Cogent Skills
for science and technology

MARCH 2025

Nuclear Workforce Assessment

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Acronyms

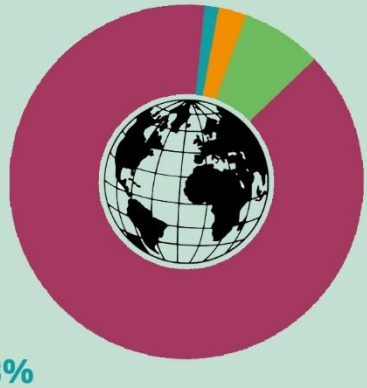
Acronym	Description
AUKUS	A trilateral security partnership between Australia, the United Kingdom, and the United States to promote a free and open Indo-Pacific that is secure and stable
CASD	Continuous-At-Sea Deterrent
DNE	Defence Nuclear Enterprise
EA	Environment Agency
ED&I	Equality, Diversity, and Inclusion
GDF	Geological Disposal Facility
GBN	Great British Nuclear, an executive non-departmental public body, sponsored by the Department for Energy Security and Net Zero
HMNB	His Majesty's Naval Base
LLRC	Low Level Resource Codes
NNB	Nuclear New Build
NSR	No Set Region, used in the data to describe those members of the workforce that do not have one set work location
NWA	Nuclear Workforce Assessment
P&PM	Project and Programme Management
ONR	Office for Nuclear Regulation
RQF	Regulated Qualifications Framework
SOC	Standard Occupational Classification
STHSE	Science, Technical, Health, Safety and Environment
WOME	Weapons, Ordnance, Munitions and Explosives

Key Insights *into the Nuclear Workforce*

WORKFORCE CHARACTERISTICS

44% Of the workforce are experienced at level 5 or above.

9% Of the workforce are aged 60 or above. Down 1% from 2023.



ETHNIC GROUPS:
White: **88.2%**
Asian/Asian British: **1.3%**
Other Ethnic Group: **2.6%**
Black/African/Caribbean/Black British: **0.6%**
Mixed/Multiple Ethnic Groups: **0.5%**
Prefer not to say: **6.7%**

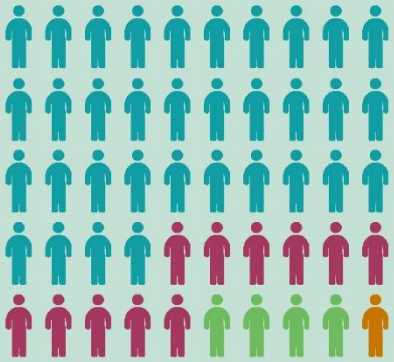
WORKFORCE GENDER PROFILE

MALE: 70%

FEMALE: 22%

NON-BINARY: <1%

PREFER NOT TO SAY: 8%



UNDER 20'S

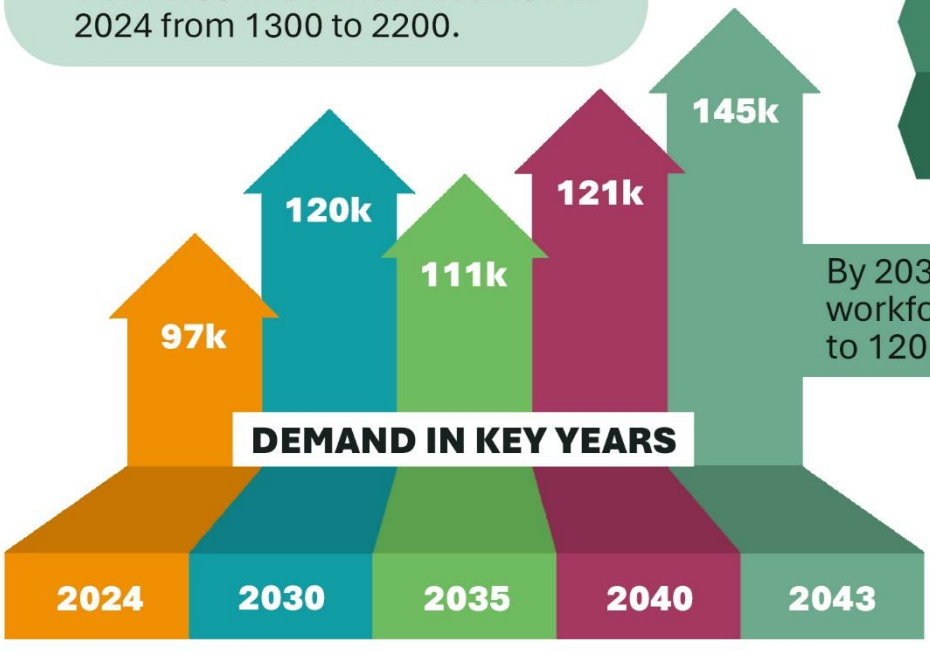
The number of under 20's in our workforce has almost doubled in 2024 from 1300 to 2200.

NORTHWEST
17% Growth in 2024

EAST
29% Growth in 2024

SCOTLAND
14% Growth in 2024

SOUTHWEST
14% Growth in 2024



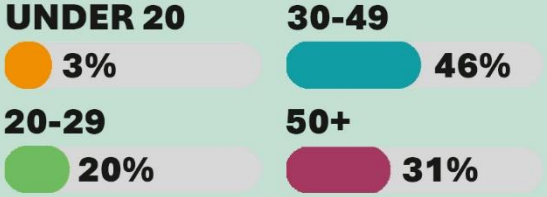
By 2030, the UK nuclear workforce is expected to grow to 120,000.

OTHER FIGURES

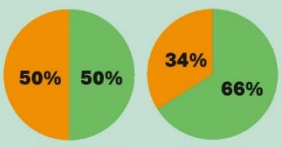
REPORTED EDI STATISTICS

Today, engineers make up nearly **25%** of the workforce at **22,000**; this needs to grow to **27,000** by **2030**.

WORKFORCE AGE



CIVIL & DEFENCE DEMAND SPLIT



Foreword

Cogent Skills are delighted to present the 2024 edition of the Nuclear Workforce Assessment, the only workforce research comprising both civil and defence datasets for the nuclear sector.

I'd like to take this opportunity to extend a heartfelt thank you to all the employers and organisations that contributed to the assessment, and the teams that supported the compilation of this report and its findings. This data is crucial for guiding effective investment and addressing the UK nuclear sector's skills challenges.

Insights gained will support the strategic skills investment in the nuclear sector, shape purposeful workforce planning, and provide a consistent, solid foundation for future investments.

By forming this baseline – we can establish a deeper understanding of the impacts of our initiatives and better respond to workforce needs, skills challenges and ensure the nuclear industry is accurately represented in key discussions with all key stakeholders.

We are committed to using these insights responsibly, representing the sector with integrity and accuracy, to underpin our ongoing efforts to support workforce development, inform decision-making, and prepare the nuclear workforce for the future.

Jay Bhart

Head of Nuclear, Cogent Skills

Executive Summary

The 2024 Nuclear Workforce Assessment provides an updated view of the civil and defence nuclear workforce based on data submitted by organisations across the sector. This assessment follows the 2023 report, allowing for comparison and highlighting key workforce trends.

The total workforce has grown by 15%, increasing from 83,000 in 2023 to 96,000 in 2024. Recruitment remains strong, with 8,768 new hires, and early career representation is improving, as the number of employees under 20 has nearly doubled, while the proportion of workers over 60 has slightly declined. However, gender balance remains largely unchanged, with 70% of the workforce being male and 22% female.

Looking ahead, organisations' project a workforce demand of 120,000 by 2030, reflecting the sector's growing skills needs and the importance of talent attraction and retention.

The report concludes with future considerations for workforce assessments, including enhanced role and experience-level mapping, deeper exploration of the factors driving workforce trends, and expanded insights into training beyond apprenticeships and degrees.

This assessment supports industry leaders and policymakers in understanding workforce challenges and planning for the sector's long-term sustainability.

Introduction

The Nuclear Workforce Assessment is an annual review which underpins the nuclear sectors workforce planning by forecasting the skills supply and demand across the entire sector, including the following activities: new builds, operations, decommissioning, research, and defence. It is the only nuclear industry dataset that covers both civil and defence and the only directly collected dataset for nuclear.

The review is the foundation for the National Nuclear Strategic Plan for Skills and supports the work of the Nuclear Skills Delivery Group (formerly the Nuclear Skills Strategy Group) on skills development within the nuclear industry.

The top-level UK nuclear workforce statistics from 2024 are presented here, looking at the data in light of ongoing operations and comparing progress with the 2023 statistics to put the information in context.

The data is presented over three main sections: Current Workforce, Demand and Future Considerations.

Final decisions have yet to be made on the mix of technologies and the construction sequencing across the industry, so a scenario-based approach has been used for sector-level workforce forecasting.

This Nuclear Workforce Assessment is sponsored entirely by members of the nuclear workforce assessment working group using data from the major civil nuclear operators and developers, the Ministry of Defence, and its industrial partners.

Background

This report is presented against the following nuclear landscape:

Large Scale New Builds: Most of the existing fleet of nuclear power stations will retire by the end of this decade, with only Sizewell B remaining in operation. The government is supporting Sizewell C; EDF is still awaiting the final decision on investment which is likely to be in the summer of 2025. Whilst Hinkley Point C is expected to be commissioned in the mid-2030's.

Extensions: EDF has extended the lifetimes of Heysham 1 and Hartlepool by one year until early 2027; and Heysham 2 and Torness by two years until early 2030.

Small Modular Reactors and Advanced Modular Reactors: Great British Nuclear (GBN) is tasked with facilitating the delivery of the government's nuclear programme. Its focus will be to de-risk new nuclear development by co-funding projects at the critical early development stage and acting as an expert adviser throughout the process. The priority for GBN is to lead a competitive process to select the best small modular reactor technologies for investment.

Defence: The UK has maintained a Continuous-At-Sea Deterrent (CASD) since 1969 through Operation RELENTLESS, delivered by the Royal Navy. The current fleet of nuclear-powered, conventionally armed Astute Class submarines is nearing completion, and design work has commenced on the next-generation SSN-AUKUS submarines, developed trilaterally with Australia and the USA. The Defence Nuclear Enterprise (DNE) is also addressing the legacy of decommissioned submarines, progressing the safe and secure disposal of nuclear liabilities.

Significant infrastructure investments are underway at HMNB Clyde and HMNB Devonport: Clyde will host new docks, berths, advanced training facilities, and accommodation to support both current operations and the future Dreadnought and SSN-AUKUS fleets, while Devonport is being transformed into a submarine deep maintenance centre of excellence to support Defence's top priorities.

Decommissioning and Waste Management: The Nuclear Decommissioning Authority (NDA) and its group of subsidiary organisations are responsible for cleaning up the UK's earliest nuclear sites, a mission that will span over a century. Their work involves decommissioning facilities, managing radioactive waste, and supporting the future development of a Geological Disposal Facility (GDF) to dispose of higher activity waste safely and permanently. This long-term challenge relies on innovation, skilled people, and close collaboration across the supply chain.

Sellafield Ltd is decommissioning Europe's largest and most complex nuclear site. Nuclear Restoration Services is progressing the decommissioning of Dounreay and 12 Magnox sites and preparing for the transfer of defueled EDF sites starting with Hunterston B in 2026. Nuclear Waste Services continues to develop the GDF programme while operating the Low Level Waste Repository. Nuclear Transport Solutions ensures the safe transport of radioactive and critical materials by rail and sea, supporting both UK and international needs.

Approach

Organisations were asked to provide data that reflected the situation within their core workforce during the twelve months up to and including the 1st of April 2024.

The approach to submissions for the 2024 Nuclear Workforce Assessment was more flexible than in previous years, offering organisations the ability to submit data in a format that better aligned with their own workforce records and planning.

This approach has contributed to the formation of a productive working group comprised of representatives from the participating organisations who are closely involved with human resources and strategic workforce planning. Since the group understood the workforce at an organisational level and were willing to engage closely with the data collection process, they were well placed to shape the output so that it is useful to the industry in planning the next steps.

Whilst it was important that the required information was collected in a structured manner, which preserved employee privacy and anonymity, there was flexibility in how this was achieved. A standardised data collection template was provided to guide the process, but data provision by flat files was also accommodated for the convenience of the organisations; this approach has improved access to data, particularly in areas such as recruitment and leavers.

Organisations required assistance with both methods, but some had significant difficulty mapping their own internal structure to the data collection template structure. The template used a 'one size fits all' legacy process, organising information by a rigid naming structure and mapping the data to a prescribed taxonomy. The taxonomy uses a combination of job titles and their associated functions, shown in Appendix A1, and a system of levels relating to employee experience in their roles, shown in Appendix A2.

To give a realistic perspective, the data presented throughout this report is compared with similar data from 2023, but the following differences between the two datasets should be noted:

- The 2023 data presented multiple forecasts, showing three different operational scenarios with three different generation targets by 2050: 8, 16 and 24 Gigawatts. **The 2023 mid-range scenario was chosen as a realistic comparison for the 2024 data.** The 2024 data presents one forecast, showing one operational scenario, scenario 1 AUKUS activity, with one generation target of 16 Gigawatts.
- The approach to submissions for the 2024 assessment was more organisation-led. This approach has allowed for more robust validation sessions with the participating organisations, which has led to greater accuracy in the data collection whilst maintaining the same level of detail as in the 2023 assessment

Current Workforce

The 2023 assessment data reported a workforce of 83,000; this has **increased by 15%** in 2024 to **96,000**.

This growth in the workforce can be attributed to the following factors:

- The sites reported on in both 2023 and 2024 have seen growth in 2024, most notably in defence nuclear, which accounts for 57% of the growth / 7,000 of the workforce
- Additional sites have come forward for data collection from within defence and civil; new sites account for 43% / 5,000 of the growth

Looking in more detail at the workforce, the data can be considered from several different perspectives:

- Sector: providing insight into the distribution of the workforce between civil/defence
- Regional: providing a regional breakdown of the workforce in 2023 compared with 2024
- Functions: showing six broad functions that encapsulate the industry roles as a proportion of the workforce, and the level of growth in each role within the industry during 2023 and 2024
- Levels: detailing the distribution of employees across the industry according to experience
- Demographics: providing insight into the characteristics of the workforce, covering age and gender of the workforce, and insights into Equality, Diversity, and Inclusion, including ethnicity, disability, and sexuality
- Recruitment: showing the industry roles as a proportion of the new recruits and showing any shift in gender recruitment trends
- Leavers: providing details of better reporting on individuals leaving the industry
- Training: providing a brief look at employees who were either in apprenticeship or degree training, irrespective of their role or level

Sector

Looking at the civil and defence sectors for 2023 and 2024, a high-level comparison of the nuclear workforce can be shown in Figure 1, with accompanying raw figures provided in Table 1.

In both years, the civil workforce remained larger than the defence workforce; however, the gap between the two has narrowed. In 2023, civil accounted for 57% of the nuclear workforce and defence for 43%. By 2024, this had shifted slightly to 54% civil and 46% defence, reflecting proportionally stronger growth in the defence workforce over the past year.

Figure 1: Civil/Defence as a Proportion of the Workforce in 2023 and 2024

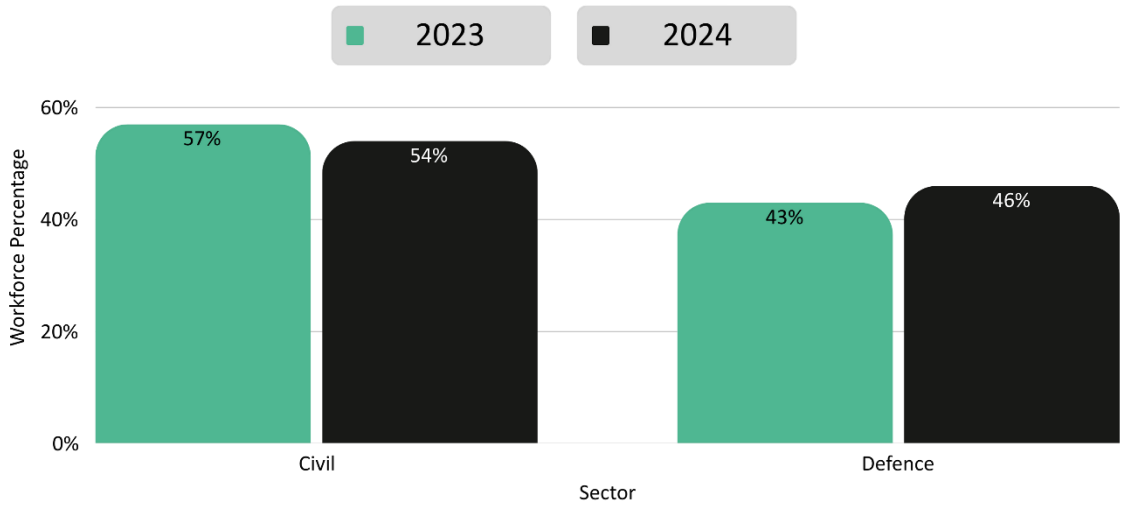


Table 1: Number of Employees within Civil/Defence for 2023 and 2024

	Civil	Defence
2023	47,095	35,999
2024	51,414	44,207

For a more detailed view of the civil workforce, it can be broken down into the following sub-sectors:

- Defence
- Supply Chain
- Decommissioning
- Operations
- Nuclear New Build (NNB)
- Research
- Regulator

Looking at the civil nuclear sub-sectors and their contributions to the overall total, Figure 2, below, shows the proportion of each sub-sector as a percentage of the workforce and Table 2, below, sets out the underlying figures.

Figure 2: Civil Sub-Sector/Defence as a Proportion of the Workforce in 2023 and 2024

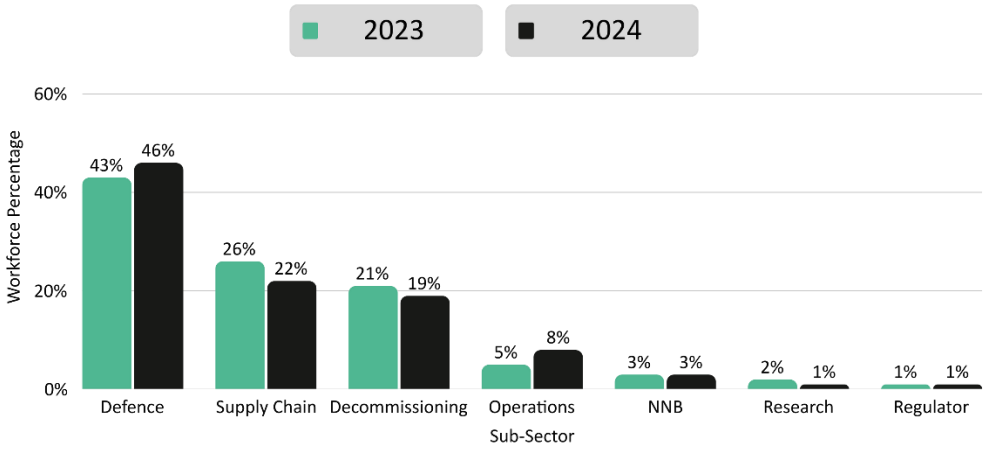


Table 2: Number of Employees within Civil Sub-Sector/Defence for 2023 and 2024

	Defence	Supply Chain	Decommissioning	Operations	NNB	Research	Regulator
2023	35,999	21,204	17,038	4,016	2,591	1,523	720
2024	44,207	21,204	18,275	7,511	2,519	1,411	663

Notable increases within the civil domain include the Operations sub-sector, which has grown by 87% from 4,016 in 2023 to 7,511 in 2024. This increase is primarily due to the addition of new civil sites included in this year's data submission, as referenced earlier in the Current Workforce section. Decommissioning also saw a modest increase (7%) from 17,038 to 18,275. Small decreases were observed in Research (-7%) and Regulator (-8%), while other areas, such as Supply Chain[1] and NNB remained stable.

[1] The Civil Supply Chain is a modelled component created for the 2023 NWA; this has remained unchanged for the 2024 report.

Regional

A regional breakdown of the workforce in 2023 compared with 2024 is explored in Table 3 overleaf, which shows the difference between each year's figures as a whole number and a percentage of change. The corresponding map for each year is shown below the tabular figures so that the regional numbers can be seen in their geographical location.

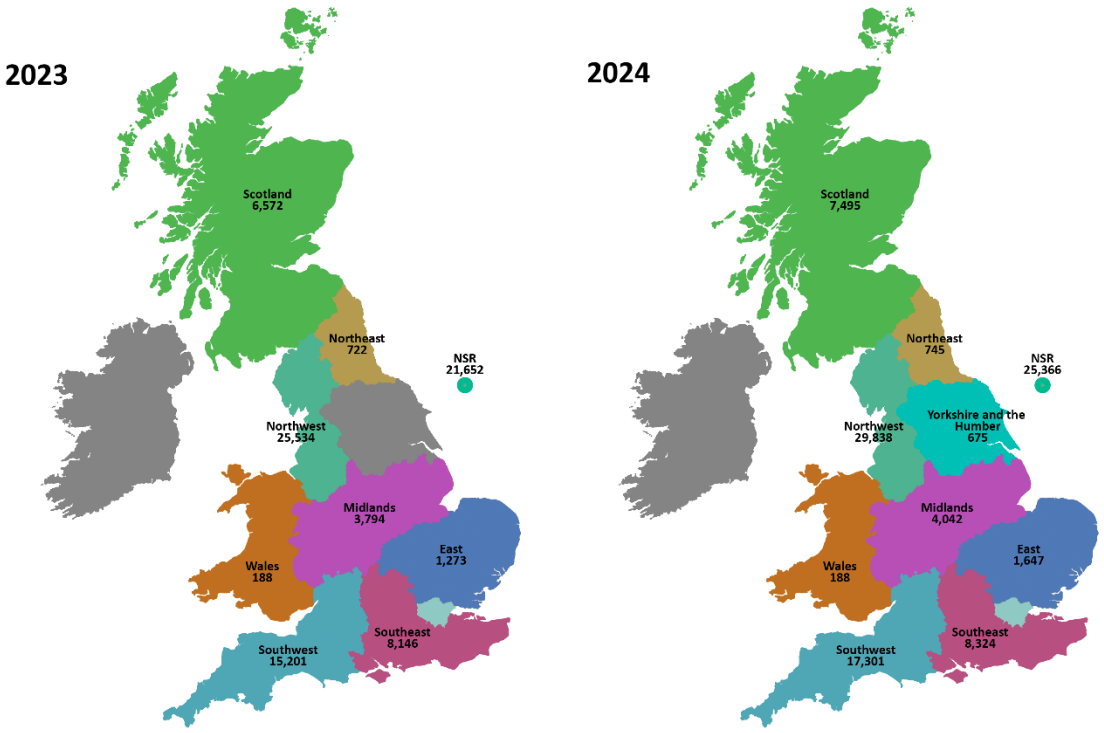
Whilst all regions have seen growth during 2024, the most notable increases are seen in the East (29%), the Northwest (17%), and in the workforce that did not have one set work location, NSR (17%). The increase in NSR can be attributed to new sites from civil nuclear in the submission this year.

Note: NSR denotes No Set Region, representing those workforce members that do not have one set work location.

2024 has also seen the addition of a new region, Yorkshire and the Humber, which comes from the inclusion of organisations that play a key role in supporting the Defence Nuclear Enterprise.

Table 3: Comparison of Regional Workforce in 2023 and 2024

Region	Count 2023	Count 2024	Difference	% Change
East	1,273	1,647	374	29%
Midlands	3,794	4,042	248	7%
NSR	21,652	25,366	3,714	17%
Northeast	722	745	23	3%
Northwest	25,534	29,838	4,304	17%
Scotland	6,572	7,495	923	14%
Southeast	8,146	8,324	178	2%
Southwest	15,201	17,301	2,100	14%
Wales	188	188	-	0%
Yorkshire and the Humber	-	675	New Region	



KEY: No Set Region (NSR)

Functions

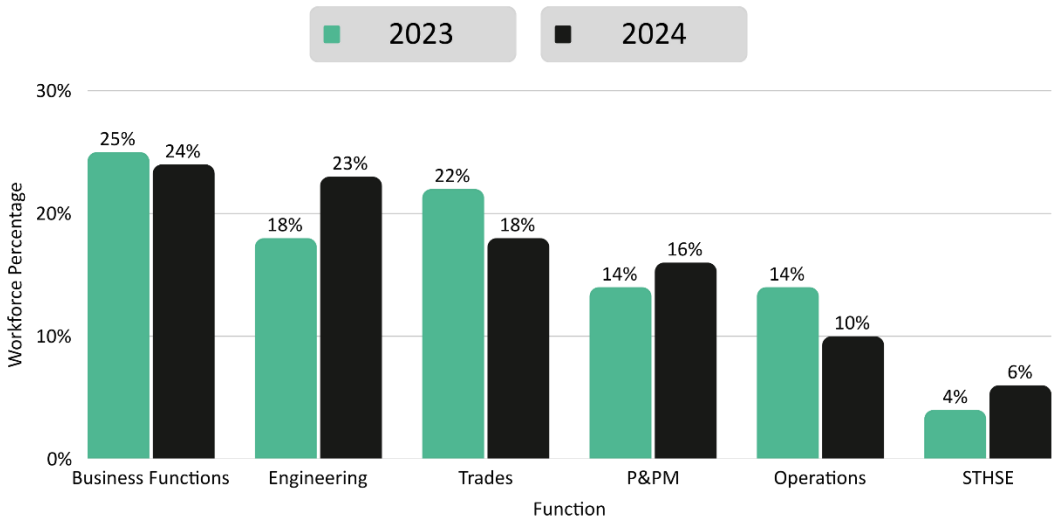
The roles within the industry are broken down into six broad functions:

- Business Functions
- Trades
- Engineering
- Project and Programme Management
- Operations
- Science, Technical, Health, Safety and Environment

Business Functions remain the largest proportion of the overall workforce with a slightly reduced share in 2024; there has been significant growth in Engineering, overtaking Trades for the second spot, whilst Trades has decreased by 3%. Project and Programme Management (P&PM) has slightly increased in proportion, whilst Operations has slightly decreased, and Science, Technical, Health, Safety and Environment (STHSE) has increased.

Figure 3 below orders the industry functions by their workforce proportion, showing the growth level in each function within the nuclear sector during 2023 and 2024.

Figure 3: Function as a Proportion of the Workforce in 2023 and 2024



KEY: Project and Programme Management (P&PM), Science, Technical, Health, Safety and Environment (STHSE)

Table 4 below shows the workforce number in each function during 2023 and 2024, showing the level of growth in each function within the nuclear sector between those years.

Table 4: Number of Employees Occupying a Function for 2023 and 2024

	Business Functions	Engineering	Trades	P&PM	Operations	STHSE
2023	21,463	15,475	18,678	12,359	11,644	3,474
2024	23,143	22,598	17,995	15,600	10,159	6,125

KEY: Project and Programme Management (P&PM), Science, Technical, Health, Safety and Environment (STHSE)

Levels

Levels are an indication of the experience and qualifications of an individual to perform their role.

Employee roles within the industry are broadly categorised by level; inevitably, this does vary between organisations, but as described in the Approach section earlier, assistance was given in mapping the data to the prescribed taxonomy so that the 2024 results were comparable with 2023.

The industry levels are shown in Figure 4 below, ordered by experience, with the least experienced first. The 2024 Level distribution remains similar to the 2023 results, with some increase in the proportion of employees in the mid-levels: Levels 3, 4 and 5. The workforce number in each level is shown in Table 5 for 2023 and 2024.

Figure 4: Levels as a Proportion of the Workforce in 2023 and 2024

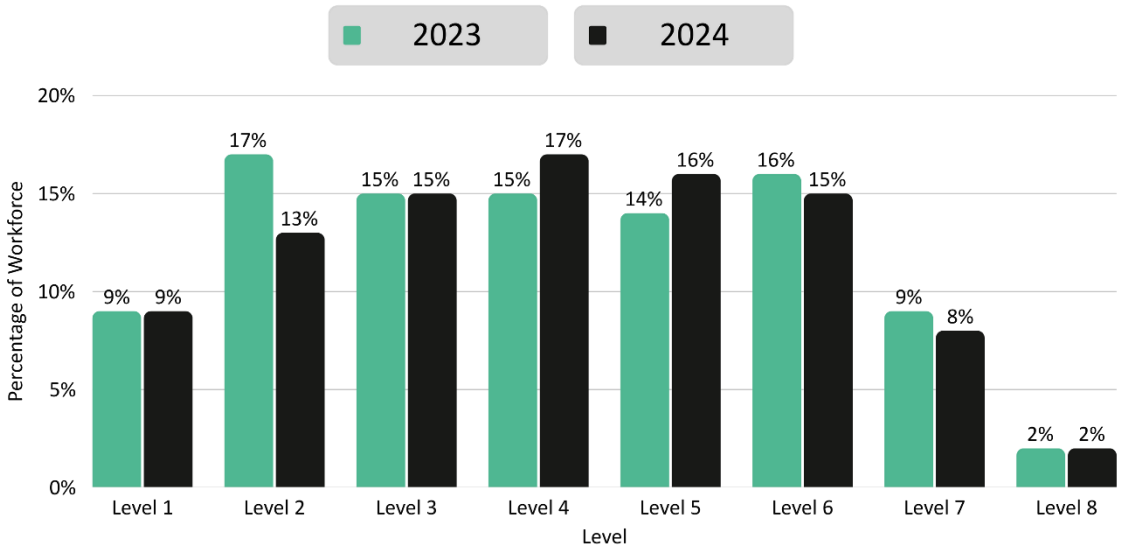


Table 5: Number of Employees Occupying a Level in 2023 and 2024

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8
2023	5,591	10,594	9,399	9,753	8,777	10,318	5,678	1,777
2024	6,832	9,214	11,081	12,160	11,394	11,116	6,061	1,884

Gender of the Workforce

In 2023, 78% of the nuclear workforce was male, 21% was female, and the remainder was a combination of not declared and non-binary.

In 2024, 70% of the nuclear workforce were male, 22% were female, and less than 1% were non-binary. While there was clearly a shift in balance, due to an increase in organisational sensitivity around demographic data, it is not completely clear what the gender proportion is, as 8% of the nuclear workforce was not declared.

Figure 5 below shows the proportion of the workforce in each gender for 2023 and 2024. The numbers associated with those proportions are shown in Table 6, where the upward trend is evident.

Figure 5: Gender Distribution as a Proportion of Workforce in 2023 and 2024

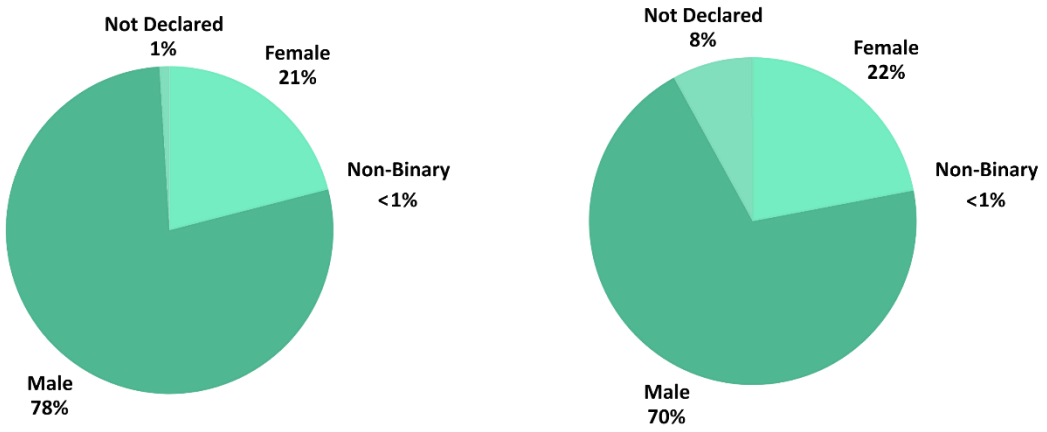


Table 6: Gender Distribution as Number of Employees in 2023 and 2024

	Male	Female	Not Declared	Non-Binary
2023	48,045	13,240	603	<5
2024	52,240	16,661	5,680	6

Age of the Workforce

Since 2023, the proportion of the workforce that are above the age of 50 has decreased by 2%, and there has been a corresponding increase in the 30-39 and 40-49 age groups. Simultaneously, there has been an increase in the proportion of people under 20 in the workforce.

Figure 6 below shows age distribution as a percentage of the workforce in 2023 compared to 2024.

Table 7 below shows the workforce members in each age range for 2023 and 2024. There has been a significant increase in the number of employees across all age groups except for the over-60s, and the number of under-20s has nearly doubled since 2023.

Figure 6: Age Distribution as a Proportion of the Workforce in 2023 and 2024

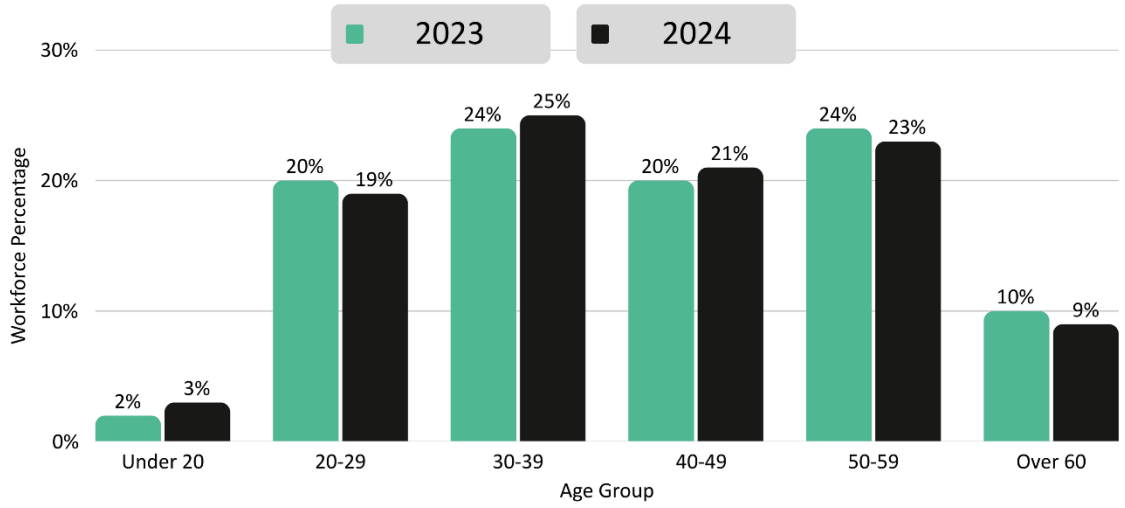


Table 7: Age Distribution as Number of Employees in 2023 and 2024

	Under 20	20-29	30-39	40-49	50-59	Over 60
2023	1,337	12,560	15,091	12,146	14,559	6,201
2024	2,210	14,258	18,596	15,244	16,827	6,512

Male

Looking at the male workforce in isolation, Figure 7 below shows age distribution as a percentage of the male workforce in 2023 compared to 2024.

The workforce number in each age range is shown in Table 8 for 2023 and 2024, where an upward trend is evident, particularly in the age ranges 20-29, 30-39 and 40-49. Whilst there has been an increase in the number of men under 20 in the workforce, there has also been a shift in the age distribution which is likely to be a result of the natural ageing process; those in the 20-29 age group are moving into 30-39 age group, and those in the 30-39 age group are moving into 40-49 age group.

Figure 7: Male Age Distribution as a Proportion of the Workforce in 2023 and 2024

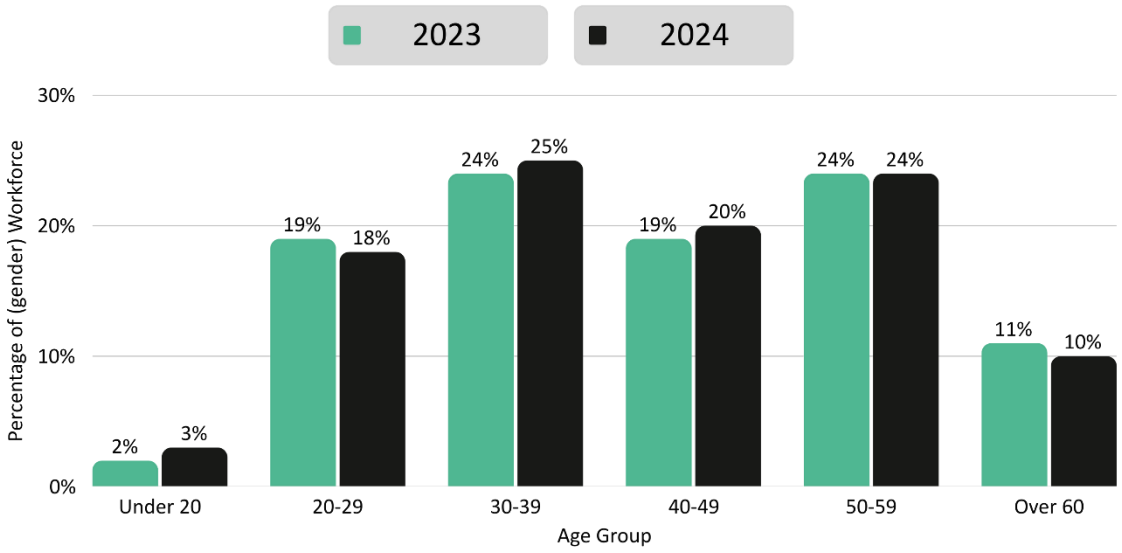


Table 8: Male Age Distribution as Number of Employees in 2023 and 2024

	Under 20	20-29	30-39	40-49	50-59	Over 60
2023	1,029	9,259	11,595	9,213	11,758	5,176
2024	1,580	9,331	12,991	10,476	12,306	5,196

Female

Looking at the female workforce in isolation, in 2024 a quarter of the female workforce was under 30 and this was also the case in 2023. The distribution of age as a percentage of the female workforce in 2023 compared to 2024 is shown in Figure 8 below, where there has been an increase in the number of women under 20 in the workforce and a slight decrease of women in their 20s; to some extent, the latter may be accounted for by the 20-29 age group moving into the 30-39 age group.

The workforce number in each age range for 2023 and 2024 is shown in Table 9, where the upward trend is evident across all age ranges.

When comparing the female age distribution amongst the workforce in Figure 15 below to that of the male age distribution in Figure 14 on the previous page, there is the same proportion of women under 20; a noticeably higher proportion of women in the 20-29, 30-39, and 40-49 age groups, and a lower proportion of women in the 50-59 and over 60 age groups.

Figure 8: Female Age Distribution as a Proportion of the Workforce in 2023 and 2024

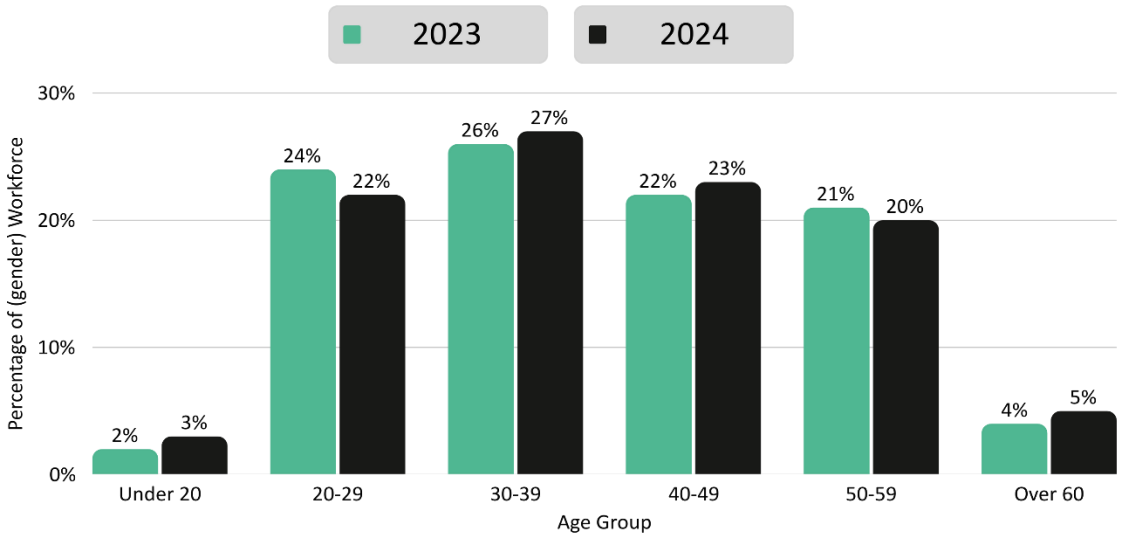


Table 9: Female Age Distribution as Number of Employees in 2023 and 2024

	Under 20	20-29	30-39	40-49	50-59	Over 60
2023	308	3,223	3,455	2,901	2,777	591
2024	555	3,725	4,455	3,748	3,349	751

Equality, Diversity, and Inclusion

Since Equality, Diversity, and Inclusion (ED&I) data was first collected in 2023 for this assessment, the number of employees reporting this information has significantly increased:

- Sexuality reports have increased from 11,000 in 2023 to 20,000 in 2024
- Disability reports have increased from 14,000 in 2023 to 22,000 in 2024
- Ethnicity reports have increased from 17,000 in 2023 to 28,000 in 2024

These numbers include employees who have reported their answer as 'Prefer Not to Say' and show significant progress in employees voluntarily answering questions on ED&I characteristics.

The following sections explore the data collected on sexuality, disability and ethnicity and compare it with the national picture.

Note that not all organisations have provided ED&I data.

Sexuality

Looking at Table 10 below, data on the sexuality of the nuclear workforce was collected nationally for 2023 and 2024.

Note that no information on the national picture was available with which to compare.

Since there is no national benchmark for comparison, this data primarily reflects disclosure trends rather than broader workforce representation. The proportion of employees identifying as heterosexual has decreased slightly from 92.4% in 2023 to 89.4% in 2024, while those selecting 'Prefer Not to Say' has risen from 4.6% to 7.3%.

The increase in the 'Other Sexual Orientation' category (0.5% to 1.7%) suggests a greater willingness to disclose sexuality, although figures for those identifying as gay, lesbian, or bisexual have slightly declined.

Without wider context, the changes may reflect evolving disclosure patterns rather than significant shifts in workforce demographics.

Table 10: Sexuality of the Nuclear Industry Workforce in 2023 and 2024

Sexuality	2023 Workforce %	2024 Workforce %
Heterosexual (Straight)	92.4%	89.4%
Prefer Not To Say	4.6%	7.3%
Other Sexual Orientation	0.5%	1.7%
Homosexual (Gay or Lesbian)	1.5%	0.9%
Bisexual	1.0%	0.7%

Disability

Data on the disability of the nuclear workforce was collected nationally for 2023 and 2024 and compared with the national picture; the results are shown in Table 11 below.

The proportion of disabled employees increased from 5.6% in 2023 to 8.5% in 2024. While the percentage of non-disabled employees declined slightly from 83.5% to 80.6%, both figures remain higher than the national average of 76%. The national disability figure of 24% provides a broader context but does not indicate what proportion of this group is in employment.

The 'Prefer Not to Say' category has remained stable at 10.9%, suggesting no significant change in disclosure levels.

Note that the figures below include data from Scotland and NSR.

Table 11: Disability in Nuclear Industry Workforce Compared to Nation in 2023 and 2024

Reference: UK disability statistics: Prevalence and life experiences - House of Commons Library

Disability Status	2023 Workforce %	2024 Workforce %	National Workforce %
Not Disabled	83.4%	80.5%	76.0%
Disabled	5.6%	8.5%	24.0%
Prefer Not To Say	10.9%	10.9%	N/A

Ethnicity

Data on the ethnicity of the nuclear workforce was collected by region and compared with the wider regional view, shown in Table 12 overleaf, and collected nationally and compared with the wider national view, shown in Table 13 on the following page.

Note that since the national dataset, collected from the UK government, does not contain data from Scotland, the national and regional figures quoted below exclude data from Scotland and data labelled NSR on the premise that the NSR workforce could be located in Scotland.

Regional

Looking at Table 12 overleaf and comparing the regional nuclear sector figures for ethnicity with the wider regional picture for 2024, notable variations in ethnic representation across regions are highlighted.

White representation is consistently high but lower in the nuclear sector, particularly in the Southwest (74.6%) compared to the regional average (93.1%).

Asian/Asian British and Black/African/Caribbean/Black British representation is generally lower in nuclear roles than the regional workforce, with some regions showing a minimal presence, such as Asian/Asian British in Wales (0%) and Black/African/Caribbean/Black British in the Northeast (0.6%).

Mixed/Multiple Ethnic Groups and Other Ethnic Groups also show a reduced presence in nuclear roles.

The 'Prefer Not to Say' category is highest in the Southwest (17.4%), suggesting potential sensitivities or a reluctance to disclose ethnicity in this region.

Table 12: Ethnicity by Region in Nuclear Industry Compared to Wider Region in 2024

Reference: Regional ethnic diversity - GOV.UK Ethnicity facts and figures

Ethnic Group	East	Northeast	Northwest	Southwest	Wales
White (regional)	86.5%	93.1%	85.6%	93.1%	93.9%
White (Nuclear)	77.6%	84.7%	94.3%	74.6%	88.0%
Asian/Asian British (regional)	6.4%	3.7%	8.4%	2.8%	2.9%
Asian/Asian British (Nuclear)	5.0%	1.0%	1.2%	2.1%	0.0%
Black / African / Caribbean / Black British (regional)	2.9%	1.0%	2.3%	1.2%	0.9%
Black / African / Caribbean / Black British (Nuclear)	2.7%	0.6%	0.6%	1.1%	0.0%
Mixed / Multiple Ethnic groups (regional)	2.8%	1.3%	2.2%	2.0%	1.6%
Mixed / Multiple Ethnic groups (Nuclear)	1.6%	0.0%	0.5%	1.2%	0.0%
Other Ethnic Group (regional)	1.4%	1.0%	1.5%	0.9%	0.9%
Other Ethnic Group (Nuclear)	2.1%	3.2%	0.3%	3.7%	12.0%
Prefer Not to Say (Nuclear Only)	11%	10.5%	3.2%	15.6%	0.0%

National

Table 13 overleaf examines the national nuclear sector figures for ethnicity in 2023 and 2024 and compares them with the wider national picture, revealing notable variations in ethnic representation. The national data highlights significantly greater ethnic diversity compared to the workforce figures for both 2023 and 2024.

White representation nationally (81.7%) is lower than in the nuclear sector, where representation has increased slightly from 86.9% to 87.4% in 2024.

Asian/Asian British (9.3%) and Black/African/Caribbean/Black British (4.0%) are far better represented nationally than in nuclear roles, where figures remain below 2% and 1%, respectively.

Other Ethnic Groups (5.2%) and Mixed/Multiple Ethnic Groups (2.9%) are more prevalent nationally than in nuclear roles.

The 'Prefer Not to Say' category has declined slightly in the nuclear sector.

Table 13: Ethnicity of Nuclear Industry Workforce Compared to Nation in 2023 and 2024

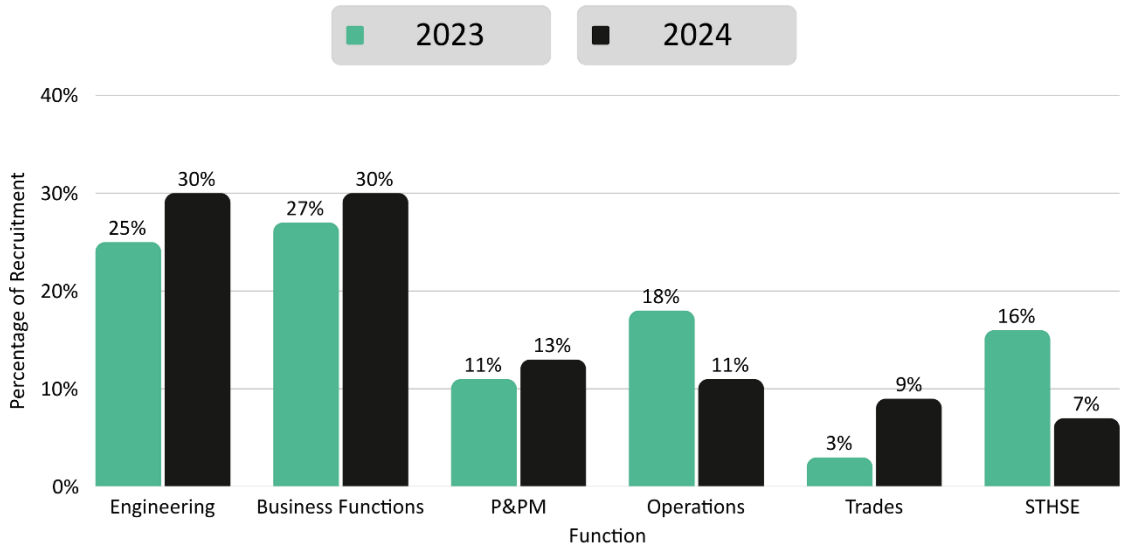
Reference: Population of England and Wales - GOV.UK Ethnicity facts and figures

Ethnic Group	2023 Workforce %	2024 Workforce %	National Workforce %
White	87.6%	89.1%	81.7%
Asian/Asian British	1.5%	1.2%	9.3%
Other Ethnic Group	1.5%	2.2%	5.2%
Black / African / Caribbean / Black British	0.6%	0.6%	4.0%
Mixed / Multiple Ethnic groups	0.6%	0.6%	2.9%
Prefer Not To Say	8.3%	6.3%	N/A

Recruitment

The proportion of new recruits employed across the six broad function categories is shown below in Figure 9, the chart orders the functions by proportion and shows results for 2023 and 2024. The number of new recruits employed within each of the categories is shown below in Table 14.

Figure 9: New Recruits Functions as a Proportion of Number Employed in 2023 and 2024

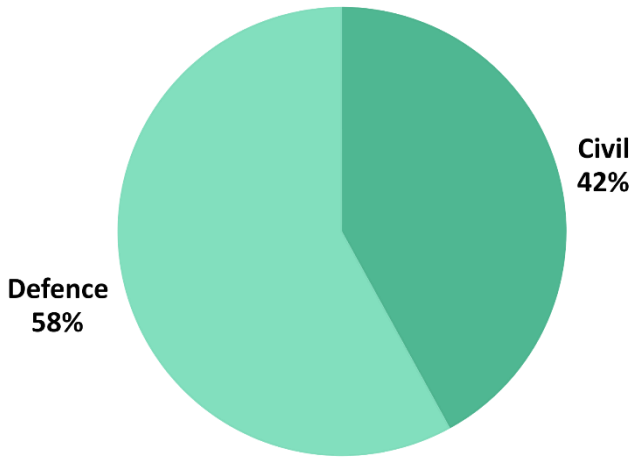


KEY: Project and Programme Management (P&PM), Science, Technical, Health, Safety and Environment (STHSE)

Table 14: Number of New Recruits Occupying a Function for 2023 and 2024

	Engineering	Business Functions	P&PM	Operations	Trades	STHSE
2023	637	688	267	445	67	401
2024	2,628	2,596	1,152	923	811	653

KEY: Project and Programme Management (P&PM), Science, Technical, Health, Safety and Environment (STHSE)



Looking at Figure 10 adjacent, there were 8,768 new recruits during the 2024 assessment period, of these, 3,674 were in civil nuclear and 5,092 in defence nuclear.

The defence nuclear recruitment figures were unavailable in 2023, but there were 2,507 new recruits across civil nuclear during the 2023 assessment period.

Note: The 2023 assessment recorded whether recruits were internal or external to the nuclear industry, but this was not available in 2024 because many organisations did not record it.

Figure 10: Recruitment by Sector as a Proportion of the Workforce in 2024

Looking more closely at the type of recruits in Figure 11 and 12 below, the breakdown provides insight into the proportion of new hires developing skills through structured training routes compared to those with prior experience.

Figure 11 shows that 7,615 of the new recruits were experienced and the remaining 1,151 entered through trainee pathways.

Figure 12 shows that within the trainee group, 690 of the new recruits were apprentices and 461 were graduates.

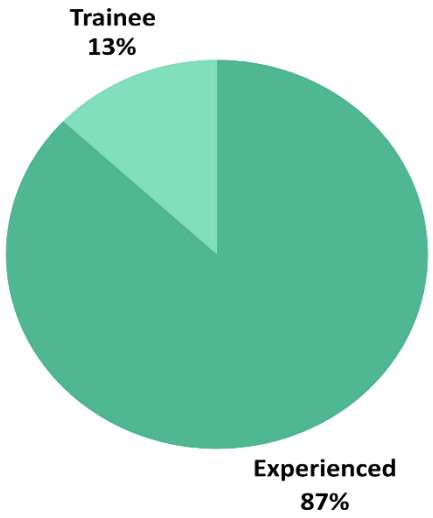


Figure 11: Trainee vs Experienced Recruits in 2024

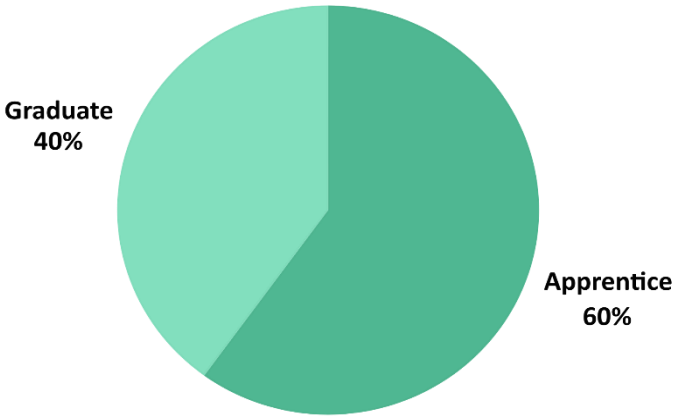


Figure 12: Graduates vs Apprentice Recruits in 2024

Gender Recruitment

Gender recruitment trends have shifted since 2023, but men still account for the majority of recruits across all functions, and women are primarily recruited into Business Functions. Table 15 below shows the number of each gender recruited to a function for 2023 and 2024.

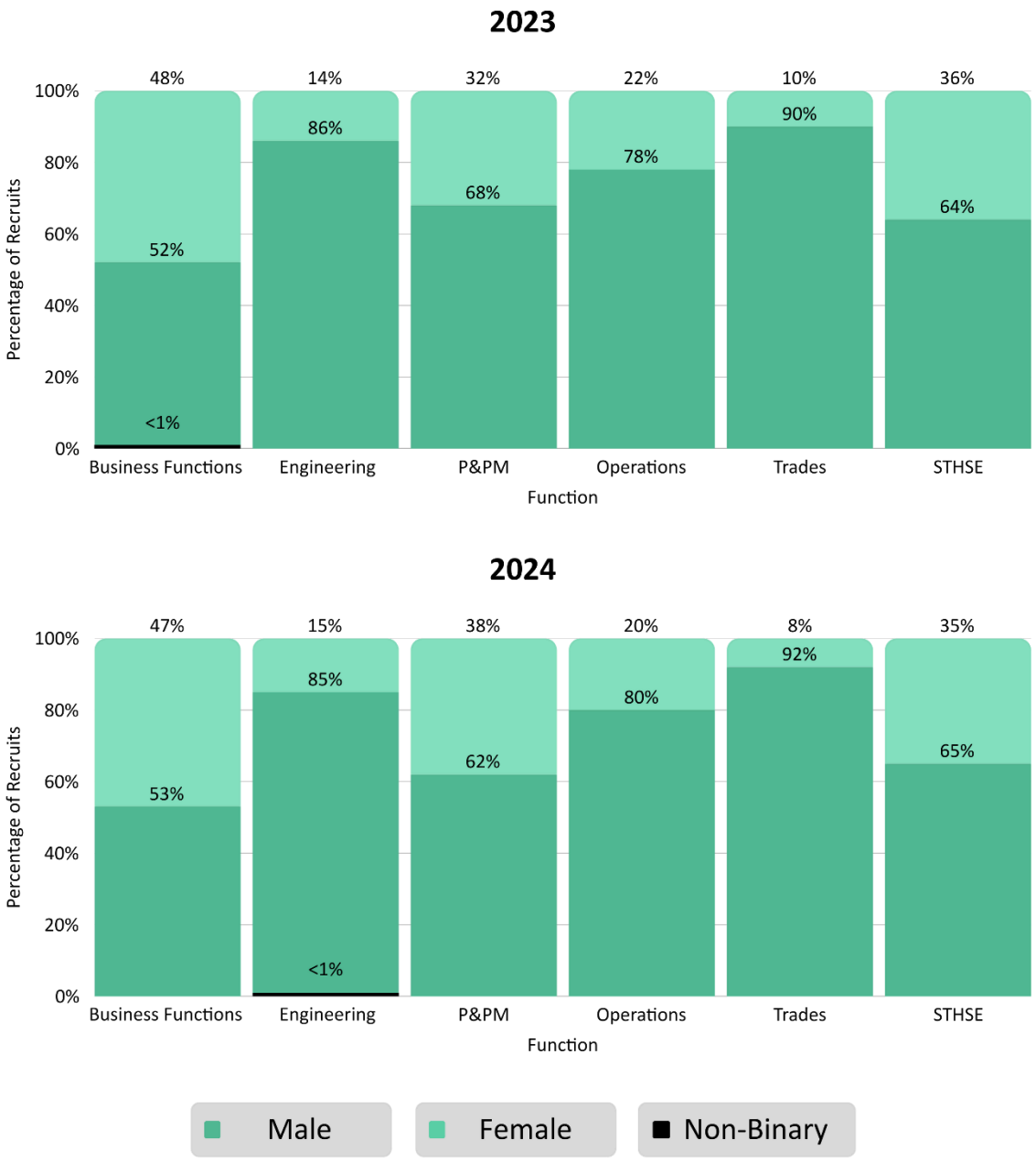
Table 15: Number of Gender Recruited to a Function based on 2023 and 2024 Figures

		Female	Male	Non-Binary
Engineering	2023	86	551	0
Business Functions		331	355	<5
P&PM		86	181	0
Operations		98	347	0
Trades		7	60	0
STHSE		144	257	0
Engineering	2024	312	1,787	<5
Business Functions		954	1,061	0
P&PM		358	590	0
Operations		169	676	0
Trades		60	665	0
STHSE		157	289	0

KEY: Project and Programme Management (P&PM), Science, Technical, Health, Safety and Environment (STHSE)

However, looking at Figure 13 overleaf, there is a greater uptake of women across certain functions: in Engineering, women accounted for 15% of recruits in 2024 compared to 14% in 2023, and in Project and Programme Management, women accounted for 38% of recruitment in 2024 compared to 32% in 2023. This is offset by decreases across other functions such as Operations and Trades, both seeing 2% decreases in recruitment for women.

Figure 13: Gender of New Recruits as a Proportion of Number Employed in 2023 and 2024, Organised by Function



KEY: Project and Programme Management (P&PM), Science, Technical, Health, Safety and Environment (STHSE)

Looking at the recruitment data for 2023 and 2024, in Figure 14 below, it highlights variations in gender representation across function levels. While female recruitment has grown in absolute numbers, its proportional share varies by level.

At Level 1, female representation increased from 15% to 26%, while at Level 2, despite a rise in numbers, the proportion of female recruits dropped from 39% to 26%. In contrast, Level 3 saw an improvement from 24% to 29%, indicating a stronger gender balance at this stage.

Higher role levels (4-8) show a mixed trend. Female representation at Levels 4 and 5 fluctuated slightly, while Levels 6 and 7 saw an increase, suggesting a positive shift in gender diversity at more senior levels.

Non-binary representation remains minimal, with only a small presence at Levels 3 and 8.

Figure 14: Gender of New Recruits as a Proportion of Number Employed in 2023 and 2024, Organised by Level

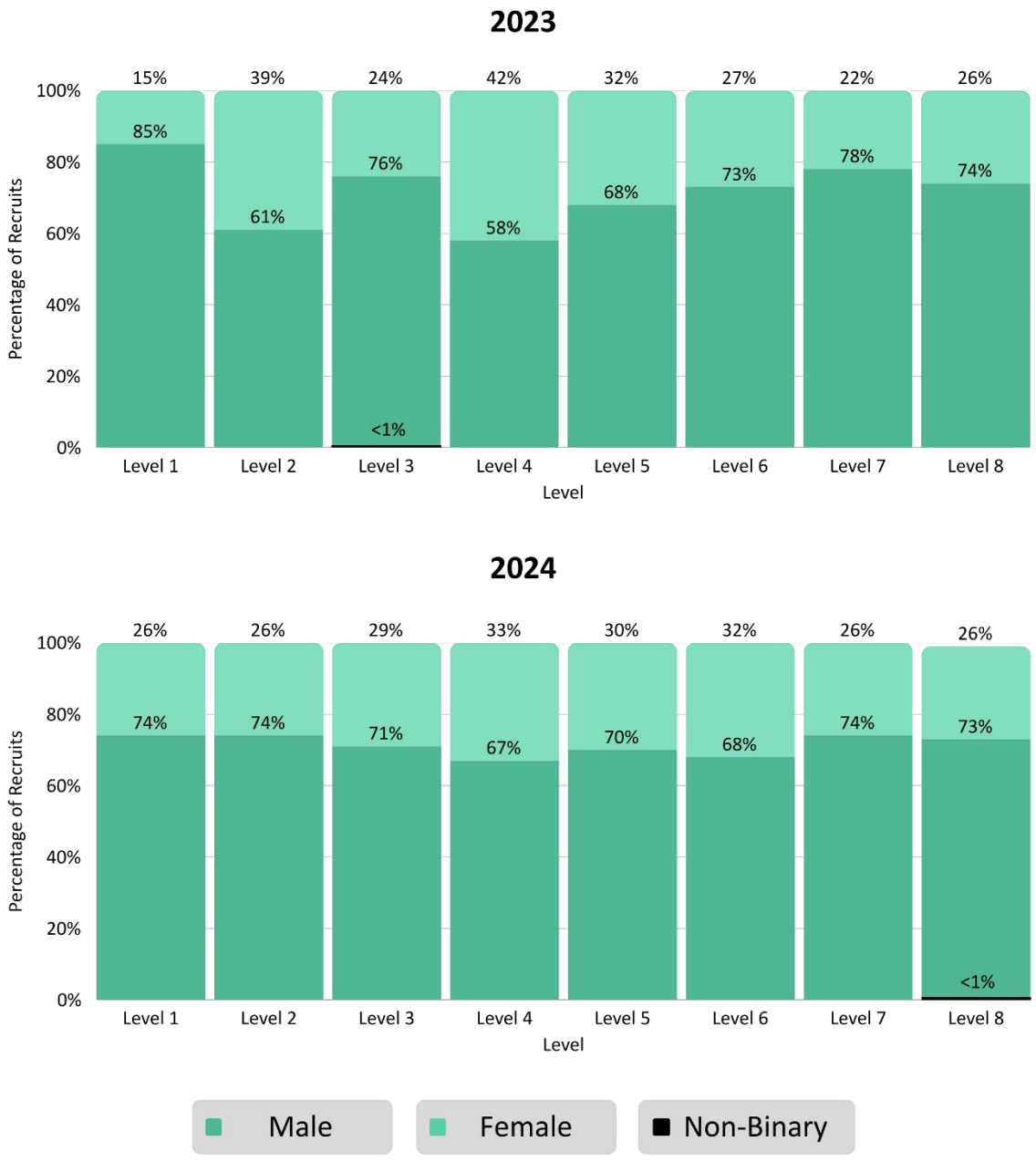


Table 16 below shows the number of each gender recruited by level for 2023 and 2024.

Table 16: Number of Each Gender Recruited by Level based on 2023 and 2024 Figures

		Female	Male	Non-Binary
Level 1	2023	15	85	0
Level 2		210	332	0
Level 3		123	388	<5
Level 4		96	134	0
Level 5		109	235	0
Level 6		158	439	0
Level 7		33	121	0
Level 8		6	17	0
Level 1	2024	153	433	0
Level 2		410	1,194	0
Level 3		400	985	0
Level 4		299	617	0
Level 5		192	452	0
Level 6		278	603	0
Level 7		73	207	0
Level 8		36	102	<5

Leavers

Improvements in data collection across organisations have led to greater visibility of the leavers in the 2024 report, particularly in defence nuclear. This has given us a more expansive view across the sector and better reporting on a larger workforce.

In 2023, there were 3,014 leavers, whereas in 2024, there were 6,094 leavers. The leavers in 2024 made up 8% of the workforce.

Note that the difference in numbers between 2023 and 2024 is not an indication of an increase in the number of leavers but of an improved view of the industry as a whole.

Leavers by Level

Figure 15 below compares 2023 to 2024, showing the level the leavers were at in the organisation and the percentage of the total number of leavers. The numbers of leavers at each level for 2023 and 2024 are shown in Table 17 below.

Figure 15: Leavers by Level as a Percentage of the Total Workforce in 2023 and 2024

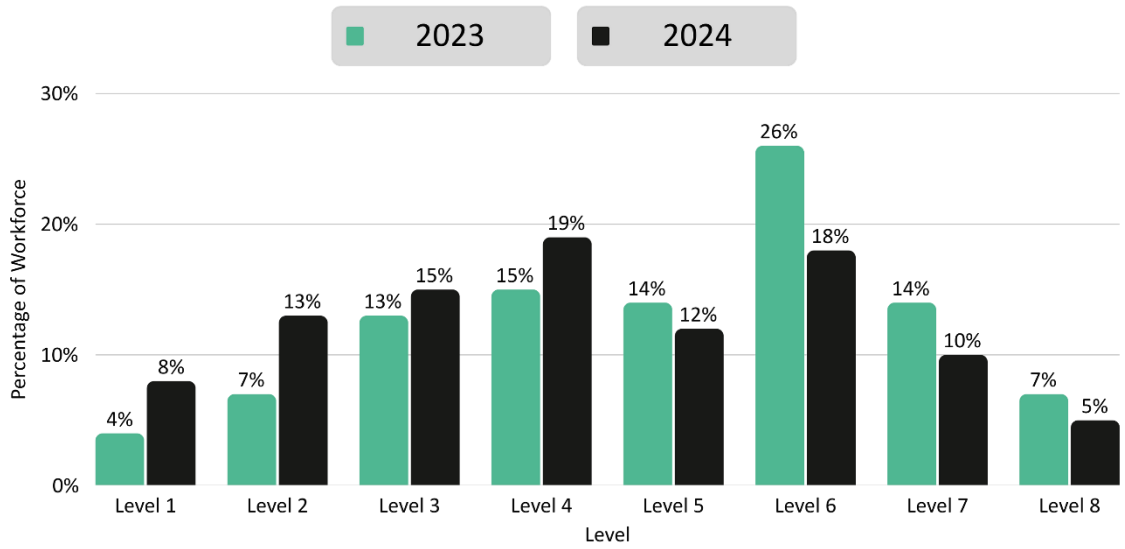


Table 17: Number of Leavers by Level in 2023 and 2024

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8
2023	131	195	392	463	405	777	433	199
2024	463	766	901	1,145	694	1,053	581	270

Leavers by Age

Due to limitations in the data, it is not possible to compare 2023 leavers by age, but we can explore the 2024 figures.

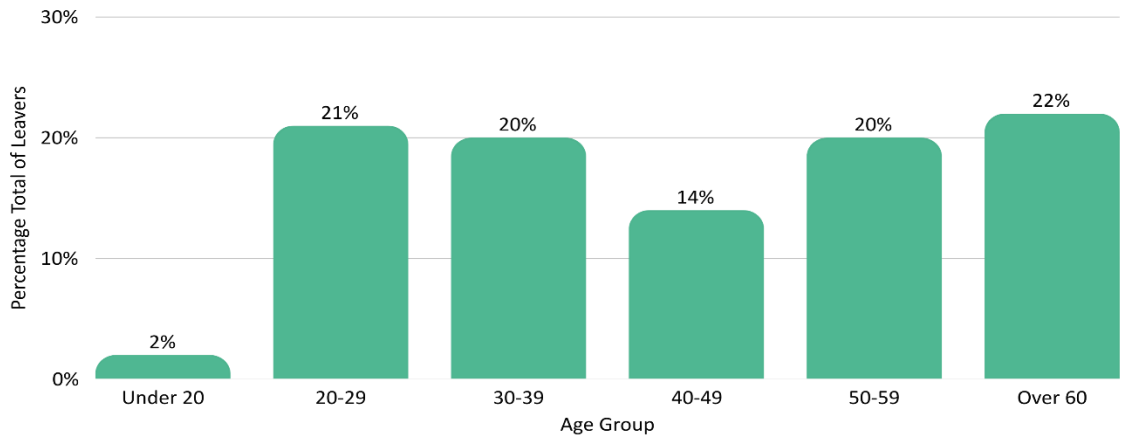
Table 18 below shows the number of leavers for each age category in 2024.

Table 18: Age Distribution Amongst Leavers in 2024

	Under 20	20-29	30-39	40-49	50-59	Over 60
2024 Levers	115	1,245	1,161	815	1,173	1,290

Each group of leavers can be viewed as a percentage of the total number of leavers in Figure 16 below, and as a percentage within their age group in Figure 17 overleaf.

Figure 16: Leavers by Age Group as a Percentage of the Total Leavers in 2024



Looking at Figure 16 above, in 2024 the under 20s made up the lowest share of leavers, followed by those in the 40-49 age group. The remaining leavers were split evenly across the remaining age groups: 20-29, 30-39, 50-59 and over 60.

Looking at Figure 17 overleaf, when examining leavers as a proportion within each age group, notable variations are seen. The percentage of leavers is relatively consistent across most age groups, ranging from 5% to 9%. However, the proportion is significantly higher among those aged 60 and over, where the percentage leaving is 20%. Definitive conclusions about the reasons behind these patterns cannot be drawn, and this variation warrants further exploration to understand potential factors influencing retention across different age groups.

Figure 17: Leavers as a Percentage of Each Age Group in 2024

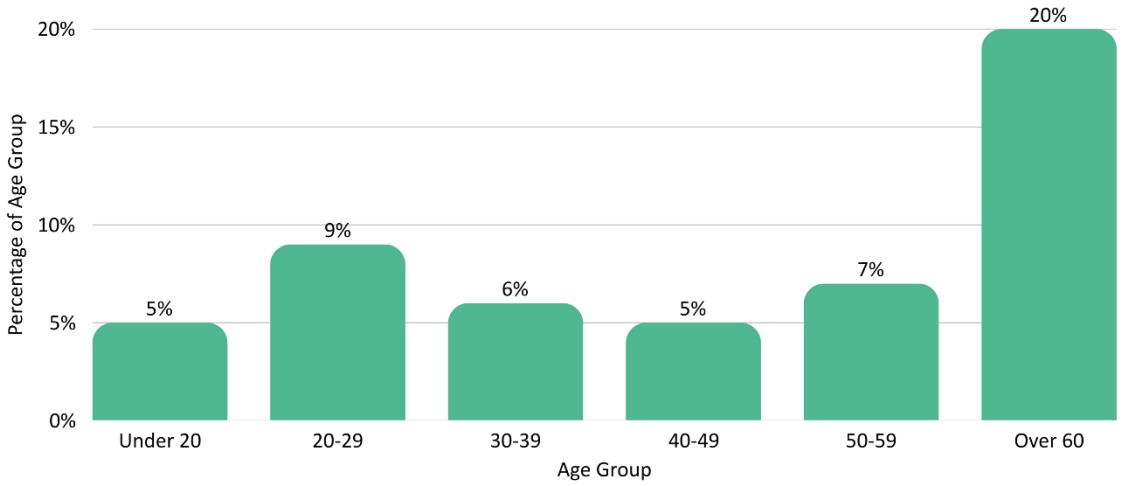


Table 19 below shows the number of workers within each age category in 2024 in the first row and the number of leavers for each age category in 2024 in the second row.

Table 19: Age Distribution Amongst Workforce Compared to Leavers in 2024

	Under 20	20-29	30-39	40-49	50-59	Over 60
2024 Workforce	2,210	14,258	18,596	15,244	16,828	6,512
2024 Leavers	115	1,245	1,161	816	1,174	1,291

Training

Organisations were asked to provide the numbers of employees who were either in apprenticeship or degree training, irrespective of their role or level.

A complete dataset was not provided from all organisations on training, so the data below does not provide a full picture of training activity across the sector.

Table 20 below shows the numbers of employees in training for 2023 and 2024, and the number of trainees recruited for 2024.

Note that the majority of the training data (88%) came from defence organisations.

Table 20: Training Numbers in 2023 and 2024

	2023	2024
Employees in Traning	1,183	3,516
Trainees Recruited	No Data	1,151

The qualifications of the employees in training for 2023 and 2024 are shown in Table 21 below.

Table 21: Qualification of the Employees in Training for 2023 and 2024

	Standard	Degree	Welsh Apprenticeship Framework	Scottish Apprenticeship Framework
2023	882	233	11	57
2024	3,080	419	11	5

Demand

Many changing factors dictate workforce demand, and the demand profile varies between organisations. The demand picture is constructed from forecasts from the major civil nuclear operators and developers, the Ministry of Defence and its industrial partners, and a modelled component for the civil new build programme.

Figure 18 below shows the predicted demand for the nuclear workforce based on the 2023 report compared to that of the 2024 report, and Table 22 below shows the same comparison with the predicted demand figures for selected years.

Whilst defence nuclear's level of demand has reduced since 2023, civil nuclear has shown an increased level of demand, which will persist over the next five years.

Figure 18: Nuclear Industry Workforce Demand Expectations in 2023 and 2024

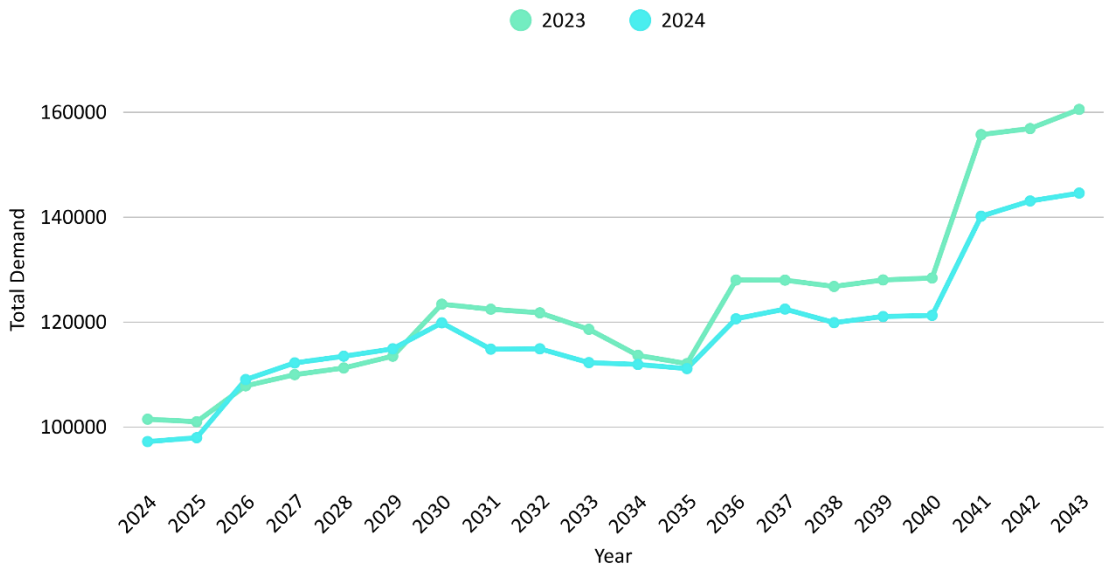


Table 22: Demand Figures for Key Years in 2023 and 2024

	2024	2030	2035	2040	2043
2023	101,491	123,411	112,084	128,400	160,537
2024	97,234	119,885	111,134	121,279	144,579

Sector

Defence nuclear has primarily retained the same demand model, developed in 2023, for the 2024 assessment, based on Scenario 1 AUKUS activity.

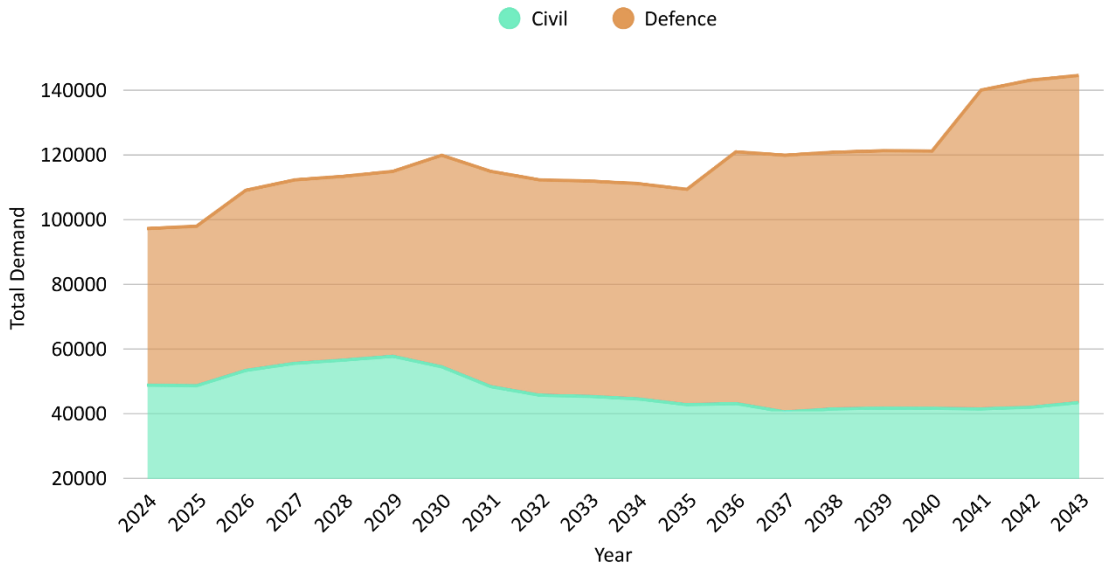
This model has been updated to reflect new workforce planning strategies introduced by some defence organisations, resulting in a slight reduction in projected demand across the years. However, these organisations, primarily based in the Southwest, have noted that their submissions do not fully capture the anticipated infrastructure-related demand, which would otherwise increase the overall figures.

For future assessments, defence nuclear will move away from modelled data as the primary source of demand. Instead, modelling will be provided as an alternative view alongside a constrained outlook for future workforce requirements. This constrained view is expected to demonstrate a decrease in future workforce demand as workforce efficiencies are realised.

Civil nuclear provided refreshed demand projections for the 2024 assessment, indicating increased expectations over the next five to six years. While demand figures remain broadly in line with those submitted in 2023, there is a slight overall increase. Beyond 2033, uncertainty persists, and figures from this point onwards should be interpreted with appropriate caution.

As shown in Figure 19 below, there continues to be a significant divergence between civil and defence demand profiles. In 2024, the demand is evenly split, 50% defence and 50% civil. However, this balance is projected to shift, with defence demand rising to 55% by 2030 and reaching 66% by 2040, compared to 34% from the civil sector.

Figure 19: Civil and Defence Workforce Demand Over Time



The demand figures predicted by defence and civil for key years 2024, 2030, 2035, 2040 and 2043 can be seen in Table 23 overleaf.

Table 23: Civil and Defence Workforce Demand in Key Years

	2024 Demand	2030 Demand	2035 Demand	2040 Demand	2043 Demend
Civil	48,843	54,493	44,573	41,714	43,471
Defence	48,391	65,392	66,561	79,566	101,108
Total	**97,235**	**119,885**	**111,135**	**121,280**	**144,579**

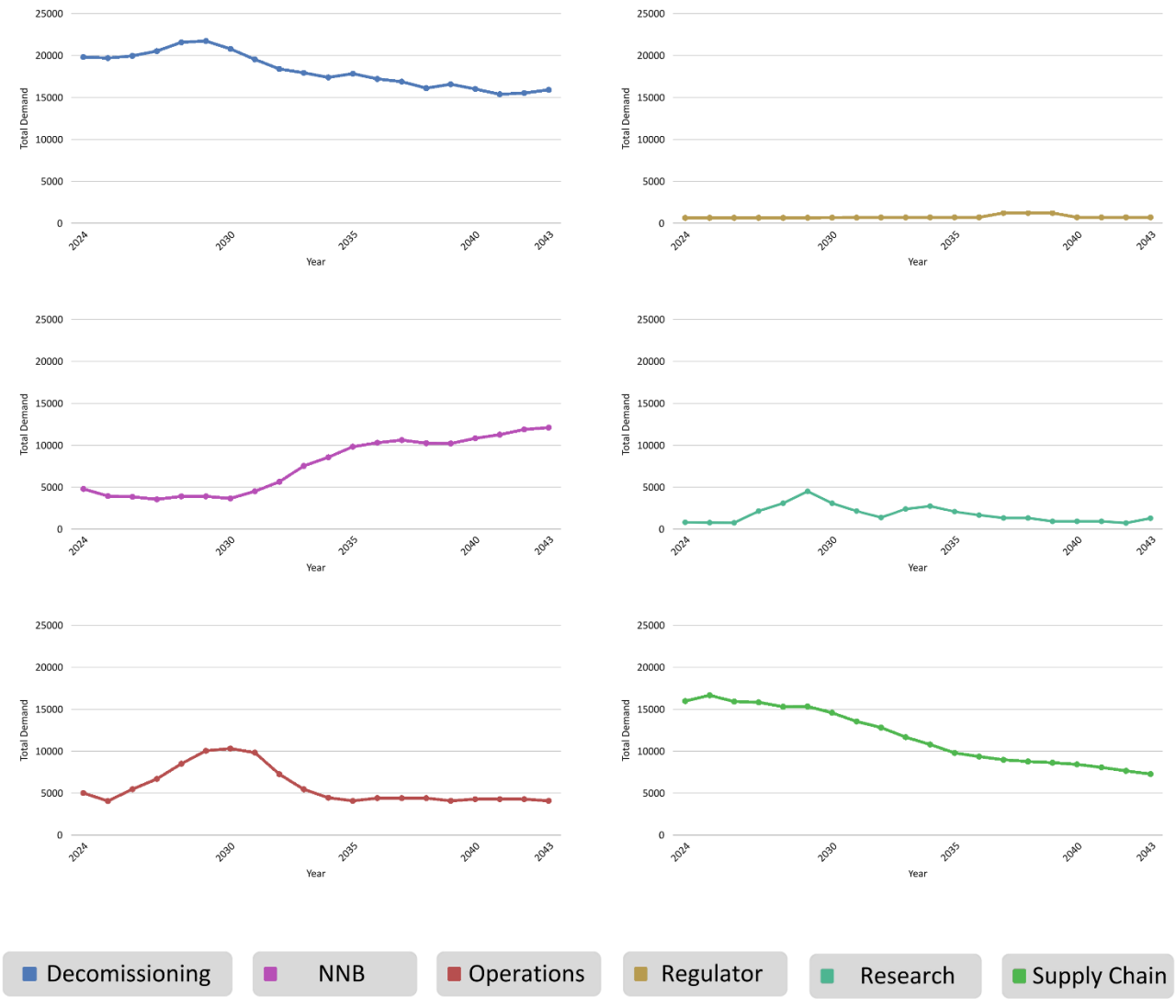
Civil Sub-sectors

Civil nuclear can be divided into sub-sectors: Decommission, Supply Chain, NNB, Operations, Research and Regulator.

Multiple power plant sites (such as Hinkley Point B, Hunterston, and Dungeness B) are in decommissioning phases and no longer in operation, which has led to a decreased demand in the operations sub-sector and an increased demand for decommissioning.

Figure 20 below shows the predicted demand over time as a line chart for each sub-sector for the nuclear workforce based on the 2024 report.

Figure 20: Civil Sub-sector Workforce Demand Over Time in 2024



KEY: Nuclear New Build (NNB)

Table 24 overleaf compares the predicted demand figures for key years 2024, 2030, 2035, 2040 and 2043 for each of these sub-sectors based on the 2023 and 2024 reports.

Table 24: Civil Sub-sector Workforce Demand Figures for Key Years in 2023 and 2024

		Decommission	Supply Chain	NNB	Operations	Research	Regulator
2024	2023	18,447	15,974	10,907	3,899	784	868
2030		16,815	13,400	16,305	3,099	789	868
2035		15,001	9,319	11,717	2,264	820	868
2040		13,781	8,264	13,645	2,264	820	868
2043		14,039	7,100	19,686	1,599	820	868
2024	2024	19,833	15,974	4,811	5,017	655	834
2030		18,744	13,440	3,161	9,503	694	750
2035		18,848	9,319	10,841	4,091	725	750
2040		14,628	8,264	12,657	4,691	725	750
2043		15,792	7,100	13,315	4,091	725	2,449

KEY: Nuclear New Build (NNB)

Regional

The regions with the largest demand profiles over time are the Southwest and the Northwest. NSR has also seen a significant jump in demand compared to previous years. As noted earlier, this (unspecified) region has grown due to additional data from civil organisations.

Table 25 below shows the regional workforce demand figures for key years 2024, 2030, 2035, 2040 and 2043 based on the 2023 and 2024 reports.

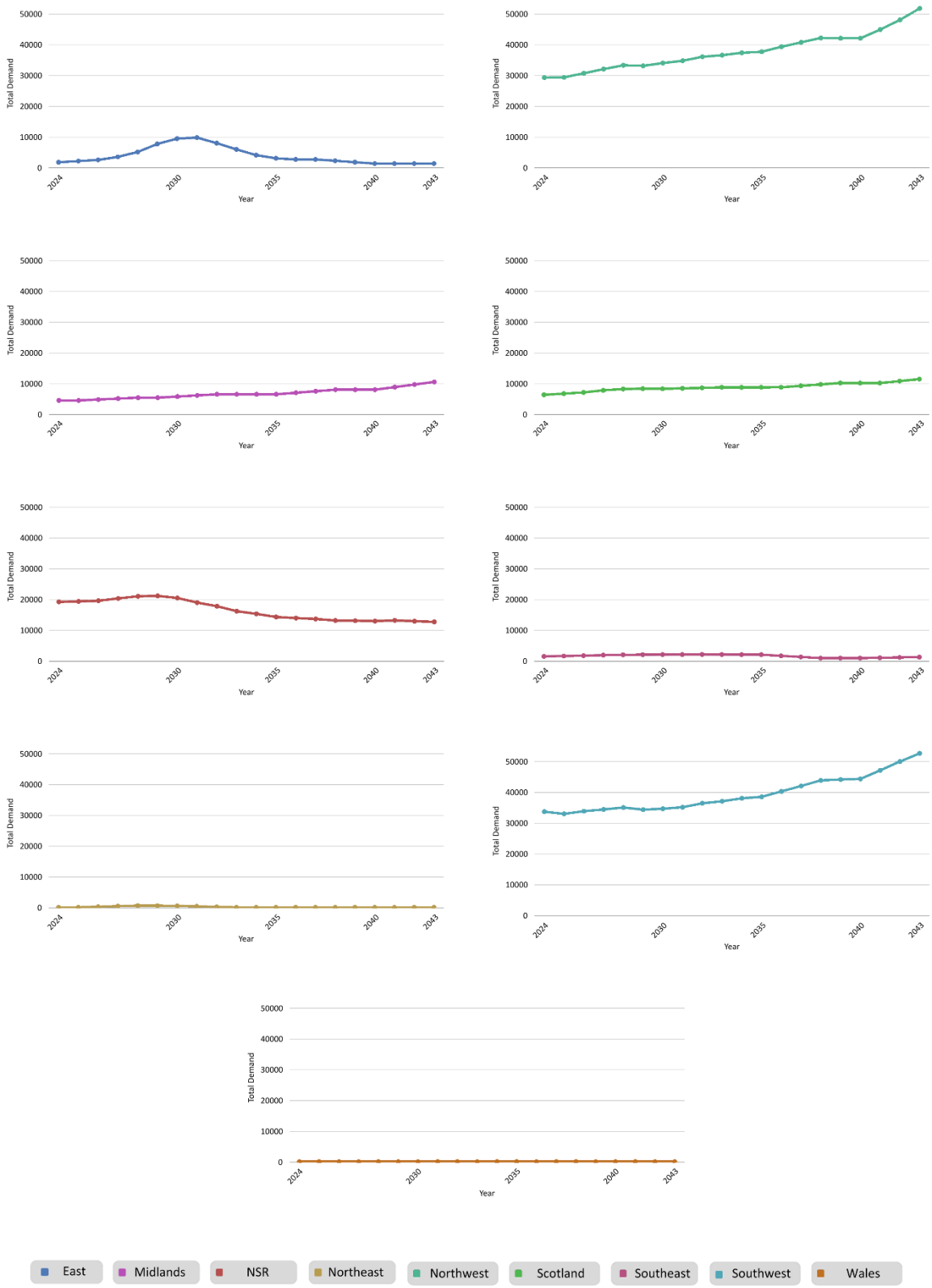
Table 25: Regional Workforce Demand Figures for Key Years in 2023 and 2024

		SW	NW	NSR	Scot	Mid	E	SE	NE	Wales
2024	2023	35,130	31,418	16,770	8,391	5,007	3,209	626	537	404
2030		38,829	39,747	14,538	10,264	7,378	10,980	829	444	404
2035		42,543	38,715	10,417	9,379	6,597	2,979	829	222	404
2040		51,140	43,535	9,831	11,175	8,095	2,969	1,030	222	404
2043		67,226	54,599	9,133	14,328	10,615	2,819	1,358	55	404
2024	2024	22,834	29,344	19,269	6,437	4,604	1,877	12,526	156	188
2030		20,553	36,053	19,469	8,398	6,597	10,065	17,958	605	188
2035		23,029	37,770	13,884	8,855	6,597	2,767	17,890	156	188
2040		25,276	42,217	13,297	10,246	8,095	1,458	20,348	156	188
2043		27,186	53,465	12,599	12,213	10,615	1,458	26,699	156	188

KEY: Southwest (SE), Northwest (NW), No Set Region (NSR), Scotland (Scot), Midlands (Mid), East (E), Southeast (SE), Northeast (NE)

Figure 21 below shows the predicted demand over time as a line chart for each region for the nuclear workforce based on the 2024 report.

Figure 21: Regional Workforce Demand Over Time



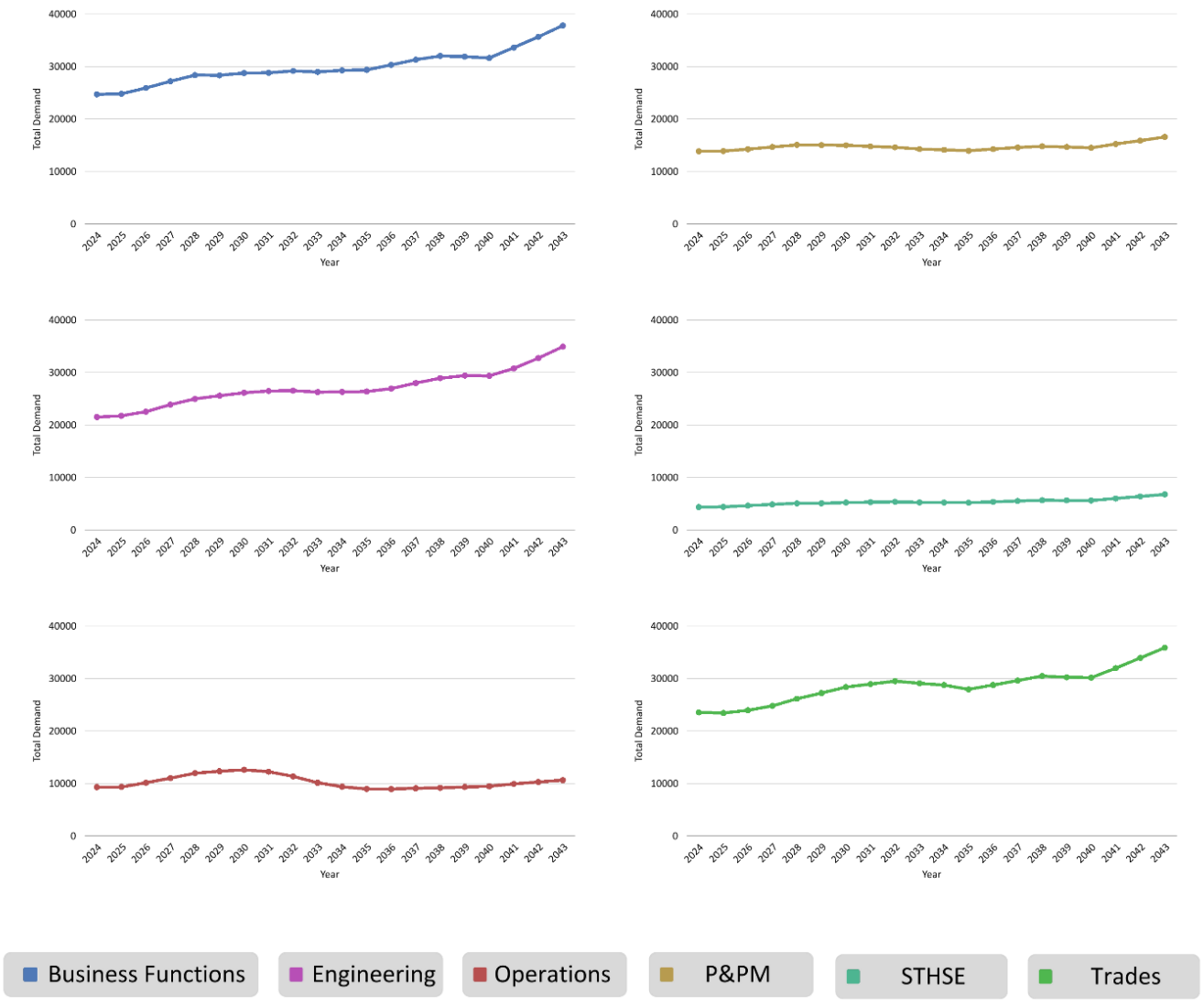
KEY: No Set Region (NSR)

Functions

Function demand measures the quantity of employees required for the roles associated with that function, rather than the importance of the function. While some functions require numerous employees for each site and some only one, all the functions identified in this report are critical to the nuclear industry's success.

Looking at Figure 22, Business Functions, Engineering, and Trades sustain the highest volume of recruitment. This can be seen more clearly in Table 26 overleaf, where the quantity of employees required for the associated roles for key years is compared based on the 2023 and the 2024 reports, respectively.

Figure 22: Function Demand Over Time



KEY: Project and Programme Management (P&PM), Science, Technical, Health, Safety and Environment (STHSE)

Table 26: Workforce Demand by Function for Key Years in 2023 and 2024

		Business Functions	Trades	Engineering	P&PM	Operations	STHSE
2024	2023	26,047	25,346	21,665	13,837	9,750	4,843
2030	2023	29,810	33,541	26,480	14,859	12,397	6,321
2035	2023	29,740	30,201	24,203	13,318	9,280	5,339
2040	2023	33,852	34,912	27,720	14,826	11,032	6,055
2043	2023	42,493	44,950	34,951	17,677	13,060	7,403
2024	2024	24,697	23,544	21,504	13,844	9,289	4,354
2030	2024	29,784	29,510	27,230	15,061	12,757	5,539
2035	2024	29,362	27,529	26,319	13,834	8,905	5,183
2040	2024	31,664	30,311	29,469	14,515	9,705	5,613
2043	2024	38,204	36,151	36,023	16,604	10,818	6,776

KEY: Project and Programme Management (P&PM), Science, Technical, Health, Safety and Environment (STHSE)

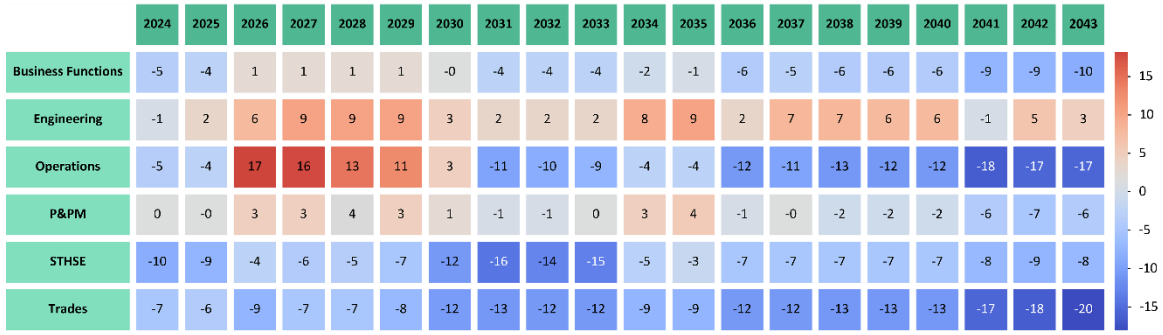
Changes in Function Demand since 2023

The heatmap in Figure 23 below shows the predicted change in function demand by year since 2023 as a percentage of the figures in 2023. For example, in 2026, in Operations, there is a 17% increase in demand from 2023 reported in 2024.

The demand for functions has changed since 2023. Most notably, there has been a significant increase in the demand for Operations and Engineering functions from 2025 to 2029 and a significant decrease in the demand for Operations and Trades functions from 2041 and beyond.

The shift in demand is likely to be caused by changes in the demand profile from both the civil and defence sectors.

Figure 23: Function Demand Change Over Time, Comparing 2023 and 2024



KEY: Project and Programme Management (P&PM), Science, Technical, Health, Safety and Environment (STHSE)

Progress Towards Functional Demand

The demand for key functions in 2024, 2030, 2035, and 2040 respectively, alongside the current workforce levels in 2024 and the change since 2023 are presented in Table 27 below. The data highlights varying trends across functions, with some areas showing growing demand over time while others remain relatively stable or see fluctuations.

In 2024, certain functions, such as Operations and Engineering, have a lower demand than their available workforce. This may indicate an excess supply in these areas, particularly in Operations, where demand remains below workforce levels across all years. The decline in workforce numbers for Operations and Trades aligns with this trend, suggesting a possible response to lower projected demand.

Conversely, functions such as Business Functions, Engineering, Project and Programme Management, and Science, Technical, Health, Safety and Environment all see demand increasing over time. Notably, Engineering shows the highest projected growth, with demand rising from 21,504 in 2024 to 29,469 by 2040, an increase of nearly 8,000. Trades, despite experiencing an initial workforce decrease, see demand steadily climbing, reaching 30,311 by 2040.

These trends indicate a shifting demand landscape, where some functions face increasing workforce requirements, while others may see continued alignment or even contraction relative to current workforce levels.

Table 27: Function Demand in Key Years

	2024 Workforce	2024 Demand	2030 Demand	2035 demand	2040 Demand	Change Since 2023
Business Functions	23,143	24,697	29,785	29,363	31,665	1,680
Engineering	22,598	21,504	27,231	26,319	29,469	7,123
P&PM	15,600	13,844	15,062	13,834	14,516	3,241
STHSE	6,125	4,355	5,539	5,183	5,614	2,651
Operations	10,159	9,289	12,758	8,905	9,705	-1,485
Trades	17,996	23,544	29,511	27,529	30,311	-682

KEY: Project and Programme Management (P&PM), Science, Technical, Health, Safety and Environment (STHSE)

Future Considerations

As the Nuclear Workforce Assessment continues to evolve, future research should focus on refining data collection methods and deepening insights into workforce trends. The following areas are key priorities for improving workforce intelligence and enhancing reliability of findings:

1. Improve Role and Level Mapping

Organisations currently align their internal structures to NWA frameworks for roles (LLRCs) and levels (1–8). Limited definitions and inconsistent internal mappings need improvement by:

- Enhancing descriptions for both roles and levels to improve accuracy and consistency across organisations
- Incorporating contextual indicators to strengthen the frameworks, such as key responsibilities, years of experience, or salary ranges
- Aligning LLRCs to Standard Occupational Classification (SOC) codes will support wider economic comparisons

2. Expand Training Insight

Expand the NWA focus beyond formal qualifications such as degrees and apprenticeships by:

- Capturing broader upskilling activities that may not lead to formal qualifications but are critical to workforce capability, including short courses, technical training, and professional development

3. Understand Workforce Movement and Leavers

Gather more detail in quantitative workforce data on the underlying dynamics:

- Discover whether recruits are internal or external to the sector and why people leave
- Understand attrition motives, whether leaving an organisation or the sector

4. Model Scenarios and Mobility

Understand the impact of shifting project timelines or policy changes with dynamic modelling.

- Flexible scenario modelling to forecast workforce needs under different conditions
- Understanding partial workforce mobility, how and when workers can transfer between projects, would support more effective planning, especially when projects demobilise and mobilise simultaneously

5. Deepen Insight into Critical Skills

Explore roles that are difficult to recruit or retain due to specialist skills or small talent pools.

- Qualitative research could help identify and track these critical or niche roles to ensure they are appropriately supported

6. Strengthen Understanding of the Supply Chain

Collect more data on the supply chain's workforce capacity and capability.

- Explore how supply chain organisations contribute to the sector's workforce and where challenges lie to complete the picture of workforce resilience and risk

Appendices

A1 Low Level Resource Codes

The following Low Level Resource Codes (job titles) and their associated functions are used throughout this data collection:

Table 28: Low Level Resource Codes (job titles) and their Associated Functions

Low Level Resource Codes	Function
Abovewater Warfare Tactical	Operations
Abovewater Warfare Weapons	Operations
Administrators	Business Functions
Analytical Sciences	Science Technical Health Safety and Environment
Architectural Engineers	Engineering
Artificial Intelligence/Machine Learning	Science Technical Health Safety and Environment
Assurance and Testing	Science Technical Health Safety and Environment
Building Envelope Specialists	Engineering
Business Security	Business Functions
Cable Pullers	Trades
Cable Tray Fixers	Trades
Chemical Engineers	Science Technical Health Safety and Environment
Chemists	Science Technical Health Safety and Environment
Civil and Structural Engineers	Engineering
Civil and Structural Operatives	Engineering
Commercial Contracts	Business Functions
Commercial Procurement	Business Functions
Commercial Sales	Business Functions
Commercial Support	Business Functions
Commissioning Engineers	Engineering
Commissioning Operatives	Engineering
Construction Engineers	Engineering
Construction Management	Trades
Construction Plant Operators	Trades
Construction Site Managers	Trades
Control and Instrumentation Engineers	Engineering
Control and Instrumentation Pipe Fitters	Trades
Cost Control Engineers	Project and Programme Management
Craft Workers (not otherwise counted)	Trades
Customer Facing	Business Functions
Cyber Security	Science Technical Health Safety and Environment
Cyber Security (Defence)	Science Technical Health Safety and Environment
Data Analytics	Science Technical Health Safety and Environment
Decommissioning	Project and Programme Management
Design Engineers (C and I)	Engineering
Design Engineers (Electrical)	Engineering
Design Engineers (Mechanical)	Engineering
Digital Engineering	Science Technical Health Safety and Environment
Digital Transformation	Science Technical Health Safety and Environment
Electrical Engineers	Operations

Electrical Operatives	Operations
Electronic Warfare	Operations
Emergency - Fire and Medical Responders	Business Functions
Emergency Planning	Business Functions
Energy Marketing	Business Functions
Engineering Construction Erectors	Trades
Environmental Science Geology Hydrology and Modelling	Science Technical Health Safety and Environment
Estimating	Science Technical Health Safety and Environment
Executive and Strategy	Business Functions
Expediting	Project and Programme Management
Facilities Management	Operations
Fault Analysis Engineers	Operations
Finance	Business Functions
Fuel Processing	Operations
Fuel Scientists	Operations
General Mates	Trades
Generation	Operations
Health and Safety - Radiological Protection	Operations
Health and Safety Regulation	Operations
Human and Organisation Capability	Business Functions
Human Resources	Business Functions
Human Factors	Business Functions
Industrial Health and Safety	Operations
IT	Business Functions
Knowledge Management	Business Functions
Labourers	Trades
Learning and Development	Business Functions
Legal	Business Functions
Maintenance Engineers	Engineering
Manufacturing Engineers	Engineering
Material Science	Science Technical Health Safety and Environment
Mathematicians	Science Technical Health Safety and Environment
Mechanical and Electrical (combined) Engineers	Engineering
Mechanical Engineers	Engineering
Mechanical Fitters	Trades
Mechanical Operatives	Trades
Modelling and Analysis	Business Functions
Non construction operatives	Trades
Non-destructive Testing	Science Technical Health Safety and Environment
Nuclear Criticality and Shielding	Science Technical Health Safety and Environment
Nuclear Engineers	Engineering
Nuclear Materials Accountancy and Control	Engineering
Nuclear Materials Transport	Business Functions
Nuclear Materials Transport Assessment	Business Functions
Nuclear Trials	Engineering
Occupational Health	Business Functions
Offsite Shop Based Workshop	Trades
Operational Research	Business Functions
Operations Transport	Business Functions

Other Construction (not otherwise counted)	Trades
Other Construction Roles	Trades
Other Engineers (including non-specific)	Engineering
Physical Advisory and Operations (Defence)	Operations
Physicists	Science Technical Health Safety and Environment
Pipefitters	Trades
Platers	Trades
Post Irradiation Examination	Science Technical Health Safety and Environment
PR and Communications	Business Functions
Process Engineers	Operations
Programme Management	Project and Programme Management
Project Engineers	Project and Programme Management
Project Management	Project and Programme Management
Project Planning and Control	Project and Programme Management
Quality Assurance	Business Functions
Quality Audit	Business Functions
Regulation (EA)	Business Functions
Regulation (ONR)	Business Functions
Remote Engineering and Robotics	Science Technical Health Safety and Environment
Research Facility Operators	Science Technical Health Safety and Environment
Riggers	Trades
Safety Case Preparation	Operations
Scaffolders	Trades
Security and Intelligence (Defence)	Operations
Seismic	Science Technical Health Safety and Environment
Specialist Building Operatives (not otherwise counted)	Trades
Steel Erectors	Trades
Supervisors	Trades
Supervisors (not otherwise counted)	Trades
Support (not otherwise counted)	Trades
Systems Engineers	Engineering
Technicians (not otherwise counted)	Engineering
Trades Support (not otherwise counted)	Trades
Trading	Business Functions
Underwater Warfare	Project and Programme Management
Ventilation Engineers	Engineering
Waste Management	Operations
Welders	Trades
Wood Trades and Interior Fit-out	Trades
Naval Architecture	Engineering
Marine Engineering	Engineering
WOME Engineering	Engineering
Metal Making and Treating Process Operatives	Trades

A2 Levels

Role levels (or experience) are based on two attributes:

- Knowledge and skill required for the role
- The Regulated Qualifications Framework (RQF); a system for cataloguing qualifications regulated by Ofqual

The level descriptors are NOT related to hierarchy or holding academic qualification, but instead to the competency level achieved through a mixture of academic qualification and experience; they do allow mapping back to qualification levels should that be needed.

For instance, it is likely that senior board members might be allocated to Level 7 or 8 given the complexity of the role, and the experience required, but it is also likely that a specialist post-doctorate employee undertaking a less senior role in the organisation also a Level 8 in their specific field.

Table 29: Levels and the Role Attributes

Level 1	
Qualifications and Experience	Describes a role that would require qualification or equivalent experience at Level 1 (for example GCSE D-G level, foundation diploma). Might include traineeships
Knowledge	Has basic factual knowledge of a subject and/or knowledge of facts, procedures and ideas to complete well-defined routine tasks and address simple problems; and is aware of aspects of information relevant to the area of study or work, which involves the application of knowledge and skills in the performance of a range of varied work activities most of which may be routine and predictable
Skills	Use basic cognitive and practical skills to complete well-defined routine tasks and procedures
Level 2	
Qualifications and Experience	Describes a role that would require qualification or equivalent experience at Level 2 (equivalent to GCSE grades A*-C
Knowledge	Has knowledge and understanding of facts, procedures, and ideas in an area of study or field of work to complete well-defined tasks and address straightforward problems. Can interpret relevant information and ideas. Is aware of a range of information that is relevant to the area of study or work. Involves the application of knowledge and skills in a significant range of varied work activities, performed in a variety of contexts. Some of the activities are complex or non-routine, and there is some individual responsibility or autonomy. Collaboration with others, perhaps through membership of a work group or team, may often be a requirement
Skills	Select and use relevant cognitive and practical skills to complete well-defined, generally routine tasks and address straightforward problems. Identify, gather, and use relevant information to inform actions

Level 3	
Qualifications and Experience	Describes a role that would require qualification or equivalent experience at Level 2 (AS and A level, Level 3 extended diploma, Level 3 certificates)
Knowledge	Has factual, procedural, and theoretical knowledge and understanding of a subject or field of work to complete tasks and address problems that while well-defined, may be complex and non-routine. Can interpret and evaluate relevant information and ideas
Skills	Is aware of the nature of the area of study or work. Is aware of different perspectives or approaches within the area of study or work. Has an informed awareness of different perspectives or approaches within the area of study or work. Involves the application of knowledge and skills in a broad range of varied work activities performed in a wide variety of contexts and most of which are complex and non-routine. There is considerable responsibility and autonomy, and control or guidance of others is often required
Level 4	
Qualifications and Experience	Describes a role that would require qualification or equivalent experience at Level 4 (Certificate of higher education Higher Apprenticeship)
Knowledge	Has practical, theoretical, or technical knowledge and understanding of a subject or field of work to address problems that are well defined but complex and non-routine. Can analyse, interpret and evaluation relevant information and ideas. Is aware of the nature of approximate scope of the areas of study or work. Has an informed awareness of different perspectives or approaches within the area of study or work. involves the application of knowledge and skills in a broad range of complex, technical, or professional work activities performed in a wide variety of contexts and with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and the allocation of resources is often present
Skills	Identify adapt and use appropriate cognitive and practical skills to inform action and address the problems that are complex and non-routine while normally fairly well-defined. Review the effectiveness and appropriateness of methods, actions, and results
Level 5	
Qualifications and Experience	Describes a role that would require qualification or equivalent experience at Level 5 (HND, HNC, Higher Diploma, Foundation Degrees)
Knowledge	Has practical, theoretical, or technological knowledge and understanding of a subject or field of work to find ways forward in broadly defined complex contexts. Can analyse, interpret, and evaluate relevant information, concepts, and ideas. Is aware of the nature and scope of the area of study or work. Understand different perspectives, approaches, or schools of thought and the reasoning behind them. Involves the application of knowledge and skills in a broad range of complex, technical, or professional work activities performed in a wide variety of contexts and with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and the allocation of resources is often present
Skills	Determine, adapt, and use appropriate methods, cognitive and practical skills to address broadly defined, complex problems. Use relevant research or development to inform actions. Evaluate actions, methods, and results

Level 6	
Qualifications and Experience	Describes a role that would require qualification or equivalent experience at Level 6 (Degree level qualification)
Knowledge	Has advanced practical, conceptual, or technological knowledge and understanding of a subject or field of work to create ways forward in context where there are many interacting factors. Understands different perspectives, approaches or schools of thought and the theories that underpin them. Can critically analyse, interpret, and evaluate complex information, concepts, and ideas
Skills	Determine, refine, adapt, and use appropriate methods and advanced cognitive and practical skills to address problems that have limited definition and involve many interacting factors. Use, and where appropriate, design, relevant research, and development to inform actions. Evaluate actions, methods and results and their implications
Level 7	
Qualifications and Experience	Describes a role that would require qualification or equivalent experience at Level 7 (post graduate certificates, post graduate)
Knowledge	Reformulates and uses practical, conceptual, or technological knowledge and understanding of a subject or field of work to create ways forward in context where there are many interacting factors. Critically analyses, interprets, and evaluates complex information, concepts, and theories to produce modified conceptions. Understand the wider context in which the area of study or work is located. Understands current developments in the area of study or work. Understand different theoretical and methodological perspectives and how they affect the area of study or work
Skills	Use specialised skills to conceptualise and address problematic situations that may involve interacting factors. Determine and use appropriate methodologies and approaches. Design and understand research, development, or strategic activities to inform or produce change in the area of work or study. Critically evaluate actions, methods and results, and their short and long term implications
Level 8	
Qualifications and Experience	Describes a role that would require qualification or equivalent experience at Level 8 (doctorate level)
Knowledge	Develops original practical conceptual or technological understanding to create ways forward in contexts that lack definition and where there are many complex interacting factors. Critically analyses, interprets, and evaluates complex information, concepts, and theories to produce new knowledge and theories. Understands and reconceptualises the wider context in which the field of knowledge or work is located. Extend the field of knowledge or work by contributing original knowledge or thinking. Exercises critical understanding of different theories and methodological perspectives and how they affect the field of knowledge or work
Skills	Uses advanced and specialised skills and techniques to conceptualise and address problematic situations that involve many complex interacting factors. Formulate and use appropriate methodologies and approaches. Initiate, design, and undertake research development or strategic activities that extend or produce significant change in the field or work or study. Critically evaluate actions, methods and results and their short and long term implications for the field of work or knowledge and its wider context