



UK Government

Network Relevant Students Research

Appendices

Research Paper Number RAF003/2425

October 2025

Acknowledgements

This research was commissioned by the Department for Energy Security and Net Zero (DESNZ) in June 2024. It was conducted by independent researchers, The Social Agency (previously Basis Social).

The authors would like to express their gratitude to the DESNZ team for their management of the project and their valuable input and support. We extend our particular thanks to Jennie Packe, Simon Davies, Philip Cole, Elizabeth Watt, Sebastian Butler, Matthew Bain and Josh Ganguli. We would also like to extend a large thank you to all of the participants who gave up their time to take part in this research and share their experiences with us, and to the range of stakeholders who supported with the distribution of the survey and engaged in the workshop. We also extend our thanks to our research partners, Criteria (recruitment), K2 Data (survey hosting) and Analytical People (analysis).

Report authors:

Victoria Harkness, Senior Director

Erica Harrison, Associate Director

Dan Lemmon, Research Manager

Becca Altman, Senior Research Executive

Deepa Ramanathan, Senior Research Executive

For further information about this report please email: social@thesocialagency.co.uk.



© Crown copyright 2025/

This publication is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. To view this licence, visit nationalarchives.gov.uk/doc/open-government-licence/version/3 or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: psi@nationalarchives.gov.uk.

Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.

Contents

APPENDICES	4
Appendix 1: Defining NRS and network relevant roles	4
Defining NRS	4
Defining network relevant roles	5
Appendix 2: Methodology and technical note	7
Phase 1 approach	7
Phase 2 approach	8
Online focus groups with current NRS	8
Online in-depth interviews with recent NRS	10
Online survey	12
Appendix 3: Survey questionnaire	18
Introductory page 1	18
Introductory page 2	18
Consent page	19
Screeners and qualification questions	20
Appendix 4: NRS profiling – additional figures and tables	50
Appendix 5: Quantitative Survey Charts	67
Appendix 6: NRS survey segmentation	70
Segments overview	70
Factors and segmentation profiles	71
Appendix 7: Existing interventions to date	77
Appendix 8: References	80

APPENDICES

Appendix 1: Defining NRS and network relevant roles

Defining NRS

This research has aimed to increase the evidence base around a group identified as ‘network relevant students’ (NRS), based on both existing data and primary research (quantitative and qualitative). Findings were then intended to feed into a ‘typology’ of this group, based on what is known about their demographic profile, qualifications and education, and their attitudes.

This audience was initially defined by DESNZ as those who are currently studying for or have recently completed STEM-related qualifications (both academic and vocational routes) which would likely qualify them for various job roles in the electricity networks sector. This definition was refined throughout the first phase of this research project based on available data for university¹ and vocational² routes, and discussions with stakeholders.

In terms of demographic profile, no definitions were imposed at the start, but relevant demographic data was collected where available (for example, for higher education routes, data were collected on gender, ethnicity and some other factors) to begin to build a picture of the profile of some sub-groups within NRS.

Recruitment for the primary research was limited to those who had less than 5 years of full-time work experience in and – in the case of those no longer studying – who completed their relevant qualifications within the last 5 years. Both of these limits were imposed in order to keep the focus on those in the early stages of their career (rather than those who may be re-training later in life), and to facilitate recall of career journeys to date while experiences were still relatively recent.³ Qualifications (whether currently studying or completed) had to have been awarded in the UK, but no requirements were imposed regarding current place of residence or nationality.

Most of the restrictions imposed were on the definition of ‘network relevant’ qualifications themselves. This project was designed to incorporate both academic and vocational qualifications to better represent the range of skills and training needed for the future networks workforce. In terms of qualification level, this was limited to qualifications of level 3 and above for vocational qualifications (e.g. NVQ Level 3, T Level) and level 4 and above for academic qualifications (i.e. excluding A Levels, the most common level 3 academic qualification), using

¹ Reference from ITT: <https://www.hesa.ac.uk/data-and-analysis/students>

² Reference from ITT: <https://explore-education-statistics.service.gov.uk/find-statistics/apprenticeships>

³ It should be noted that these exclusions were not applied to the analysis of existing data (e.g. on HESA data of students in higher education) as it is not included in existing datasets.

the standardised system of levels in place in England, Wales and Northern Ireland.⁴ Most requirements focused on the specific subject studied for each qualification type.

For higher education routes, data collected by HESA was used to identify a list of relevant degree courses at CAH Level 3 (the most specific level available). A similar process was undertaken using a list of apprenticeship courses sourced from IfATE and T Level courses as defined on GOV.UK.⁵ All three lists were refined in consultation with DESNZ, with input from key stakeholders, during the first phase of the project to produce final lists of 'network relevant' degree, T Level, and apprenticeship courses.

These were then used in the analysis of existing datasets (where available), and in the recruitment for the primary research phase.

However, the landscape for wider vocational training and qualifications is much broader, incorporating courses of a range of lengths and levels and offered by a range of providers (e.g. Further Education Colleges, employer-based training). There are therefore no definitive 'lists' available around specific subjects studied and little standardisation across awarding institutions. It was therefore decided to use higher-level subject areas, combined with a minimum level of 3 or above, in order to capture those with relevant training.

Defining network relevant roles

This has been relevant to gathering data around the current workforce.

Together with DESNZ, the research team identified 41 network relevant roles using Standard Occupational Classifications (SOC2020).⁶ Data is available by gender and region (UK-wide figures are shown in Table A4.1 in Appendix 4), but these are not sector-specific (e.g. there were 48,600 electrical engineers in employment in March 2024, across all sectors – not just the electricity network).

Multiple sources were combined to extend the existing list of network relevant job titles (more specific than the classifications above) to 93 relevant jobs, matching to qualifications where possible.⁷ This is not seen to be exhaustive (i.e. there will be additional roles relevant to the network sector) and does include a number of roles which cut across sectors (e.g. cyber security roles, data analyst).

Roles which do not require any kind of STEM qualification (e.g. administrative and legal roles) have been deliberately excluded as these fall outside the scope of this project. However, it is

⁴ See [What qualification levels mean: England, Wales and Northern Ireland - GOV.UK](#). Scottish qualifications were also accepted.

⁵ See HM Government (n.d) *T Level subjects*. [Available online](#).

⁶ ONS 'Annual Population Survey – Occupation (SOC2020) by sex and employment type' accessed via NOMIS

⁷ Utilised internal source from DESNZ entitled 'Green Jobs and Skills: Evidence'

important to acknowledge that many such roles will be a necessary part of any future networks workforce, and that some with STEM qualifications may take up such roles.

There are a number of challenges to estimating the networks workforce. Firstly, the fact that sector-specific data (i.e. by Standard Industrial Classification [SIC] code) does not map to specific roles (i.e. Standard Occupational Classifications [SOC] code), and SOC does not easily map onto specific job titles. This means that only very approximate estimations are possible when it comes to quantifying the number of a specific role working in the networks sector specifically.

An additional challenge was highlighted by stakeholders; namely that 'the electricity network' is not a discrete sector. Many who work on the network do so on a project-by-project basis, with only some of their work relating to the network. This is important to consider when using figures in this report in conjunction with other published figures about the networks workforce, especially given the different ways in which said workforce is defined.

Appendix 2: Methodology and technical note

Phase 1 approach

Phase 1 of this research project involved desk research of existing published data and evidence and 20 interviews with stakeholders. The findings from this phase were incorporated into the research design for Phase 2 (the primary research phase), including the design of research materials (discussion guides, questionnaires), sample design (i.e. recruitment and eligibility requirements) and project scope.

For the stakeholder interviews, a number of stakeholder categories were agreed with DESNZ to ensure insights were brought in from all relevant sectors (i.e. including both education and industry, Government and non-government). A target number of interviews was agreed for each category based on their relevance to the project and the diversity of organisation types to be represented:

- Government (including devolved governments) and advisors – 3 interviews⁸
- Academics and researchers – 2 interviews
- Learned Societies / foundations – 3 interviews
- Professional institutions and representative bodies – 3 interviews
- Educational institutions – 4 interviews
- Industry and electricity network employers – 5 interviews

Where appropriate, interviews were conducted with more than one individual per institution. As a thank you, nominations were collected for charities which received a donation.

Within each category, individuals and institutions were identified who were notable in their field and/or combined to provide good coverage of their sample category. Recruitment was conducted through existing networks where possible (with both The Social Agency and DESNZ providing existing contacts) and supplemented with outreach efforts made by The Social Agency. Interviews were conducted online between July and September 2024 and lasted around one hour each.

For the desk research phase, a list of specific research questions was agreed with DESNZ in advance (building on those put forward in the original tender documents produced by DESNZ). Individual sources were then identified using 4 main strategies:

- Building on a literature review already conducted by DESNZ.

⁸ While efforts were made, due to staffing changes at the point of fieldwork it was not possible to secure an interview with a relevant figure from within the Scottish Government.

- Searching the publications of known institutions of relevance (including stakeholder organisations) for relevant work relating to any of the research questions.
- Strategic online searching of key terms to identify relevant material held elsewhere.
- Asking stakeholders for any other relevant material they would recommend including during the interview phase.

A list of over 90 sources was identified which were then reviewed for relevance to each individual research question and prioritised accordingly as 'high', 'medium' or 'low' priority. This ranking was reviewed and agreed with DESNZ. Sources of mostly high and medium relevance were then analysed in detail by the project team, and the findings synthesised as outlined above.

Phase 2 approach

Phase 2 included 2 modes of qualitative research, each targeting a slightly different audience of relevance to this project. These were separated out in order to better facilitate tailored discussion relevant to their respective stages in their careers.

Online focus groups with current NRS

8 x 90-minute online focus groups were conducted with network relevant students currently engaged in study/training for a relevant qualification. Within these groups, certain hard and soft 'quotas' were imposed to ensure that we spoke with a minimum number of NRS in certain groups of interest (e.g. women, people identifying with an ethnic identity other than White, people on vocational routes) but allowed for the diversity of this audience when it came to, for example, subject studied. The groups broke down as follows:

Three focus groups (of 7, 7, and 6 participants) were conducted solely with those undertaking university degrees. Two of the groups were composed of undergraduate students, and the third group was composed of post-graduate degree students. Efforts were made to have an even split by gender and ethnicity within these focus groups, but due to the demographics of the population of interest, the groups skewed towards White male participants. Participants studied the following subjects:

- Maths
- Physics
- Physics with Astrophysics
- Computer Science
- Computer Science and AI
- Computing and Maths
- Quantity Surveying and Business
- Mechanical Engineering

- Advanced Mechanical Engineering
- Environmental Science
- Architecture

Three further focus groups (of 7, 5, and 5 participants) were conducted solely with those undertaking vocational qualifications, including degree-level apprenticeships. Efforts were made to have a good split by gender and ethnicity within these focus groups, but due to the demographics of the population of interest all participants were male and were predominantly White.

Participants were undertaking the following vocational courses:

- Building Surveying
- Mechanical Engineering
- Electrical Installation
- Electrical Fitting and Installation
- Electrical Contracting
- Technical Engineering
- Building Construction
- Quantity Surveying
- Construction and Quantity Surveying
- Roofing
- Design, Surveying, and Planning for Construction
- Applied Science

To address the demographic challenges of the target sample two further groups were conducted to ensure better representation of ethnic minorities and women. One group was conducted solely with women, and one group was conducted solely with participants identifying with an ethnic identity other than 'White British'. This ensured that the views of these groups (within the target population) were represented in our research. These groups involved participants studying for degrees, vocational courses and apprenticeships. Participants were undertaking the following courses:

- Maths
- Science
- Computer Science
- Civil Engineering
- Spatial Planning
- Ecology and Conservation
- Electrical Building Services

- Natural Sciences
- Coded Welding
- Data Analyst Technology

The topic guide (and some related stimulus material) for these groups was agreed with DESNZ in advance and focused primarily on:

their qualifications and how they chose them (including previous qualifications, reasons for choosing both subject and qualification type);
factors that motivate or influence them when making decisions relating to their studies/training and career;
current knowledge and perceptions of the electricity network sector.

Online in-depth interviews with recent NRS

20 x 45-minute online depth interviews were conducted with participants who had completed a network relevant qualification within the last 5 years. Within this group, participants were recruited who completed both academic and vocational routes (to ensure representation of both) in a range of subjects. Efforts were also made to recruit both those who had direct experience of working on projects relating to the electricity network, and those who did not, in order to understand any differences in career journey that may have differentiated these groups. The topic guide (and some related stimulus material) for these interviews was also agreed with DESNZ in advance and focused primarily on:

- understanding their qualifications and study/training experience;
- mapping their 'career journey' to date, including all qualifications received and jobs worked, and notable influences/considerations at each decision point;
- factors that motivate or influence them when making decisions relating to their studies/training and career;
- current knowledge and perceptions of the electricity network sector.

In terms of recruitment, an external recruitment specialist was used to find eligible participants for both the groups and the depths, using the lists of approved qualifications and other screening criteria (relating to, for example, years of work experience). Where potential participants were identified whose qualifications differed from the approved lists, decisions were made on a case-by-case basis. For the depths, not all quota targets were achieved in some of the harder-to-reach categories, i.e. women, those on vocational/apprenticeship routes, and those with experience working in the electricity network sector.

A full breakdown of the achieved sample is included in the following table:

Quota	Achieved
Recent graduates	20
Qualification:	
Degree	14
Vocational/apprenticeship	6
Gender:	
Male	16
Female	4
Working in electricity network:	
Yes	6
No	14
Subjects	
Computer Science	4
Mathematics	1
Engineering	7

Earth Sciences	1
Electrical Installation	3
Building Surveying	2
Natural sciences BSc including Mathematics and Physics	1
Physics	1
Total	20

Online survey

The quantitative study was a 15-minute online survey completed by both current students and those who recently completed their qualifications within the last 5 years. A questionnaire was drafted by The Social Agency and shared with DESNZ for comment and revision. The redrafted version was then used in 6 cognitive test interviews to ensure that the structure and wording of questions was appropriate for this audience. Findings from these interviews were then incorporated into a further redraft of the questionnaire before it was scripted for an online platform.

The questionnaire was divided into 6 sections:

- Screeners and questions on qualifications achieved/currently being studied for.
- Career expectations, barriers and motivations.
- Career planning undertaken while studying.
- Current role (for those working).
- Perceptions of various sectors, including the electricity network and other related sectors.
- Subsidiary demographics.

Each section was designed to either fill an existing evidence gap, or complement existing data with findings specific to this audience.

Barriers and motivators tested in the survey were primarily drawn from the literature review and emerging qualitative findings. They were then tested further to ensure the list was both exhaustive and comprehensible to participants through the cognitive interview testing. Survey participants were also given the opportunity to 'write in' an alternative answer if there was another factor not listed. Only 2 participants did this, suggesting we can be confident that the barrier and motivator answer options provided were comprehensive.

A copy of the questionnaire is provided in Appendix 3.

Due to the highly specific nature of the target sample for this project, there is not enough data available to draw up a representative sample frame. While this would be possible for higher education routes, too little is known about the profiles of those on apprenticeship and other vocational routes and the relative proportion of NRS that they represent for quotas or weighting to be viable.

It was decided that a generic link would be created and this would be distributed by stakeholder organisations and educational institutions on behalf of The Social Agency. HESA data was analysed to identify the universities with the highest numbers of students on relevant courses and they were contacted directly about supporting in distribution.⁹ Further stakeholders were approached throughout November and December 2024 while the survey was in field. To supplement the sample, 2 consumer panel providers were brought in to distribute the survey. Due to the very low incidence of eligible people registered on panels, no quotas were set. The sample fell out naturally, skewing towards those with or working towards university degree qualifications.

This sampling approach was chosen as the only cost-effective means by which to reach the target sample population of NRS. However, it does impose a number of limitations on the quantitative research, including:

- dependence on the goodwill of stakeholders to distribute the survey;
- limited ability to send reminders to complete/prompt partial completers to return to the survey;
- possible bias in the final sample achieved based on a variety of factors, including the reach of the institutions who agreed to distribute it (e.g. university departments who saw the survey as being of more obvious relevance to their students may have been more likely to share the survey link, but these may also be those with students most likely to be aware of network related roles).

The majority of the sample was achieved through panel providers following low uptake of the open survey distribution. 255 respondents were sourced through panel providers, whilst 48 came through the open survey, which was distributed by 5 individual vocational and academic institutions to their respective student base. Their support was really appreciated. The sample profile (unweighted, natural fallout) is provided in the following table.

⁹ HESA (2024b). *HE Student Data*. HESA. [Available online.](#)

Participant characteristics		Total Sample (unweighted) %	Total n
		Including all panel and open survey respondents	
Gender	Female	48%	144
	Male	51%	154
	Identify in another way	*	*
	Prefer not to say	*	*
Age	16-18	14%	43
	19-21	32%	98
	22-24	24%	73
	25+	27%	83
Region (currently)	England	86%	261
	Scotland	9%	26
	Wales	5%	14
	Northern Ireland	*	*
	Non-UK	*	*
Ethnicity	Asian, Asian British	18%	55
	Black, Black British, Black Caribbean, Black African	18%	54

	Mixed or Multiple ethnic groups	*	*
	White	56%	164
	Other ethnic group	*	*
Qualification route	University	82%	249
	Vocational (including apprenticeships)	22%	67
Working status	Currently working	53%	161
	Currently studying	57%	174
Qualification Subject	Science (Physical or Environmental Sciences)	47%	143
	Engineering and Technology	38%	115
	Mathematics	17%	51
	Computer science / Computing	26%	79
	Electronics / Electrical installation	7%	20
	Construction	4%	11

Further analysis was conducted on the survey data to help unpick key drivers and motivators among NRS. Key Driver Analysis proved to uncover and enumerate the importance of implicit factors (i.e. motivators / blockers) that encourage or discourage an outcome of interest. In this instance, the drivers regarded the relationship between career motivation factors with

consideration for jobs in the electricity network sector. The algorithm used was Shapley Value Regression with R-Squared Value range of 0.1-0.2.

Furthermore, the segmentation model included the following questions from the survey: Q8 (motivation factors), Q9 (links between chosen studies, careers and sector choices), Q11 (career event and initiative engagement) and Q17 (positive or negative feelings towards working in the electricity network sector). The consideration for these answers created the greatest distinctions between clusters. The process was iterative and exhaustive to ensure that every relevant attitudinal question was considered as part of the model design. This segmentation draws on statistically significant differences in the profiles of respondents within each segment based on the specific questions asked. Where characteristics of segments are not mentioned assumes no significance versus the total value (excluding the sub-group being compared) at a 90% confidence interval.

Our segments are built using 2 statistical methods:

- 1 Principal Components Analysis (PCA) – typically known as a “Factor Analysis”
- 2 Hierarchical Cluster Analysis

Clusters of respondents are based on factor scores determined from the PCA that feed into the Cluster Analysis. Our PCA creates a set of factors for each of the 4 questions used for the model. In effect, this process identifies a smaller number of key themes from the wider question set. The factors are then named based on the way that they ‘correlate,’ positively or negatively to the underlying questions. The key factors identified are at the core of the 3 segments derived from the Hierarchical Cluster Analysis:

Q8 - Career pragmatism
Q8 - Green advocacy
Q8 - Inclusion/diversity concerned
Q8 - Family impressions
Q17 - Network sector positivity
Q11 - Attending Employer presentations
Q9 - Career minded (but not specific industry focussed)

Decision trees using CHAID (Chi-Squared Automatic Interaction Detector) were conducted across all the questions in the survey to identify significant differences among all questions and outcomes (‘dependent’ variables/questions). The differences that CHAID identifies are statistically significant.

We used CHAID with a number of different outcomes, including for finding differences between the cluster-based segments. Secondly, CHAID Decision Trees help determine differences in consideration for jobs in the electricity network sector (Q18), building on the Key Driver Analysis (KDA). Whilst the KDA can identify drivers within scaled questions from the survey, CHAID can also pick up on key differences between non-scale variables including demographics and course types.

Whilst all findings from the cross tabulations are at the 95% confidence interval, our advanced analytics have fluctuating significance and fall no lower than 80% confidence interval. In some sections, particularly the Key Drivers Analysis, we also include non-significant drivers to provide context. There is clear indications of where this has been done through the use of an asterisk (*) denoting significance. For the drivers, the significant bars are shown in red (with an asterisk) rather than grey. Different confidence intervals were utilised due to low base sizes and to show where significance was more solidified (when at a 95% interval).

Where percentages do not sum to 100 per cent, this may be due to computer rounding, the exclusion of 'I don't know' responses or when questions allow multiple answers. Please treat answers with a base size of less than 50 with caution.

For some questions, we refer to aggregate figures, e.g. 'agree' being an aggregate of those reporting that they 'strongly agree' or 'somewhat agree'.

Appendix 3: Survey questionnaire

Introductory page 1

Thank you for your interest in this survey. ONLY SHOW IF DMODULE=1 By taking part, you'll be in with the chance to win one of five prizes worth £100 each!

We are [Basis Social](#) [now The Social Agency], an independent research agency. We carry out research like this on important social questions and issues. We are conducting this survey on behalf of the Government Department for Energy Security and Net Zero. It's an important way for them to better understand how they can meet the skills and job demands of the future.

We are interested in hearing from people who are either currently studying for, or have recently completed, qualifications in science, technology, engineering, and construction. It might be a university degree, an apprenticeship or other vocational course – we're interested in all of them. You just need to either still be studying, or have completed your qualification in the UK and within the last five years. You need to be aged 16 or over.

If this sounds like you then read on!

Introductory page 2

Before we get you started, we just need to run through some important information to ensure you are happy about what taking part involves.

Taking part is completely voluntary.

The survey should take around 15 minutes to complete. No prior knowledge is required. There are no right or wrong answers – we just want you to be as honest as possible. If you need any help completing the survey or have any questions, please email us at Networkinfrastructureresearch@basisresearch.co.uk or call our freephone number 0800 098 2745 (managed 9am-5pm Monday to Friday).

Please only complete the survey once, and by the deadline of 23:59 on 3 January 2025. If you start the survey and close the page halfway through, you will be able to return and complete it any time before this date (if using the same browser/device). Please only use the arrow keys within the survey to navigate back and forth - do not use your browser keys as you may lose your place.

Consent page

One last thing before you get started!

To ensure we are compliant with current data privacy legislation, we need to let you know that this survey will collect personal data (such as your email address) and sensitive personal data (such as information about your ethnicity). You can choose not to answer these questions.

Your details will be kept confidential by Basis Social [now The Social Agency]. Your answers will remain anonymous - it will not be possible to identify individuals from the survey results.

Basis Social [now The Social Agency] will be acting as Data Processor and our client, the Department for Energy Security and Net Zero, acting as Data Controller. All data is collected and processed in line with both UK General Data Protection Regulation and the Market Research Society Code of Conduct. Data will be used for research purposes only. Any personal data will be securely deleted after six months. and will be stored securely on UK- and EU-based servers.

You can read more about how we process personal data in our privacy policy [here](#).

To take part in the survey you must be aged 16 or over.

ONLY SHOW IF DMODULE=1 At the end of the survey, you will have the opportunity to enter yourself into our free prize draw – with five prizes each worth £100 in shopping vouchers up for grabs. Further terms and conditions can be found [here](#). We'll just need to take an email address for you if you want to register. We will store this securely and separately to your survey answers and only use it to notify you if you are a winner.

DMODULE. HIDDEN QUESTION, SC

Dummy to record modules respondent is allocate to answer

1	MAILOUT
2	PANEL

DPANEL. IF DMODULE=2. HIDDEN QUESTION, SC

Dummy to record which panel respondent came through

1	Dynata
2	Savanta
3	Placeholder

ASK ALL, SC.

S0. Knowing this, are you happy to take part in this survey? By agreeing you confirm you are aged 16 or over.

1 Yes

2 No CLOSE

Screeners and qualification questions

To begin with, we just need to ask you a few questions about you. This is so we can direct you to the most relevant questions in our survey. It also helps us look at how views differ depending on people's individual circumstances.

Please be assured that your answers will be reported anonymously. It will not be possible to identify you from the information you provide us in this survey.

We'll start with some questions about work and your qualifications.

ASK ALL. SC.

Q1. In your adult life (i.e. since the age of 18), how many years have you spent in full-time work in total?

Less than 1 year

2 1-4 Years

3 5 years or more CLOSE

4 I'm under 18 years old

*(FOR ALL CLOSE/SCREEN OUTS, PLEASE SHOW THE FOLLOWING: Unfortunately, you do not qualify for this survey, but thanks so much for your interest.)

ASK ALL. SC.

Q2. Which of the following best describes your current working status? Please select one option only that best describes you.

- 1 Studying/training full-time
- 2 Working full-time
- 3 Working and studying/training
- 4 Studying/training part-time while doing something other than paid work
- 5 Working part-time while doing something other than studying/training
- 6 Neither working nor studying
- 7 Other (please specify) OE

8 Prefer not to say CLOSE

ASK ALL. MC.

Q3a. We'd like to know about your studies after the age of 16.

Have you previously completed, or are you currently studying for, any qualifications in the following subject areas? This could include an academic qualification (for example, a university degree) or vocational study (for example, an NVQ/SVQ, or through an apprenticeship).

Please select all that apply

- 1 Science (Physical or Environmental Sciences)
- 2 Engineering and Technology
- 3 Mathematics
- 4 Computer science / Computing (including subjects related to cyber security and

AI)

- 5 Electronics / Electrical installation
- 6 Construction and Planning (e.g. building design, construction techniques)
- 7 None of the above EXCLUSIVE. CLOSE

ASK ALL. MC PER ROW

Q3b. You mentioned qualifications in the subject listed below. Could you please tell us whether you are currently studying for a qualification in this subject or – if you have already completed one – how long ago you did so?

If you have more than one qualification in a given subject, then please answer with the highest level of qualification in mind. For example, if you did an A Level in Maths but are now studying for, or have completed a degree in Maths, please focus on your degree.

ROWS. SC PER ROW.

[PULL THROUGH THOSE SELECTED AT Q3a]

COLUMNS

- A Completed within the last year
- B Completed between 1 and 3 years ago
- C Completed between 3 and 5 years ago
- D Completed more than 5 years ago
- E I am currently studying for a qualification in this area

ALL TO PROCEED IF SELECTING A, B, C OR E FOR ANY SUBJECT AREA. SCREEN OUT ANY SELECTING D ONLY.

ASK ALL COMPLETING A RELEVANT QUALIFICATION WITHIN THE LAST FIVE YEARS [Q3b CODES 1-6 = A, B OR C]. ASK FOR EACH SUBJECT. SC FOR EACH COLUMN.

Q4. You mentioned you completed a qualification in [PULL IN SUBJECT(S) CODED A, B OR C AT Q3b] within the last five years. Which of the following best describes the qualification(s) or mode of study that you have completed in this subject?

If you have more than one qualification in a given subject, then please answer with the highest level of qualification in mind. For example, if you did an A Level in Maths but are now studying for a degree in Maths, please focus on your degree and select 'University degree'.

ROWS

- 1 Apprenticeship (e.g. trade, advanced, foundation or modern)
- 2 University degree (e.g. BA, BSc, MSc, PGCE, or higher degree such as PhD)
- 3 HND or HNC
- 4 NVQ/SVQ
- 5 Other vocational qualification (e.g. BTEC National, BTEC General, City and Guilds Craft/Advanced Craft, OND or ONC, PDA)
- 6 AS or A Levels, Highers/Advanced Highers, IB or equivalent
- 7 GCSE or equivalent (inc. Welsh Baccalaureate, National 4s/5s, CSEs, O Levels, Basic Skills course, or equivalent)
- 8 T Level
- 9 None of the above EXCLUSIVE. CLOSE IF SELECTED FOR ALL COLUMNS AND NOT CURRENTLY STUDYING FOR ANYTHING FURTHER (I.E. IF Q3b ≠ E)

COLUMNS [PIPE THROUGH SUBJECTS SELECTED AT Q3b_1-6=A-C]

- A Science (Physical or Environmental Sciences)
- B Engineering and Technology
- C Mathematics
- D Computer science / Computing (including subjects related to cyber security and AI)
- E Electronics / Electrical installation
- F Construction and Planning (e.g. building design, construction techniques)

ASK ALL WITH APPRENTICESHIP (Q4 = 1 for any column). MC.

Q5a. Please tell us the subject or subjects that best describe what your apprenticeship or apprenticeships are in. Just start typing the letters into the box below. You will then be shown some options to choose from.

If the exact wording does not match to anything on the list, please select the closest one. Alternatively, please type in the subject manually.

[Qualifications list – Apprenticeships]

XX None of the above EXCLUSIVE

XX Do not know EXCLUSIVE

XX Prefer not to say EXCLUSIVE

ASK ALL WITH APPRENTICESHIP (Q4 = 1 for any column). SC PER COLUMN.

Q5b. What level is/are your apprenticeship(s) for the subjects you have studied? If you are not sure, please select the one you think is most appropriate.

We have used the levels most commonly found in England and Wales. You can find information on levels for England, Wales and Northern Ireland [here](#). Information on levels for Scotland is available [here](#).

For each subject, please choose the appropriate level. If you completed more than one qualification in the same subject, please select the highest level that applies.

ROWS

- | | |
|---|--|
| 1 | Intermediate (Level 2, lasting approximately 12 months, equivalent to 5 GCSEs) |
| 2 | Advanced (Level 3, lasting approximately 18-24 months, equivalent to 2 A levels) |

- 3 Higher (Level 4/5, lasting approximately 18 months-5 years, equivalent to a foundation degree)
- 4 Degree (Level 6/7, lasting approximately 3-6 years, equivalent to a Bachelor's/Master's degree)
- 5 Do not know / can't remember

COLUMNS

[PULL THROUGH SUBJECTS SELECTED AT Q5a]

ASK ALL WITH DEGREE (Q4 = 2 for any column). MC.

Q5c. Please tell us the subject or subjects that best describe what your degree or degrees are in. Just start typing the letters into the box below. You will then be shown some options to choose from.

If the exact wording does not match to anything on the list, please select the closest one. Alternatively, please type in the subject manually.

[Qualifications list – Degrees]

XX None of the above EXCLUSIVE

XX Do not know EXCLUSIVE

XX Prefer not to say EXCLUSIVE

ASK ALL WITH DEGREE (Q4 = 2 for any column). SC PER COLUMN.

Q5d. What level is/are your degree(s) for the subjects you have studied? If you are not sure, please select the one you think is most appropriate.

For each subject, please choose the appropriate level. If you completed more than one qualification in the same subject, please select the highest level that applies.

ROWS

- 1 Undergraduate degree (e.g. BSc, BEng)
- 2 Postgraduate degree – Master’s or equivalent (e.g. MSc, MEng)
- 3 Doctorate (PhD)
- 4 Foundation degree (e.g. FdA, FdSc)
- 5 Top-up degree (e.g. following a Foundation degree or HND)
- 6 Other (please write in) 20 CHARACTER LIMIT

COLUMNS

[PULL THROUGH SUBJECTS SELECTED AT Q5c]

ASK ALL WITH VOCATIONAL QUALIFICATION (Q4 = 3, 4, 5). MC.

Q5e. Please tell us the subject or subjects that best describe what your vocational qualification(s) is/are in. Just start typing the letters into the box below. You will then be shown some options to choose from.

If the exact wording does not match to anything on the list, please select the closest one. Alternatively, please type in the subject manually.

[Qualifications list – Vocational]

XX None of the above EXCLUSIVE

XX Do not know EXCLUSIVE

XX Prefer not to say EXCLUSIVE

ASK ALL WITH VOCATIONAL QUALIFICATION (Q4 = 3, 4, 5). SC PER COLUMN.

Q5f. What level is/are your vocational qualification(s) for the subjects you have studied? If you are not sure, please select the option(s) you think most closely matches, or you can choose Don't know.

We have used the levels most commonly found in England and Wales. You can find information on levels for England, Wales and Northern Ireland [here](#). Information on levels for Scotland is available [here](#).

For each subject, please choose the appropriate level. If you completed more than one qualification in the same subject, please select the highest level that applies.

ROWS

- 1 Level 1 (SVQ/NVQ level 1, Level 1 vocational awards, IVQ certificate, Foundation GNVQ)
- 2 Level 2 (SVQ/NVQ level 2, Level 2 vocational awards, IVQ Technician certificate, IVQ Diploma, Intermediate GNVQ, BTEC first certificate)
- 3 Level 3 (SVQ/NVQ level 3, Level 3 vocational awards, IVQ Technician Diploma, IVQ Advanced Diploma, AVCE, BTEC National, Vocational A-Levels, ONC, OND)
- 4 Level 4 (Licentiate [LCGI], Higher Professional Diploma, SVQ/NVQ level 4, Level 4 vocational awards, Full technical certificate, HNC)
- 5 Level 5 (Diploma SVQ/NVQ level 5, Level 5 vocational awards, IVQ Advanced Technician Diploma, HND)
- 6 Level 6 (Graduateship [GCGI], Associateship [ACGI])
- 7 Level 7 (Membership [MCGI], Master Professional)
- 8 Level 8 (Fellowship [FCGI])
- 9 Don't know

COLUMNS

[PULL THROUGH SUBJECTS SELECTED AT Q5e]

ASK ALL WITH T LEVEL (Q4 = 8). MC.

Q5g Please tell us the subject or subjects that best describe what your T Level(s) is/are in. Just start typing the letters into the box below. You will then be shown some options to choose from.

If the exact wording does not match to anything on the list, please select the closest one. Alternatively, please type in the subject manually.

[Qualifications list – T Levels]

XX None of the above EXCLUSIVE

XX Do not know EXCLUSIVE

XX Prefer not to say EXCLUSIVE

ASK ALL CURRENTLY STUDYING FOR A RELEVANT QUALIFICATION [Q3 CODES 1-6 = E]. SC PER COLUMN.

Q6. You mentioned you are currently studying for a qualification in the following subject area(s). For each, please tell us which of the following best describes the qualifications or mode of study you are currently pursuing.

If you are studying for more than one qualification in a given subject, then please answer with the highest level of qualification in mind.

Please select one answer only for each subject.

ROWS

- 1 Apprenticeship (e.g. trade, advanced, foundation or modern)
- 2 University degree (e.g. BA, BSc, MSc, PGCE, or higher degree such as PhD)
- 3 HND or HNC
- 4 NVQ/SVQ
- 5 Other vocational qualification (e.g. BTEC National, BTEC General, City and Guilds Craft/Advanced Craft, OND or ONC, PDA)
- 6 AS or A Levels, Highers/Advanced Highers, IB or equivalent
- 7 GCSE or equivalent (inc. Welsh Baccalaureate, National 4s/5s, CSEs, O Levels, Basic Skills course, or equivalent)
- 8 T Level
- 9 None of the above CLOSE

COLUMNS [PIPE THROUGH SUBJECTS SELECTED AT Q3a]

- A Science (Physical or Environmental Sciences)
- B Engineering and Technology
- C Mathematics
- D Computer science / Computing (including subjects related to cyber security and AI)
- E Electronics / Electrical installation
- F Construction and Planning (e.g. building design, construction techniques)

ASK ALL CURRENTLY STUDYING FOR APPRENTICESHIP (Q6 = 1 for any column). MC.

Q7a. Please tell us the subject or subjects that best describe what your apprenticeship is in. Just start typing the letters into the box below. You will then be shown some options to choose from.

If the exact wording does not match to anything on the list, please select the closest one. Alternatively, please type in the subject manually.

[Qualifications list – Apprenticeships]

XX None of the above EXCLUSIVE

XX Do not know EXCLUSIVE

XX Prefer not to say EXCLUSIVE

ASK ALL CURRENTLY STUDYING FOR APPRENTICESHIP (Q6 = 1). SC.

Q7b. What level is your apprenticeship? If you are not sure, please select the one you think is most appropriate.

We have used the levels most commonly used in England and Wales. You can find information on levels for England, Wales and Northern Ireland [here](#). Information on levels for Scotland is available [here](#).

- 1 Intermediate (Level 2, lasting approx. 12 months, equivalent to 5 GCSEs)
- 2 Advanced (Level 3, lasting approx. 18-24 months, equivalent to 2 A levels)
- 3 Higher (Level 4/5, lasting approx. 18 months-5 years, equivalent to a foundation degree)
- 4 Degree (Level 6/7, lasting approx. 3-6 years, equivalent to a Bachelor's/Master's degree)
- 5 Do not know / cannot remember

ASK ALL CURRENTLY STUDYING FOR DEGREE (Q6 = 2). MC

Q7c. Please tell us the subject or subjects that best describe what your degree is in. Just start typing the letters into the box below. You will then be shown some options to choose from.

If the exact wording does not match to anything on the list, please select the closest one. Alternatively, please type in the subject manually.

[Qualifications list – Degrees]

XX None of the above EXCLUSIVE

XX Do not know EXCLUSIVE

XX Prefer not to say EXCLUSIVE

ASK ALL CURRENTLY STUDYING FOR DEGREE (Q6 = 2). SC

Q7d. What level is the degree you are currently studying for? If you are not sure, please select the one you think is most appropriate.

ROWS

- 1 Undergraduate degree (e.g. BA, BSc)
- 2 Postgraduate degree – Master's or equivalent (e.g. MSc, MEng)
- 3 Doctorate (PhD)
- 4 Foundation degree (e.g. FdA, FdSc)
- 5 Top-up degree (e.g. following a Foundation degree or HND)
- 6 Other (please specify) 20 CHARACTER LIMIT

ASK ALL CURRENTLY STUDYING FOR VOCATIONAL QUALIFICATION (Q6 = 3, 4, 5). MC.

Q7e. Please tell us the subject or subjects that best describe what your vocational qualification(s) is/are in. Just start typing the letters into the box below. You will then be shown some options to choose from.

If the exact wording does not match to anything on the list, please select the closest one. Alternatively, please type in the subject manually.

[Qualifications list – Vocational]

XX None of the above

XX Do not know

XX Prefer not to say

ASK ALL CURRENTLY STUDYING FOR VOCATIONAL QUALIFICATION (Q6 = 3, 4, 5). SC PER COLUMN.

Q7f. What level is/are the vocational qualification(s) you are currently studying for? If you are not sure, please select the option(s) you think most appropriate.

We have used the levels most commonly used in England and Wales. You can find information on levels for England, Wales and Northern Ireland [here](#). Information on levels for Scotland is available [here](#).

For each subject, please choose the appropriate level. If you completed more than one qualification in the same subject, please select the highest level that applies.

ROWS

1 Level 1 (SVQ/NVQ level 1, Level 1 vocational awards, IVQ certificate, Foundation GNVQ)

2 Level 2 (SVQ/NVQ level 2, Level 2 vocational awards, IVQ Technician certificate, IVQ Diploma, Intermediate GNVQ, BTEC first certificate)

3 Level 3 (SVQ/NVQ level 3, Level 3 vocational awards, IVQ Technician Diploma, IVQ Advanced Diploma, AVCE, BTEC National, Vocational A-Levels, ONC, OND, PDA)

4 Level 4 (Licentiate [LCGI], Higher Professional Diploma, SVQ/NVQ level 4, Level 4 vocational awards, Full technical certificate, HNC)

5 Level 5 (Diploma SVQ/NVQ level 5, Level 5 vocational awards, IVQ Advanced Technician Diploma, HND)

- 6 Level 6 (Graduateship [GCGI], Associateship [ACGI])
- 7 Level 7 (Membership [MCGI], Master Professional)
- 8 Level 8 (Fellowship [FCGI])

COLUMNS

[PULL THROUGH SUBJECTS SELECTED AT Q7e]

ASK ALL CURRENTLY STUDYING FOR T LEVEL (Q6 = 8). MC.

Q7g. Please tell us the subject or subjects that best describe what your T Level(s) is/are in. Just start typing the letters into the box below. You will then be shown some options to choose from.

If the exact wording does not match to anything on the list, please select the closest one. Alternatively, please type in the subject manually.

[Qualifications list – T Levels]

- XX None of the above
- 98 Do not know
- 99 Prefer not to say

IF ONLY QUALIFICATIONS SELECTED ARE INTERMEDIATE APPRENTICESHIP (Q5b = 1 OR Q7b = 1) AND/OR LEVEL 1 / 2 VOCATIONAL (Q5f = 1 OR 2 ONLY, OR Q7f = 1 OR 2 ONLY), SCREEN OUT. ALL TO HOLD / CURRENTLY BE STUDYING FOR AT LEAST ONE OF:

- APPRENTICESHIP LEVEL 3+ (Q5b OR Q7b = 2, 3, 4 or 5)
- VOCATIONAL LEVEL 3+ (Q5f OR Q7f = 3,4,5,6,7, 8 or 9)
- DEGREE (Q5d = 1-6 or Q7d = 1-6)
- T LEVEL (Q4 or Q6 = 8)

IN RELEVANT SUBJECT (I.E. A SUBJECT ON THE PREDEFINED LIST). ALLOW THOSE ENTERING OWN QUALIFICATION SUBJECT TO PROCEED – THEY WILL BE SCREENED AT THE DP STAGE.

Career Expectations and Motivations

Thanks so much for your answers so far! We'd now like to ask you some questions about your career choices and motivations.

First, we're going to share some factors that might be important to you when making choices about your future career (which could include what qualifications to do, or what job to apply for). We'd like your thoughts on each of them.

ASK ALL

Q8. Thinking generally, how important or not is the following factor to you when making choices about your future career (which could include what qualifications to do, or what job to apply for)?

Please provide a score from 0 to 10, where 0 is not important at all and 10 is extremely important.

COLUMNS

0 -Is not important at all

1

2

3

4

5

6

7

8

9

10 – Is extremely important

RANDOMISE. NUMERICAL SELECTION [0-10] FOR EACH ROW. FORCE ANSWER FOR EACH ROW.

1 Opportunities to progress within the company

2 Pay and wider benefits (e.g. private health cover)

3 A welcoming and inclusive environment

4 The employer's reputation

5 Flexibility (e.g. the offer of hybrid working, flexible hours)

6 Location

7 Intellectual challenge of the job

8 Knowing I am contributing to a change which will benefit society

9 Job security

10 A commitment from the employer to my learning and development

11 Opportunities to work in a 'green job' / a job that has a positive impact on the climate / contributes towards net zero

12 Doing something my family approves of

13 Seeing people like me working in my chosen sector/industry

14 Doing something different to what my friends are doing

FLAG STRAIGHTLINERS

ASK ALL

Q9. Thinking about your career, please tell us how much you agree or disagree with the following statements.

Please select one answer per statement.

ROWS. RANDOMISE STATEMENTS. SC PER STATEMENT

I like the idea of dedicating my career to a single industry or sector

During my studies, I feel information about the types of career that might be available to me is/was lacking

I chose my studies/qualifications because I had a specific career path in mind

I think it's important to be able to move around different industries/sectors as part of any career

COLUMNS. FLIP SCALE FOR HALF OF RESPONDENTS

- A Strongly agree
- B Somewhat agree
- C Neither agree nor disagree
- D Somewhat disagree
- E Strongly disagree
- F Don't know FIX

Career plans whilst studying

Now we'd like to ask you some questions about your current or previous studies.

ASK ALL

Q10. Thinking about your time studying or completing your qualification(s), to what extent do the following statements apply to you?

Please select one answer per statement.

ROWS. RANDOMISE STATEMENTS. SC PER ROW.

In choosing what to study, I was more motivated by interest in the subject than any job that might come at the end of it

I chose my qualification because I know other people with similar qualifications who are doing jobs I would be interested in doing

I have confidence that my studies/qualifications will lead to a good job

I had/I plan to have a job lined up upon completing my studies/qualification(s)

COLUMNS. FLIP SCALE FOR HALF OF RESPONDENTS

- A To a great extent
- B To some extent
- C Hardly at all
- D Not at all
- E Do not know FIX

ASK ALL

Q11. During your studies, did you ever attend, or do you plan to attend, any of the following types of career events or initiatives?

Please select one answer per event or initiative.

ROWS. RANDOMISE. SC PER ROW.

General careers fairs

Sector-specific careers fairs (e.g. Engineering jobs fair)

Presentations or events hosted by potential employers – in person FIX TO APPEAR WITH CODE 4

Presentations or events hosted by potential employers – online FIX TO APPEAR WITH CODE 3

Placement schemes with potential employers / a year in industry

Relevant work experience

Visiting websites of potential employers

A different careers event or initiative not listed here [please specify] 60 CHARACTER LIMIT

COLUMNS

Yes – have attended, or plan to

No – have not attended, nor plan to

Don't know/ can't remember

Current work and role selection

ASK ALL CURRENTLY WORKING (Q2 = 2, 3 OR 5). MC.

Q12a. Thinking about your current role, which of the below best describes the sector or industry in which your employer conducts the majority of their work?

If more than one sector feels equally relevant to your employer's work, you can select more than one.

Oil and gas

Nuclear

Chemicals

Pharmaceuticals

Rail

Construction

Water and waste treatment

Electricity network (including electricity generation, transmission and distribution)

Renewable energy

Finance (e.g. banking)

Software / data

Another sector not listed here (please write in)

Don't know EXCLUSIVE

ASK ALL

Q12. Have you ever considered (or would you consider) working in any of the following sectors?

Please select one answer per sector.

ROWS. RANDOMISE. SC PER ROW. (AUTOCODE RESPONSES FROM Q12A as CODE C)

Oil and gas

Nuclear

Chemicals

Pharmaceuticals

Rail

Construction

Water and waste treatment

Electricity network (including electricity generation, transmission and distribution)

Renewable energy

Finance (e.g. banking)

Software / data

COLUMNS.

A Yes

B No

C Have previously worked in this sector

D Don't know

ASK ALL CURRENTLY WORKING (Q2 = 2, 3 OR 5). MC.

Q13. You told us you currently work in [INSERT SECTOR(S) FROM Q12a SELECTED AT A] [DO NOT PIPE IN CODE 13 AND DO NOT SHOW FIRST SENTENCE IF ONLY CODE 13 SELECTED AT A]. Which of the following factors were most important when deciding to take up your current role?

Please select all that apply, up to three.

ROTATE. MC UP TO THREE.

This was the first/only job offer I received

Opportunities to progress within the company

Pay and wider benefits (e.g. private health cover)

A welcoming and inclusive environment

The employer's reputation

Flexibility (e.g. the offer of hybrid working)

Location

Intellectual challenge of the job

Knowing I am contributing to a change which will benefit society

Job security

A commitment from the employer to my learning and development

Opportunities to work in a 'green job' / a job that has a positive impact on the climate / contributes towards net zero

Doing something my family approves of

Seeing people like me working in my chosen sector/industry

Doing something different to what my friends are doing

Other factor (please write in) FIX [200 CHARACTER LIMIT]

Don't know FIX EXCLUSIVE

ASK ALL CURRENTLY WORKING (Q2 = 2, 3 OR 5). SC

Q14. How long have you been working in your current role?

Three months or less

Over 3 months but less than 6 months

Over 6 months but less than 1 year

Over 1 year but less than 3 years

3 years or more

ASK ALL CURRENTLY WORKING (Q2 = 2, 3 OR 5). MC.

Q15. How did you hear about your current role?

Please select all that apply.

Saw role advertised on employer website

Saw role advertised on a sector-specific jobs site / mailing list I have subscribed to (e.g. Engineeringjobs.co.uk, energyjobline)

Saw role advertised on a general jobs website (e.g. Indeed)

Saw role advertised/discussed on social media

Heard about it through a professional or trade organisation I am a member of (e.g. the Institution of Engineering and Technology)

Saw role advertised offline (e.g. a poster or leaflet)

Heard about it from someone I know personally (e.g. a friend or family member)

Heard about it from someone I know professionally (e.g. a lecturer, a colleague)

Heard about it at a careers fair / careers event

Heard about it via my training provider

I have previously worked for this employer / done a placement with them / work experience

Some other way not listed here (please specify) 200 CHARACTER LIMIT

Don't know/ can't remember EXCLUSIVE

Sector Perceptions

NEW SCREEN: Almost there! We just have a few questions about the electricity network sector. It doesn't matter how much or how little you know about it currently – all views are valid.

ASK ALL. SC. FLIP SCALE FOR HALF OF RESPONDENTS

Q16. The UK's electricity network includes all stages of electricity generation, transmission, and distribution, connecting power stations and generators such as windfarms to domestic and industrial users. This includes the nationwide system of pylons and cabling connecting everything together. Job roles in the sector include engineering, construction, planning and logistics roles, among others.

Before today, how much would you say you knew about job opportunities in the electricity network sector?

A great deal

A fair amount

Not very much

Nothing at all

Do not know FIX

ASK ALL. SC.

Q17. To what extent do you agree or disagree with the following statements about working in the electricity network sector? There are no right or wrong answers – we are just interested in your honest opinions.

Please select one answer per statement.

ROWS. RANDOMISE STATEMENTS. SC PER STATEMENT

The electricity network sector is not appealing to me personally.

The electricity network sector attracts a diverse range of people compared to other sectors I might be qualified to work in (for example, a mix of men and women, people from a range of ethnic backgrounds).

There are other sectors or industries that I would find more appealing to work in with the qualifications I have.

The electricity network sector makes an important contribution to supporting the climate and meeting the UK's net zero targets.

The electricity network sector doesn't pay as well as other sectors I would be qualified to work in.

There are roles in the electricity network sector that I would be qualified for.

COLUMNS. FLIP SCALE FOR HALF OF RESPONDENTS

- A Strongly agree
- B Somewhat agree
- C Neither agree nor disagree
- D Somewhat disagree
- E Strongly disagree
- F Don't know FIX

ASK ALL NOT CURRENTLY CONSIDERING A NETWORKS ROLE (Q12 CODE 8 = B, C, OR D) AND NOT CURRENTLY WORKING IN A NETWORKS ROLE (Q12a ≠ 8).

Q18. We're interested to know what might motivate someone to work in the electricity network. For each of the factors below, how likely or unlikely would it be to encourage you to consider a role in the electricity network?

Please select one answer per factor.

ROWS. SC PER ROW.

If the pay/benefits were better than I could expect elsewhere

If I knew I would be making a positive contribution to tackling climate change

If a friend working in the sector recommended it to me

If I saw more people like me working in the sector

If I knew a job was available near to where I live

COLUMNS. FLIP SCALE FOR HALF OF RESPONDENTS

- A Very likely
- B Fairly likely
- C Not very likely
- D Not at all likely
- E Do not know FIX

ASK ALL WITH EXPERIENCE IN A NETWORKS ROLE (Q12 CODE 8 = C) OR CURRENTLY WORKING IN NETWORKS ROLE (Q12a = 8).

Q19. You mentioned you have previously worked or are currently working in a role in the electricity network sector (i.e. relating to the generation, transmission, or distribution of electricity). To what extent do you agree or disagree with the following statements.

Please select one answer per statement.

ROWS. RANDOMISE STATEMENTS. SC PER STATEMENT

My experience of working in the electricity network has been positive

[ONLY SHOW IF Q12a =8] I plan to remain working in the electricity network sector for the foreseeable future, even if my specific job role might change

Opportunities for career development within the electricity network sector are limited

COLUMNS. FLIP SCALE FOR HALF OF RESPONDENTS

- A Strongly agree
- B Somewhat agree
- C Neither agree nor disagree
- D Somewhat disagree
- E Strongly disagree
- F Don't know FIX

Subsidiary demographics

Thank you for answering our questions. We're almost finished! We would just like to ask you some final questions about yourself, to make sure we are hearing from a range of people.

Please be assured that all your answers will be reported anonymously – it will not be possible to identify individuals from the answers they give. If you are not comfortable answering a certain question, please just select the 'prefer not to say' option.

ASK ALL. SC.

QD1. Are you...?

Please select one answer only.

Female

Male

Identify in another way (please write in) 20 CHARACTER LIMIT

Prefer not to say

ASK ALL. SC.

QD2. How old are you?

[NUMERICAL ENTRY, MINIMUM 156 MAXIMUM 99]

Prefer not to say

ASK ALL

QD3. Please indicate which of the following best describes where you lived during your childhood, while you were studying, and where you live now. Please include anywhere you lived for 6 months or more.

Please select all that apply.

ROWS.

England

Scotland

Wales

Northern Ireland

Republic of Ireland

Elsewhere in Europe

Asia

Africa

North America

South America

Australasia

Prefer not to say

COLUMNS. MC PER COLUMN.

Childhood

While studying

Currently

ASK ALL. SC.

QD4. Which of the following best describes how you think of your ethnicity?

Please select one answer only.

- 1 Asian or Asian British – Indian
- 2 Asian or Asian British – Pakistani
- 3 Asian or Asian British – Bangladeshi
- 4 Asian or Asian British – Any other Asian background
- 5 Black or Black British – Caribbean
- 6 Black or Black British – African
- 7 Black or Black British – Any other Black background
- 8 Mixed race – White and Asian
- 9 Mixed race – White and Black African
- 10 Mixed race – White and Black Caribbean
- 11 Mixed race – Any other mixed background
- 12 White - British
- 13 White – Irish
- 14 White – Any other White background
- 15 Other Ethnic groups - Chinese
- 16 Other Ethnic groups – Any other ethnic group
- 98 Do not know

99 Prefer not to say

ASK ALL. SC.

QD5. Thinking of the household you grew up in, what was the highest level of education completed by an adult in that household? This might be a parent, or another adult.

If you grew up in multiple households, please select the answer which best represents the longest period of your childhood.

Please select one answer only.

- 1 Higher degree or postgraduate qualifications (e.g. M.A., MSc., M.Ed, Ph.D. etc)
- 2 First degree level qualification, degree, or degree equivalent (e.g. BA; BSc) including foundation degrees such as PGCE
- 3 Diploma in higher education; HNC; HND; Nursing or Teaching qualification (excluding PGCE)
- 4 Apprenticeship
- 5 A level; AS level; Advanced Highers, IB; NVQ level 3; GNVQ Advanced; Advanced Highers, or equivalent
- 6 GCSE grade A* - C; O level; CSE grade 1; National 4s/5s; NVQ level 2; GNVQ intermediate; or equivalent
- 7 GCSE grade D – G; CSE below grade 1; NVQ level 1; GNVQ Foundation level; or equivalent
- 8 None of these
- 9 Prefer not to say
- 10 Don't know

ASK IF DMODULE=1

QD6. Finally, we'd just like to know how you heard about this survey. This is so we can understand more about how far we have been able to distribute the survey, and will help us with future survey planning.

Please select all the answers that apply.

- 1 Institution of Engineering and technology (IET)
- 2 Association of Black and Minority Engineers
- 3 Energy Institute
- 4 My local college (please specify)
- 5 My university (please specify)
- 6 Somewhere else (please write in)
- 7 Prefer not to say
- 8 Don't know/ can't remember

CLOSING SCREEN

Thank you so much for taking the time to complete this survey, we really appreciate it. Your answers will help the Government to better understand how they can meet the skills and job demands of the future.

ONLY SHOW IF DMODULE=1 You now have the opportunity to enter yourself into our free prize draw – with five prizes each worth £100 in shopping vouchers up for grabs. Further terms and conditions can be found [here](#). We'll just need to take a name and an email address for you if you want to register. We will store this securely and separately to your survey answers. This information will only be used to notify the winners, and will not be used for any other marketing or research purposes.

ASK ALL IN DMODULE =1. SC

QEMAIL. Are you willing to provide your name and email address in order to be entered into the free prize draw, in line with our terms and conditions?

- 1 Yes [Enter email]
- 2 No

Appendix 4: NRS profiling – additional figures and tables

Table A4.1: Network-relevant roles (figures include all sectors)¹⁰

Date	Apr 2023-Mar 2024		
Measures	value		
Geography	United Kingdom		
Sex	All persons	Males	Females
Measure	Count	Count	Count
Occupation (SOC2020)			
2114 : Physical scientists	27,200	17,400	9,800
2121 : Civil engineers	96,800	85,500	11,300
2122 : Mechanical engineers	74,800	70,000	4,800
2123 : Electrical engineers	48,600	46,400	#
2124 : Electronics engineers	32,700	30,100	#
2125 : Production and process engineers	57,000	47,900	9,100
2127 : Engineering project managers and project engineers	40,800	36,100	#
2129 : Engineering professionals n.e.c.	159,800	139,700	20,100
2135 : Cyber security professionals	65,000	53,600	11,400
2151 : Conservation professionals	27,700	12,800	14,900
2152 : Environment professionals	67,900	41,500	26,400
2452 : Chartered architectural technologists, planning officers and consultants	43,700	30,300	13,400

¹⁰ ONS 'Annual Population Survey – Occupation (SOC2020) by sex and employment type' accessed via NOMIS

2455 : Construction project managers and related professionals	87,000	73,200	13,800
2481 : Quality control and planning engineers	28,000	19,900	8,100
2482 : Quality assurance and regulatory professionals	157,000	89,700	67,300
2483 : Environmental health professionals	11,900	5,200	6,700
3112 : Electrical and electronics technicians	26,100	26,100	!
3113 : Engineering technicians	89,900	86,000	#
3114 : Building and civil engineering technicians	26,200	16,600	#
3115 : Quality assurance technicians	29,800	19,400	10,400
3116 : Planning, process and production technicians	19,100	14,100	5,000
3119 : Science, engineering and production technicians n.e.c.	24,900	20,600	4,300
5211 : Sheet metal workers	8,300	8,300	!
5212 : Metal plate workers, smiths, moulders and related occupations	11,600	10,500	#
5213 : Welding trades	59,400	58,800	#
5214 : Pipe fitters	3,900	3,900	!
5221 : Metal machining setters and setter-operators	38,200	37,000	#
5222 : Tool makers, tool fitters and markers-out	8,800	8,800	!
5223 : Metal working production and maintenance fitters	196,100	189,400	6,700
5224 : Precision instrument makers and repairers	17,000	15,500	#
5241 : Electricians and electrical fitters	205,200	202,600	#
5246 : Electrical service and maintenance mechanics and repairers	31,900	31,900	!

5249 : Electrical and electronic trades n.e.c.	50,400	45,900	#
5250 : Skilled metal, electrical and electronic trades supervisors	35,500	33,100	#
5319 : Construction and building trades n.e.c.	212,500	207,100	5,400
5330 : Construction and building trades supervisors	44,900	42,000	#
8115 : Metal making and treating process operatives	14,800	14,400	#
8120 : Metal working machine operatives	43,800	36,600	7,200
8133 : Energy plant operatives	7,700	7,700	!
8151 : Scaffolders, stagers and riggers	20,600	20,600	!
8159 : Construction operatives n.e.c.	86,400	78,100	#

Table A4.2: Agreed list of network relevant degree courses¹¹

Subject Area (CAH Level 1)	Specific Subject (CAH Level 3)	Relevance
Physical sciences	Physics	Primary
	Physical sciences (non-specific)	Primary
	Sciences (non-specific)	Primary
Mathematical sciences	Mathematics	Primary
	Operational research	Secondary
Engineering and technology	Engineering (non-specific)	Primary
	Mechanical engineering	Primary
	Production and manufacturing engineering	Primary
	Civil engineering	Primary
	Electrical and electronic engineering	Primary
	Chemical, process and energy engineering	Primary
	Others in engineering	Primary
	Minerals technology	Primary
	Materials technology	Primary
Computing	Computer science	Primary
	Information technology	Primary

¹¹ Based on HESA data. All degree levels are eligible (Bachelors, Masters, PhD).

	Information systems	Primary
	Software engineering	Primary
	Artificial intelligence	Primary
Architecture, building and planning	Planning (urban, rural and regional)	Primary
Subjects allied to medicine	Environmental and public health	Secondary
Biological and sport sciences	Ecology and environmental biology	Secondary
Geography, earth and environmental studies (natural sciences)	Physical geographical sciences	Secondary
	Environmental sciences	Secondary

Table A4.3: Agreed list of network relevant apprenticeships¹²

Broad Subject Area	More Specific Subject area	Specific Course
Construction, Planning and the Built Environment	Building and Construction	Building Services Design Engineer (Degree)
		Building Services Engineering Ductwork Installer
		Building Services Engineering Installer
		Building Services Engineering Senior Technician
		Building Services Engineering Service and Maintenance Engineer
		Building Services Engineering Site Management (Degree)
		Building Services Engineering Technician
		Chartered surveyor (degree)
		Civil Engineer (Degree)
		Civil Engineering Senior Technician
		Civil Engineering Technician
		Construction assembly and installation operative
		Construction Design and Build Technician

¹² List drawn up in consultation with DESNZ and key stakeholders.

		Construction Plant Operative
		Construction Quantity Surveying Technician
		Construction Quantity Surveyor (Degree)
		Construction Site Management (Degree)
		Construction Site Supervisor
		Groundworker
		Highways Electrician or Service Operative
		Industrial Thermal Insulation Technician
		Lifting Technician
		Maintenance and Operations Engineering Technician
		Roofer
		Scaffolder
		Structural steelwork erector
		Surveying Technician
		Tunnelling Operative
		Wireless Communications Rigger
		Construction support technician
Engineering and Manufacturing Technologies	Engineering	Automation and controls engineering technician

		Construction Equipment Maintenance Mechanic
		Construction equipment maintenance technician
		Dual fuel smart meter installer
		Lifting equipment technician
		Stairlift, platform lift, service lift electromechanic
		Telecoms field operative
		Civil Engineering Site Management (Degree)
		Control systems engineer (degree)
		Digital Engineering Technician
		Digital manufacturing engineering leader
		Electrical Power Networks Engineer
		Electrical Power Protection and Plant Commissioning Engineer
		Electro-mechanical engineer
		Embedded electronic systems design and development engineer (degree)
		Engineer Surveyor
		Engineering and manufacturing support technician
		Engineering Construction Erector Rigger

		Engineering Construction Pipefitter
		Engineering Design and Draughtsperson
		Engineering Fitter
		Engineering geology (masters degree)
		Engineering Operative
		Engineering Technician
		Geotechnical engineer (integrated degree)
		Installation and Maintenance Electrician
		Marine Engineer
		Maritime Mechanical and Electrical Mechanic
		Non-destructive testing (NDT) operator
		Non-Destructive Testing Engineering Technician
		Nuclear Operative
		Pipe Welder
		Plate Welder
		Power engineer (integrated degree)
		Power industry distribution cable jointer
		Power industry overhead linesperson
		Power industry substation fitter

		Power Network Craftsperson
		Power support operative
		Project Controls Technician
		Risk and Safety Management Professional (Degree)
		Steel Fixer
		Systems Engineer (Degree)
		Utilities Engineering Technician
Engineering and Manufacturing Technologies	Manufacturing Technologies	Control Technical Support Engineer
		Electrical or Electronic Technical Support Engineer (Degree)
		General Welder (Arc Processes)
		Metal Fabricator
		Multi-Positional Welder (Arc Processes)
		Non-Destructive Testing Engineer (Degree)
		Structural steelwork fabricator
		Welder
		Wind turbine technician
Engineering and Manufacturing Technologies	Transportation Operations and Maintenance	Lift Truck and Powered Access Engineering Technician

Business, Administration and Law	Business Management	Through Life Engineering Services Specialist (Integrated Degree)
--	------------------------	---

Table A4.4: Agreed list of network relevant vocational courses and T-levels

Broader Subject areas	More Specific Subject areas
Architecture	Building surveying
	Quantity Surveying
	Land Surveying
Construction	Building Regulations
	Construction skills
	Site Management
	Welding
	Working at height
Data Science	Artificial Intelligence
	Data analytics
Energy and Environment	Energy Management
	Environmental management
	Metals & Mining
	Oil & Gas
	Sustainability
Engineering	Architectural Engineering

	Civil Engineering
	Electrical Engineering
	Energy Engineering
	Geological Engineering
	Industrial Engineering
	Infrastructure Engineering
	Manufacturing Engineering
	Marine Engineering
	Materials Engineering
	Mechanical Engineering
	Robotics
	Software Engineering
	Systems Engineering
	Transportation Engineering
IT & Computer Skills	Computer Science
	IT Security/Cyber security
	Coding/development
	Design/modelling software
	NOT: General IT support / computer skills

Science	Environmental science
	Conservation
	Physics
	Mathematics
	NOT: Biology courses

T-Levels	Specific Subject
Construction	Building services engineering for Construction
	Design, Surveying and Planning for Construction
	Onsite Construction
Engineering and manufacturing	Design and Development for Engineering and Manufacturing
	Maintenance, Installation and Repair for Engineering and Manufacturing
	Engineering, Manufacturing, Processing and Control

Table A4.5: Total number of students enrolled on network-relevant higher education courses by subject¹³

Subject (CAH3)	Relevance	Total Students (2022/23)	Proportion of total (Primary only)	Proportion of total (primary and secondary)
Physics	Primary	23210	6%	6%
Physical sciences (non-specific)	Primary	1305	0%	0%
Sciences (non-specific)	Primary	2770	1%	1%
Mathematics	Primary	36825	10%	9%
Engineering (non-specific)	Primary	26990	7%	6%
Mechanical engineering	Primary	34085	9%	8%
Production and manufacturing engineering	Primary	14195	4%	3%
Civil engineering	Primary	26840	7%	6%
Electrical and electronic engineering	Primary	30040	8%	7%
Chemical, process and energy engineering	Primary	14875	4%	4%

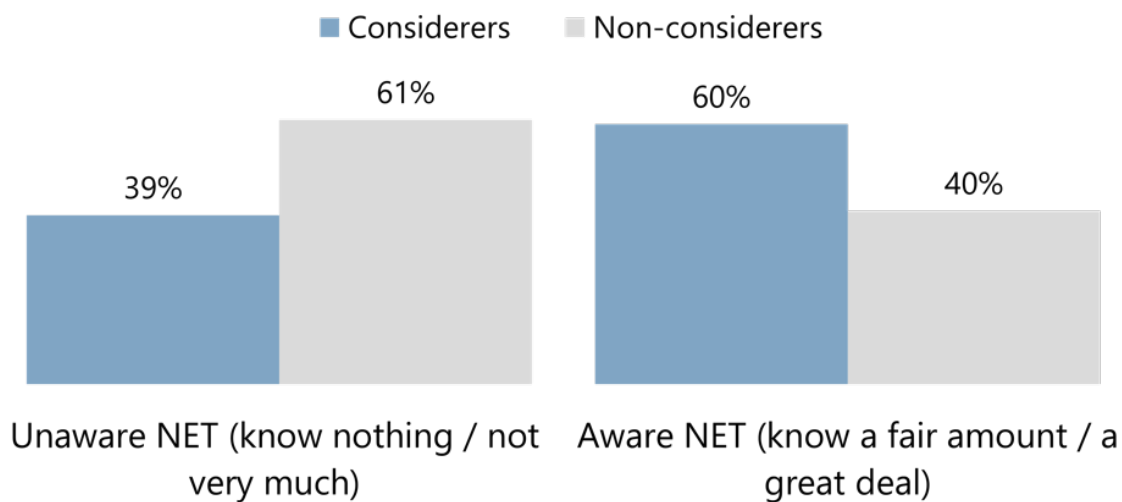
¹³ Based on HESA data. Decisions on relevance to the sector were made by DESNZ, reflecting the number and prominence of roles in the network that each subject area is likely to qualify a student for (e.g. Electrical Engineering is of primary relevance, while Environmental Sciences is of secondary relevance).

Others in engineering	Primary	890	0%	0%
Minerals technology	Primary	425	0%	0%
Materials technology	Primary	2440	1%	1%
Computer science	Primary	90340	24%	22%
Information technology	Primary	16975	4%	4%
Information systems	Primary	16215	4%	4%
Software engineering	Primary	24465	6%	6%
Artificial intelligence	Primary	7970	2%	2%
Planning (urban, rural and regional)	Primary	7070	2%	2%
Environmental and public health	Secondary	11485		3%
Ecology and environmental biology	Secondary	8010		2%
Operational research	Secondary	1315		0%
Physical geographical sciences	Secondary	9755		2%

Environmental sciences	Secondary	9940		2%
Total (Primary only)		377925		
Total (Primary and Secondary)		418430		

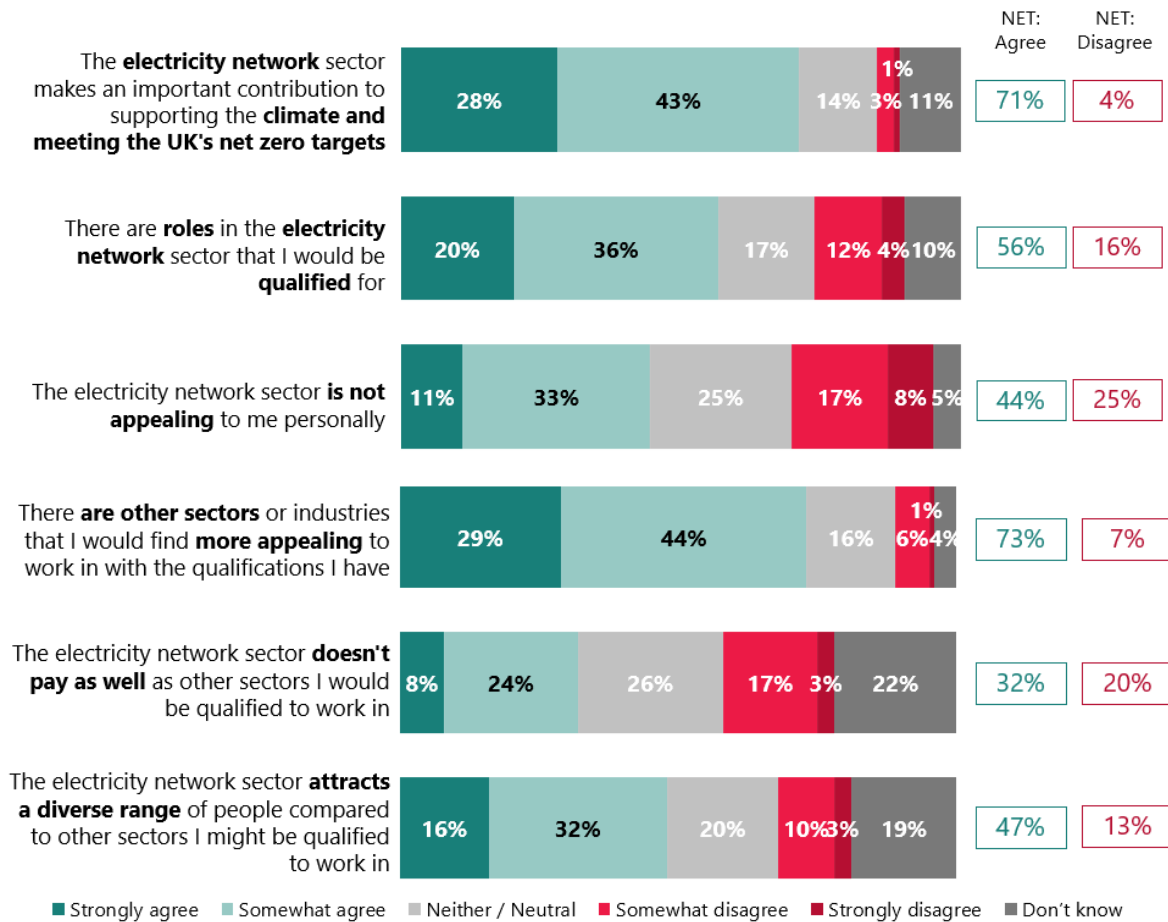
Appendix 5: Quantitative Survey Charts

Figure A5.1: CHAID (decision tree): Awareness levels | Would consider working in the network vs. non-considerers¹⁴



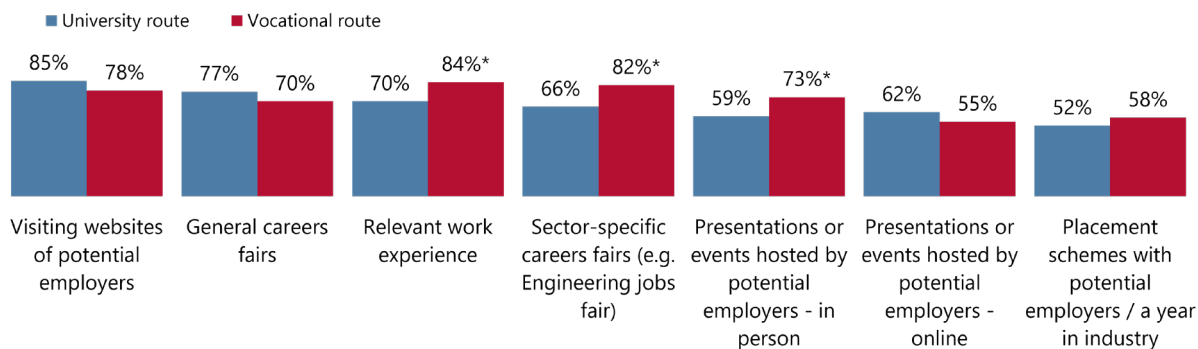
¹⁴ A CHAID (decision tree) analysis conducted on the NRS survey sample shows a strongly hypothesised causality between awareness and consideration for network jobs.

Figure A5.2: Survey findings: Perceptions of sector: Extent of agreement with statements about the networks sector



Source: Q17. SUMMARY TABLE: To what extent do you agree or disagree with the following statements about working in the electricity network sector?
Base: Total respondents (303)

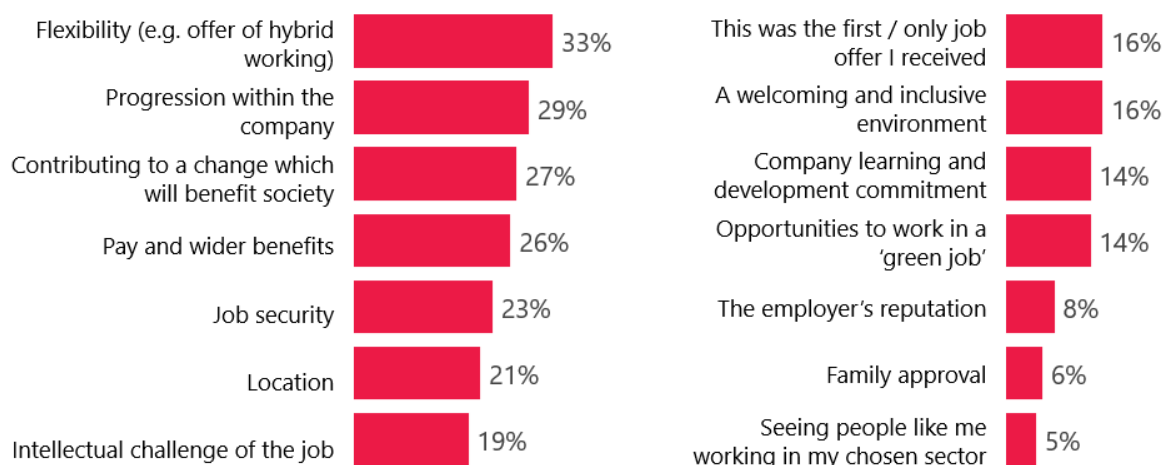
Table A5.3: Survey findings: Career events and initiatives engaged with during studies | By routes (university vs. vocational routes)



Source: Q11. YES SUMMARY: During your studies, did you ever attend, or do you plan to attend, any of the following types of career events or initiatives?
Base: Total respondents (303), University qualifications (249), Vocational qualifications (67)

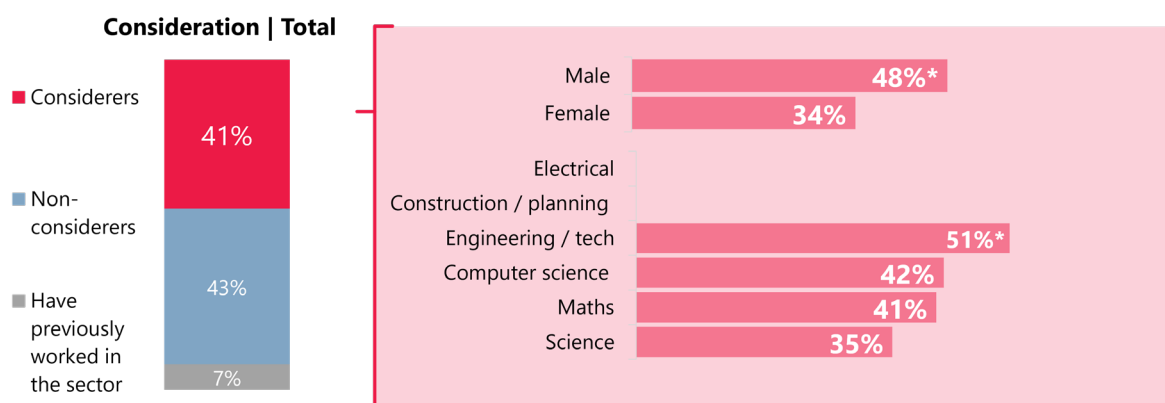
* indicates statistical significance vs. total (exclusive of group) at 95% confidence interval

Table A5.4: Survey findings: Current role – Motivators >5% (based on top 3 boxes on 10-point scale) | Those currently working



Source: Q13. Which of the following factors were most important when deciding to take up your current role? 1% 'don't know'
Base: Working (160)

Table A5.5: Survey findings: Consider work in the electricity network | Subgroup differences



Disclaimer: self-selecting sample/ not representative

** indicates statistical significance vs. total (exclusive of group) at 95% confidence interval*

Source: Q12.8. Electricity network (including electricity generation, transmission and distribution): Have you ever considered (or would you consider) working in any of the following sectors?
Base: Total respondents (303), Males (154), Females (144), Electrical – all routes (20*), Construction / planning – all routes (11*), Engineering / tech – all routes (115), Computer science – all routes (79), Maths – all routes (51), Science – all routes (143)

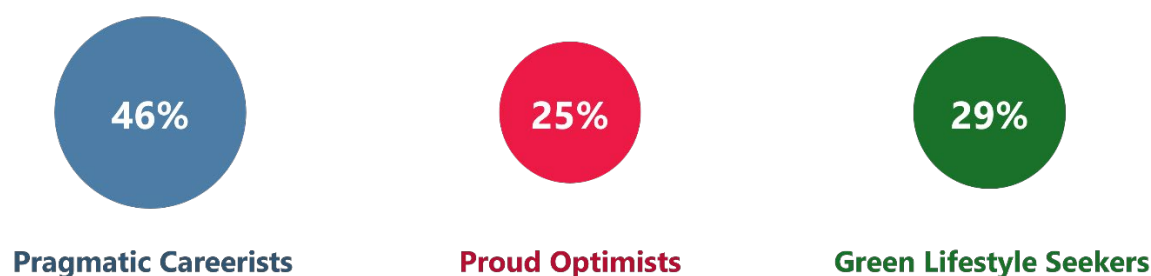
No sig differences between subgroups not reported

Appendix 6: NRS survey segmentation

Segments overview

The quantitative research identified how we might want to segment audiences for the purposes of targeted campaigning. The segmentation analysis revealed 3 distinct segments of NRS that differ in career motivations. Whilst the segments help to cluster our survey sample by significant factors and attitudes towards the electricity network, segments are not meant to be considered in isolation. As this research has proven the varied nature of NRS, so have these segments.

Figure A6.1: NRS survey: segmentation



Source: Q8. Motivating Factors Q9. Thinking about your career, please tell us how much you agree or disagree with the following statements. Q11. During your studies, did you ever attend, or do you plan to attend, any of the following types of career events or initiatives? Q17. To what extent do you agree or disagree with the following statements about working in the electricity network sector?
Base: Pragmatic Careerists (139), Proud Optimists (76), Green Lifestyle Seekers (88)

The **Pragmatic Careerists** represent nearly half of the survey sample. They are making career choices based on practicalities like job security, pay, benefits and progression. They are the least concerned with flexibility (e.g. hybrid working) and location. They are most likely to have chosen their studies with a specific career in mind. During their course, they are by far the most pro-active segment in terms of planning and attending career events. They are likely to have taken up a placement scheme or work experience. This group consists of both university and vocational routes. They tend to be aware of the electricity network. However, there are no significant motivations that would make them more positive about the electricity network or drive them to consider the sector for work.¹⁵

Pragmatic Careerists will be the most difficult group to recruit without strong competitive career prospects. And even so, they are unlikely to steer away from their destined career path. Reaching this segment would require exposure to the sector through work experience opportunities.

Proud Optimists are motivated by those around them. They care about approval from their family, open to career recommendations and keen to do something different to their peers.

¹⁵ Pragmatic Careerists (n=139)

Demographically, this segment tends to be the most ethnically diverse. They are not generally aware of the electricity network. Whilst not yet on their radar as a career prospect, when prompted, Proud Optimists could be swayed by the sector. They are likely to feel positively about the electricity network with what they know about it so far. They are not yet considering job opportunities in the sector.¹⁶

Proud Optimists are the low-risk opportunity for the sector to target. Look to build awareness for this segment to drive consideration. Positivity and openness towards the network is already present for this group. Showcase relatable roles that make them feel proud of their job and sector.

Motivated by societal and climate impact, the **Green Lifestyle Seekers** unsurprisingly have an affinity towards renewable energy roles. They are also after jobs that suit their lifestyle and are more likely to be motivated by flexibility (e.g. hybrid working) and location. They are likely to be aware of the network, and to be considering a role in it. However, they are not completely sold and demonstrate less positivity towards the sector than the Proud Optimists. The Green Lifestyle Seekers are the least engaged in events and initiatives during their studies.¹⁷

Key to winning over the Green Lifestyle Seekers will be about building awareness around the sector's association with renewable energy, which may not be known or understood by all. Messaging should highlight the climate impact of the network transformation to encourage and/or affirm consideration from this group. However, it is not all about sustainability for them; they care about their lifestyle and aspire for balance in life.

Factors and segmentation profiles

Table A6.1: Factors (used to determine segments)

Participant characteristics		Pragmatic Careerists	Proud Optimists	Green Lifestyle Seekers
Factors	Q8 – Factor 1 (including: pay and wider benefits, job security, opportunities to progress)	0.9**	0.3	0.2

¹⁶ Proud Optimists (n=76)

¹⁷ Green Lifestyle Seekers (n=88)

	Q8 – Factor 2 (including: opportunities to work in green job, knowing I am contributing to change which will benefit society)	-0.7	0.3	0.4**
	Q8 – Factor 3 (including: seeing people like me working in my chosen sector/industry, doing something different to what my friends are doing)	-0.9	0.7**	0.2
	Q8 – Factor 4 (including: doing something my family approves of)	-0.1	0.7**	-0.7
	Q17 - Network sector positive (agree with statements: there are roles in the network I am qualified for, the network makes an important contribution to supporting the climate, the network attracts diverse range of people)	-0.3	0.6**	-0.1
	Q11 – Presentations or events hosted by potential employers - online	-0.4	0.7**	0.1

	Q9 – Career in mind but not specific industry (agree with statements: I think it's important to be able to move around different industries/sectors as part of any career, I chose my studies/qualifications because I had a specific career path in mind)	0.6**	-0.6	-0.6
Q18: If the pay/benefits were better than I could expect elsewhere	Not at all likely	3%	0%	2%
	Not very likely	19%	0%	12%
	Fairly likely	53%	42%	46%
	Very likely	26%	58%**	39%
Q18: If I knew I would be making a positive contribution to tackling climate change	Not at all likely	6%	0%	3%
	Not very likely	23%	11%	5%
	Fairly likely	54%	46%	48%
	Very likely	17%	43%**	45%**
Q18: If a friend working in the sector recommended it to me	Not at all likely	10%	3%	5%
	Not very likely	29%	14%	15%
	Fairly likely	50%	43%	56%
	Very likely	11%	40%**	23%
Q18: If I saw more people like me working in the sector	Not at all likely	9%	6%	5%
	Not very likely	36%	11%	20%
	Fairly likely	40%	44%	55%
	Very likely	15%	39%**	20%
	Not at all likely	4%	0%	5%

Q18: If I knew a job was available near to where I live	Not very likely	23%	8%	13%
	Fairly likely	57%	53%	45%
	Very likely	16%	39%**	38%**
Q11: Careers events & initiatives attended	Average number of events per respondent (recode)	2.3**	1.2	1.6
Q16: Awareness of the electricity network sector	Nothing at all	3%	18%**	7%
	Not very much	23%	53%	39%
	A fair amount	49%	25%**	41%
	A great deal	26%**	4%	13%

**Indicates statistical significance vs. total (excluding group) at 95% confidence interval

Table A6.2: Breakdown demographics of the 3 segments

Participant characteristics		Pragmatic Careerists	Proud Optimists	Green Lifestyle Seekers
Gender	Female	48%	47%	47%
	Male	49%	53%	52%
	Identify in another way	2%	0%	1%
	Prefer not to say	1%	0%	0%
Age	16-18	16%	8%	17%
	19-21	41%	23%	30%
	22-24	25%	24%	24%
	25+	18%	45%**	29%
Region (currently)	England	80%	91%	88%
	Scotland	9%	5%	10%
	Wales	8%	3%	1%
	Northern Ireland	1%	1%	0%
	Non-UK	1%	0%	1%
Ethnicity	Black, Asian and Minority Ethnic Groups NET	40%	60%*	46%
	White	60%	40%	55%
Qualification route	University	80%	74%	78%
	Vocational (including apprenticeships)	20%	26%	22%
Working status	Studying / training full-time	49%	18%**	47%
	Working full-time	22%**	46%	36%

	Working and studying / training	14%	12%	10%
	Studying / training part-time while doing something other than paid work	2%	9%	3%
	Working part-time while doing something other than studying / training	9%	13%	3%
	Neither working nor studying	3%	1%	0%
	Other (please specify)	1%	0%	0%
Qualification Subject	Science (Physical or Environmental Sciences)	55%	30%**	49%
	Engineering and Technology	30%	42%	47%
	Mathematics	17%	16%	18%
	Computer science / Computing	22%	38%**	23%
	Electronics / Electrical installation	6%	11%	5%
	Construction	2%	7%	3%

**Indicates statistical significance vs. total (excluding group) at 95% confidence interval

*Only significant at 80% confidence interval

Appendix 7: Existing interventions to date

There is already considerable work going on across the sector to help address some of the skills challenges set out in this report. This research was not intended to provide a root and branch mapping of all of this activity, but it has uncovered a number of initiatives and work streams that are relevant to note, and which can be built upon.

Power Academy: This initiative aims to reverse the decline in students opting for degree courses in power engineering. Benefits include paid tuition fees, bursaries, memberships, vacation training, and summer school in business-related issues. The Southampton University saw a 31% increase in applications for power engineering courses due to this initiative.¹⁸

Work experience and educational initiatives: Employers in the sector engage in various activities such as work experience schemes, school-based challenges, and careers fairs. These initiatives help raise awareness of the sector and provide practical experiences that connect school learning with real-life work scenarios.¹⁹

Sector roadshows and mentoring: Industry graduates conduct roadshows at universities to explain the sector and available roles. A mentoring scheme is in development to help students relate better to the industry.

Residential courses: National Grid sponsors week-long residential engineering experiences for Year 10 students to explore energy generation, transmission, and distribution through interactive workshops and demonstrations. This helps students develop various skills and gain a deeper understanding of the industry, thereby motivating students to pursue careers in this field.²⁰

Collaboration with educational institutions: The sector works closely with schools, colleges and universities to improve the visibility of energy and utilities careers - though it is noted that these are often carried out by individual companies and success appears limited to smaller-scale local companies, rather than consistent increases in intake nationally.²¹ For example:

- Morgan Sindall Infrastructure has become a 'platinum partner' to the Energy Coast University Technical College (UTC) in Workington, Cumbria. The company has been actively involved with the UTC since it opened in September 2014.²²

¹⁸ Energy Research Partnership (2014). *Investigation into high-level skills shortages in the energy sector*. [Available online.](#)

¹⁹ Energy and Utilities Skills Partnership (2020). *Many Skills One Vision: Energy and Utilities Workforce Renewal and Skills Strategy*. [Available online.](#)

²⁰ National Grid (2020a). *Building the Net Zero Energy Workforce*. National Grid Group. [Available online.](#)

²¹ Energy and Utilities Skills Partnership (2020). *Many Skills One Vision: Energy and Utilities Workforce Renewal and Skills Strategy*. [Available online.](#)

²² Morgan Sindall Infrastructure (2019). *Platinum partnership announced with Energy Coast UTC*. [Available online.](#)

- Scottish and Southern Electricity Networks (SSEN) are partnered with UTC Reading to raise awareness of careers in a low carbon energy industry.²³
- National Grid have worked with social enterprise 'Connectr' to deliver an ambitious five-year programme that will reach over 100,000 pupils. They hope to attract diverse talent to pursue a career in the energy sector.²⁴

Youth initiatives: Initiatives like the Northern Powergrid Light Challenge engage primary school pupils in projects that teach them about energy consumption and engineering careers. Such activities aim to inspire children from a young age to consider engineering as a career path. For example, Northern Powergrid's 'Light Challenge' engaged primary school pupils in designing a Christmas light while learning about energy.

On-the-job training: There is also an emphasis on on-the-job training, partnerships with education providers, and the value of degree apprenticeships to reduce attrition. Employers are also tapping into more experienced candidates and running intensive 'bootcamp' style courses. This involves an intensive few weeks of training as a way to quickly upskill people in a specific area of need.

Strategic communications: The sector focuses on creating and sharing case studies of real people in jobs to improve career visibility. Digital platforms are leveraged to educate and engage talent, teachers, and parents, ensuring consistent messaging about the sector's opportunities.

Advertising: Larger organisations will have their own career pages on their website that advertise entry level opportunities. For example, the National Grid have an early careers service where students can sign up to hear about apprenticeships, undergraduate, and graduate employment opportunities.²⁵ However, these pages likely require interested NRS to be actively searching for roles with the National Grid in mind (or other organisations that offer similar services). Given awareness of and interest in roles within the electricity network is low, the extent to which these are effective at attracting talent away from competing sectors is unclear.

Government and employer partnerships: Government-led campaigns and employer collaborations aim to highlight the need for electricity infrastructure and the associated job opportunities. These campaigns are designed to reach a wide audience, including students and their influencers.²⁶ For example, national careers events like the Big Bang Fair and the Skills Show. In terms of broader comms campaigns, it was noted that whilst individual campaigns, such as the Department of Transport's Year of Engineering, have achieved some success, there is a need to consolidate these efforts to create sustained, long-term impact rather than sporadic bursts of activity.

²³ Scottish and Southern Electricity Networks (SSEN) (2023). *SSEN and UTC Reading join forces for a Net Zero future*. [Available online](#).

²⁴ National Grid (2020b). *Connectr partnership*. National Grid ET. [Available online](#).

²⁵ National Grid (2025). *Early careers*. [Available online](#).

²⁶ Energy Systems Catapult (2023). *Electricity Networks Commissioner - Companion Report Findings and Recommendations*. Energy Systems Catapult. [Available online](#).

The sector has also launched some broader initiatives that are beginning to address workforce challenges.

Some membership bodies, such as the Energy and Utility Skills Partnership, are pooling resources and co-ordinating knowledge-sharing across industry employers. They have also recommended recruitment practices are designed to ensure that talent is not lost to competing sectors by recycling applications that are suitable, but not successful on their first application.

Appendix 8: References

Arueyingho, O., Chitchyan, R. and Bird, C. (2023). Career progression and skills in Smart Local Energy Systems. *Applied Energy*, 349, pp.121596–121596. [Available online.](#)

Association of Colleges. (n.d.). List of Colleges in the UK. [Available online.](#)

Crowhurst, M. and Taylor, A. (2023). Generation Green Jobs? Exploring young people's readiness for the Net Zero skills revolution.

Department for Energy Security & Net Zero (DESNZ) (2022). Electricity Networks Strategic Framework: enabling a secure, net zero energy system. [Available online.](#)

Department for Energy Security & Net Zero (DESNZ) (2023). Transmission Acceleration Action Plan Government response to the Electricity Networks Commissioner's report on accelerating electricity transmission network build. [Available online.](#)

Department for Energy Security & Net Zero (2024a). Clean Power 2030 Action Plan: A new era of clean electricity. [Available online.](#)

Department for Energy Security & Net Zero (2024b). Clean Power 2030 Action Plan: A new era of clean electricity – assessment of the clean energy skills challenge – evidence annex. [Available online.](#)

Energy and Utilities Skills Partnership (2020). Many Skills One Vision: Energy and Utilities Workforce Renewal and Skills Strategy. [Available online.](#) <https://www.euskills.co.uk/>

Energy Research Partnership (2014). Investigation into high-level skills shortages in the energy sector. [Available online.](#)

Energy Systems Catapult (2023). Electricity Networks Commissioner - Companion Report Findings and Recommendations. Energy Systems Catapult. [Available online.](#)

EngineeringUK (2024). Spike in women aged 35 to 44 leaving engineering. Press Release. [Available online](#)

GOV.UK (n.d.a). Apprenticeships, Academic year 2023/24. [Available online.](#)

GOV.UK (n.d.b). Skills Bootcamps, Skills for Careers. [Available online.](#)

HESA (2024a). Chart 11 - HE students by CAH level 1 and sex Academic years 2014/15 to 2021/22v. HESA. [Available online.](#)

HESA (2024b). HE Student Data. HESA. [Available online.](#)

HM Government (n.d) T Level subjects. [Available online.](#)

IMechE and Gatsby (2018). Never Too Late: Profiling Female Engineering Apprentices. Institute of Mechanical Engineers. [Available online](#)

Morgan Sindall Infrastructure (2019). Platinum partnership announced with Energy Coast UTC. [Available online.](#)

National Energy System Operator (NESO). (2024). Clean Power 2030. National Energy System Operator. [Available online.](#)

National Grid (2020a). Building the Net Zero Energy Workforce. National Grid Group. [Available online.](#)

National Grid (2020b). Connectr partnership. National Grid ET. [Available online.](#)

National Grid (2025). Early careers. [Available online.](#)

Nuclear Skills Strategy Group (2023). A scenario-based approach to nuclear workforce planning. [Available online.](#)

ONS (2021). Census 2021 estimate for Agriculture, energy and water [combined workforce, England and Wales]. [Available online](#)

Royal Academy of Engineering (2024). CSA Next Steps Paper: Coordinating skills challenges across government. Royal Academy of Engineering News.

Sato, M., Cass, L., Saussay, A., Vona, F., Mercer, L. and O’Kane, L., (2023). Skills and wage gaps in the low-carbon transition: comparing job vacancy data. [Available online.](#)

Scottish and Southern Electricity Networks (SSEN) (2023). SSEN and UTC Reading join forces for a Net Zero future. [Available online.](#)

The Institute of Engineering and Technology (n.d.) The IET Power Academy. [Available online](#)

UK Government (2021). Net Zero Strategy: Build Back Greener. [Available online.](#)

Vakulchuk, R. and Overland, I. (2024). The failure to decarbonize the global energy education system: Carbon lock-in and stranded skill sets. Energy Research & Social Science.

von Blumenthal, F. and Fantini, A. (2021). ECITB Workforce Census 2021: Overview of the Engineering Construction Industry. [Available online.](#)

This publication is available from: www.gov.uk/government/publications/electricity-network-jobs-motivations-and-barriers-for-students

If you need a version of this document in a more accessible format, please email alt.formats@energysecurity.gov.uk. Please tell us what format you need. It will help us if you say what assistive technology you use.