	14
Welding	12
Slinger/Banksman/Rigger	10
Mechanical fitting	-
Unidentified Semi-Skilled	12

• Supervisors – 197 individuals

Supervisors	
Occupation	Number
Electrical	38
Mechanical	30
General Foreman / Superintendent	27
Appointed Person	17
Welding	13
Lifting (Rigging/Erecting)	10
Instrumentation	-
LOLER / Lifting Focal Point	-
Scaffolding	-
Thermal Insulation (Lagging)	-
Unidentified Supervisors	57

• Engineers – 383 individuals

Engineers	
Occupation	Number
Design Engineer	102
Electrical Engineer	51
Mechanical Engineer	36
Instrument and Control	31
Process Engineers	28
Commissioning Engineer	23
Pipeline Engineer	17
Chemical Engineer	-
IT / Telecom / Cybersecurity	-
Civil & Structural	-
Turbine Engineers	-
Welding (Metallurgist) Engineer	-
Technical Safety Engineer	-
Safety Engineers	-
Unidentified Engineers	53

 Management and professional – 557 individuals

Management and Professional Workers	
Occupation	Number
Project Managers	120
Directors & Managers	49
Safety, Health, Environment and Quality	43
Procurement Specialists	40
Project Controllers	38
Quality Control / QA staff	38
Site Managers	36
Commercial Support	33
Estimators	31
Planners	22
Project Engineers	20
Document Controllers	19
Cost Engineer / Quantity Surveyor	18
Construction Manager	17
Operations	15
Area Manager	-
Business Development	-
Installation Managers (OIM)	-
Unidentified M&P	14

• Support staff – 189 individuals

Support Staff		
Occupation	Number	
Admin	69	
Finance	56	
Human Ressources + Learning and Develop.	29	
Legal	-	
Health and Safety	-	
Competence Assessors / Supervisors	-	
Marketing	-	
Canteen Workers and Cleaners	-	
Unidentified Support Staff	-	
Unidentified Support Staff	21	

List of occupations and count from the renewables sector

Occupations with less than 10 workers are omitted to maintain anonymity.

• Craft – 171 individuals

Craft	
Occupation	Number
Electrical Fitters	47
Mechanical Fitters	25
Pipefitters	22
Platers	20
Riggers	12
Plate Welders	10
Pipe Welders	-
High Integrity Welders	-
Instrument Pipefitters	-
Thermal Insulation Technicians	-
(laggers)	
Safety Advisers	-
Scaffolders	-
Unidentified Craft	-

Annex C

• Technicians – 123 individuals

Technicians	
Occupation	Number
Turbine Technicians	28
Wind Turbine Technicians	21
Design/Draughtpersons	19
Production or Process	18
Operators	
Electrical Maintenance	-
Mechanical Maintenance	-
Project Controls	-
Instrument and Control	-
Subsea Technicians	-
Winders	-
Civil Technicians	-
Effluent Treatment	-
Field Service Technician	-
Non Destructive Testing	-
Unidentified Technicians	-

• Semi-skilled-92 individuals

Semi-Skilled	
Occupation	Number
Labourers	24
Welding	17
General Mates	12
Mechanical fitting	10
Slinger/Banksman/Rigger	-
Storeman	-
Crane Operators	-
Blaster / Painter	-
Electrical	-
Expeditors / Shipping	-
Non Destructive Testing Operative	-

• Supervisors – 80 individuals

Supervisors	
Occupation	Number
Mechanical	24
Appointed Person	22
Electrical	11
General Foreman /	-
Superintendent	
Field Service	-
Thermal Insulation (Lagging)	-
Instrumentation	-
Rope Access	-
Unidentified Supervisors	-

• Engineers – 414 individuals

Engineers		
Occupation	Number	
Field Engineers	99	
Process Engineers	54	
Electrical Engineer	32	
Mechanical Engineer	18	
Design Engineer	17	
Commissioning Engineer	14	
Civil & Structural	13	
Subsea Engineer	13	
Pipeline Engineer	12	
Instrument and Control	11	
Chemical Engineer	-	
Welding (Metallurgist) Engineer	-	
Safety Engineers	-	
Environmental Engineer	-	
Riser Engineers	-	
Technical Safety Engineer	-	
Compliance Engineers	-	
Building Services Engineer	-	
Cables Engineer	-	
Completion Engineers	-	
Gas Engineers	-	
Geotechnical Engineers	-	
Inspection / Integrity Engineers	-	
Stress & Test Engineers	-	
Thermal Insulation Engineers	-	
Unidentified Engineers	94	

 Management and professional – 447 individuals

Management and Professional Workers	
Occupation	Number
Directors & Managers	120
Project Engineers	53
Project Managers	53
Commercial Support	44
Quality Control / QA staff	38
Procurement Specialists	19
Consultants	16
Safety, Health, Environment	15
and Quality	
Document Controllers	12
Operations	12
Site Managers	11
Cost Engineer / Quantity	-
Surveyor	
Project Controllers	-
Planners	-
Construction Manager	-
Risk Assessment	-
Area Manager	-
Estimators	-
Unidentified M&P	18

• Support staff – 202 individuals

Support Staff	
Occupation	Number
Admin	66
Finance	48
Human Resources + Learning and Develop.	20
Marketing	16
IT / Telecom / Cybersecurity	12
Health and Safety	-
Competence Assessors / Supervisors	-
Facilities	-
Legal	-
Unidentified Support Staff	21



List of occupations and count from the food and drink sector

Occupations with less than 10 workers are omitted to maintain anonymity.

• Craft – 327 individuals

Craft	
Occupation	Number
Pipefitters	70
Platers	64
Electrical Fitters	55
Scaffolders	45
Pipe Welders	36
Mechanical Fitters	29
Sheet Metal Worker	26
Unidentified Craft	24
Riggers	-
High Integrity Welders	-
Plate Welders	-
Instrument Pipefitters	-
Fabricators	-
Steel Erectors	-

• Technicians – 44 individuals

Technicians	
Occupation	Number
Design/Draughtspersons	31
Instrument and Control	10
Electrical Maintenance	-
Unidentified Technicians	-

• Semi-skilled-121 individuals

Semi-Skilled		
Occupation	Number	
Labourers	28	
Welding	27	
General Mates	24	
Plating	12	
Storeman	11	
Pipefitting	-	
Steel Erector	-	
Mechanical fitting	-	
Thermal Insulation Operative	-	
Blaster / Painter	-	
Electrical	-	
Slinger/Banksman/Rigger	-	

• Supervisors – 93 individuals

Supervisors	
Occupation	Number
General Foreman /	22
Superintendent	
Electrical	19
Mechanical	12
Appointed Person	10
Sheet Metal Supervisor	-
Welding	-
Production	-
Scaffolding	-
Unidentified Supervisors	-
Lifting (Rigging/Erecting)	-
Pipefitters	-
Thermal Insulation (Lagging)	-

• Engineers – 128 individuals

Engineers	
Occupation	Number
Electrical Engineer	50
Mechanical Engineer	20
Design Engineer	11
Thermal Insulation Engineers	10
IT / Telecom / Cybersecurity	-
Process Engineers	-
Chemical Engineer	-
Instrument and Control	-
Commissioning Engineer	-
Unidentified Engineers	15

 Management and professional – 195 individuals

Management and Professional	Workers
Occupation	Number
Directors & Managers	63
Project Managers	39
Project Engineers	18
Site Managers	13
Estimators	10
Procurement Specialists	10
Commercial Support	-
Planners	-
Quality Control / QA staff	-
Safety, Health, Environment	-
and Quality	
Construction Manager	-
Cost Engineer / Quantity	-
Surveyor	
Document Controllers	-
Project Controllers	-
Unidentified M&P	-
Industrial Relation Manager	-
(OIM)	

• Support staff – 66 individuals

Support Staff		
Occupation	Number	
Admin	26	
Finance	26	
Human Ressources + Learning and Develop.	-	
Marketing	-	
Canteen Workers and Cleaners	-	
Health and Safety	-	
Unidentified Support Staff	-	

List of occupations and count from the water treatment sector

Occupations with less than 10 workers are omitted to maintain anonymity.

• Craft – 78 individuals

Craft	
Occupation	Number
Electrical Fitters	42
Mechanical Fitters	19
Pipe Welders	-
Pipefitters	-
Plate Welders	-
Platers	-
Unidentified Craft	-

• Technicians – 29 individuals

Technicians	
Occupation	Number
Design/Draughtspersons	18
Production or Process	-
Operators	
Electrical Maintenance	-
Mechanical Maintenance	-
Waste	-

• Semi-skilled-20 individuals

Semi-Skilled	
Occupation	Number
Labourers	-
General Mates	-
Mechanical fitting	-
Steel Erector	-
Electrical	-

Annex E

• Supervisors – 27 individuals

Supervisors	
Occupation	Number
Mechanical	11
Electrical	10
General Foreman / Superintendent	-
Lifting (Rigging/Erecting)	-
Unidentified Supervisors	-

• Engineers – 99 individuals

Engineers	
Occupation	Number
Electrical Engineer	40
Design Engineer	15
Mechanical Engineer	13
Commissioning Engineer	10
Process Engineers	-
Chemical Engineer	-
Instrument and Control	-
Unidentified Engineers	-

 Management and professional – 159 individuals

Management and Professional	Workers
Occupation	Number
Directors & Managers	44
Project Managers	25
Project Engineers	19
Site Managers	12
Commercial Support	11
Estimators	-
Procurement Specialists	-
Safety, Health, Environment	-
and Quality	
Area Manager	-
Cost Engineer / Quantity	-
Surveyor	
Document Controllers	-
Planners	-
Business Development	-
Construction Manager	-
Installation Managers (OIM)	-
Quality Control / QA staff	-
Project Controllers	-
Unidentified M&P	-

• Support staff – 44 individuals

Support Staff		
Occupation	Number	
Finance	17	
Admin	13	
Human Resources + Learning and Develop.	-	
Authors	-	
Health and Safety	-	
IT / Telecom / Cybersecurity	-	
Marketing	-	
Unidentified Support Staff	-	



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