



EC
ITB*



**Inspiring directions:
Understanding career choices
to accelerate change**

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At a Glance

Top 3 Career Anchors ECI Workers and Learners

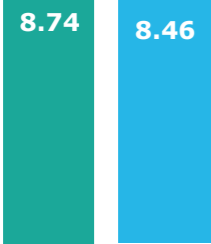
1. Security / stability

2. Lifestyle

3. Autonomy / independence

Top 3 Factors that Motivate Career Choice by Gender ECI Workers and Learners

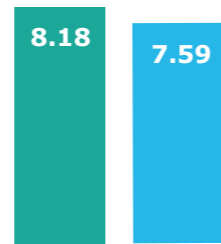
Opportunities to progress



Financial considerations



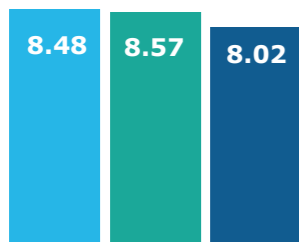
Evolve in a welcoming and inclusive environment



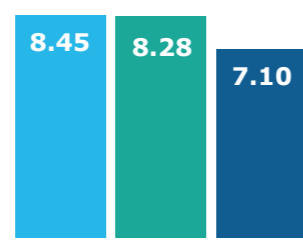
Men Women

Top 3 Factors that Motivate Career Choice by Age ECI Workers and Learners

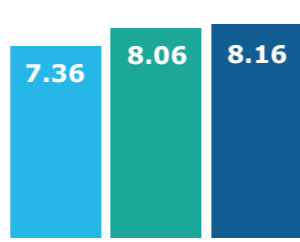
Opportunities to progress



Financial considerations



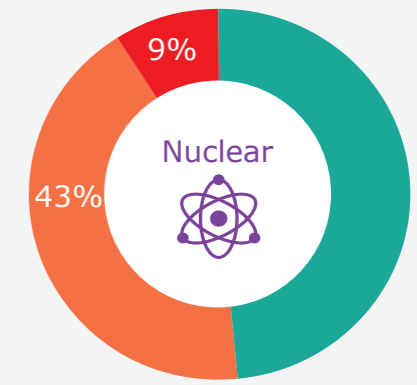
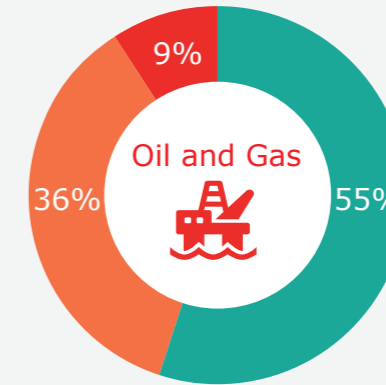
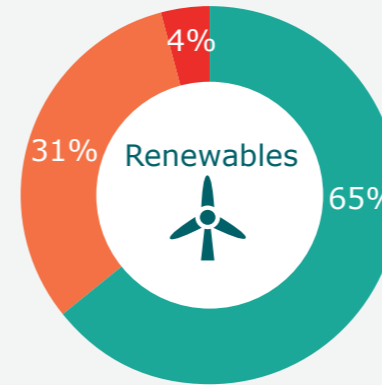
Evolve in a welcoming and inclusive environment



16 - 19 20 - 29 30+

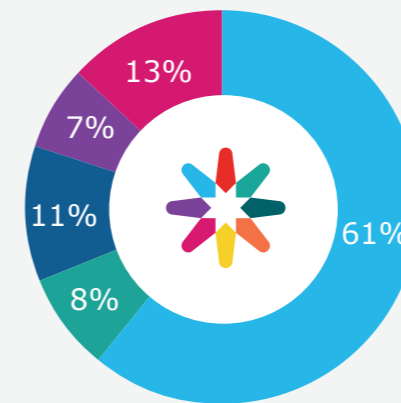
Top 3 Most Popular Sectors to Join ECI Workers and Learners

"Would you consider joining the following sectors?"

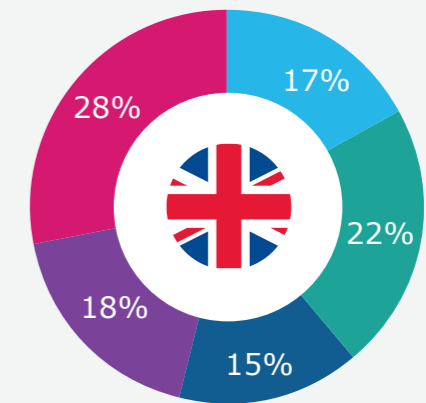


Absolutely Maybe Never

Willingness to Relocate All of sample



ECI Workers and Learners



UK Population

Internationally Across UK Within my region and surrounding regions Within my region I do not want to relocate

2. Executive Summary

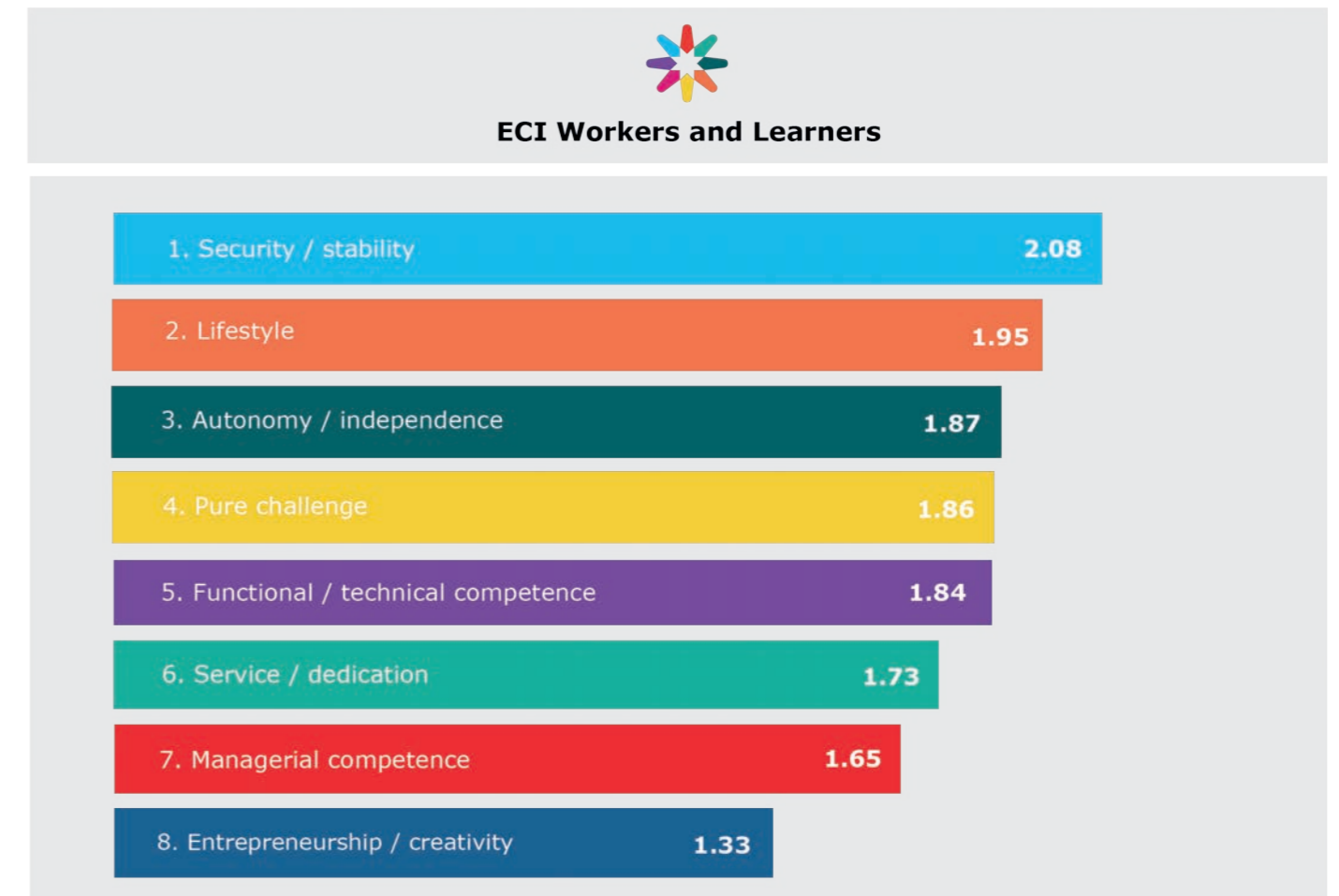
In 2023 the ECITB undertook research into the career motivations of workers currently employed in the Engineering Construction Industry, learners working towards qualifications relevant to the Engineering Construction Industry, and the general public.

The purpose of this research was to dispel potential myths regarding attitudes towards engineering construction and to develop an evidence base of the perceptions of the industry and its sectors. Results have been aggregated principally by age and gender and the average age of respondents is approximately 25.

Career Anchors

The surveys were modelled around Edgar H. Schein's eight career anchors, which can be used by ECI employers to reflect on how their organisation aligns with employee motivations to potentially increase job satisfaction, employee engagement and reduce turnover.

Of the eight anchors, security and stability ranked first among ECI learners and workers, followed by lifestyle. Autonomy and independence, pure challenge, and functional or technical competence all obtained similar scoring between third and fifth place. Service and dedication, managerial competence, and entrepreneurship and creativity complete the list in that order.



A more detailed analysis by gender revealed that women were less likely to express a strong preference compared to men.

The effects of self-efficacy¹ on individuals' motivation, behaviour, and career development (particularly for women²) have been recognised in wider research and this may impact the expression of preferences and, subsequently, career goals. It is therefore important that, when reading this report, rankings are taken into consideration as much as

¹ Self-efficacy refers to an individual's belief in his or her capacity to execute behaviours necessary to produce specific performance attainments (Bandura, 1977, 1986, 1997).

² Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of vocational behavior*, 45(1), 79-122.

percentages, particularly when considering the perceptions of individual sectors of industry. A direct comparison of preferences expressed by men and women requires more nuanced reading.

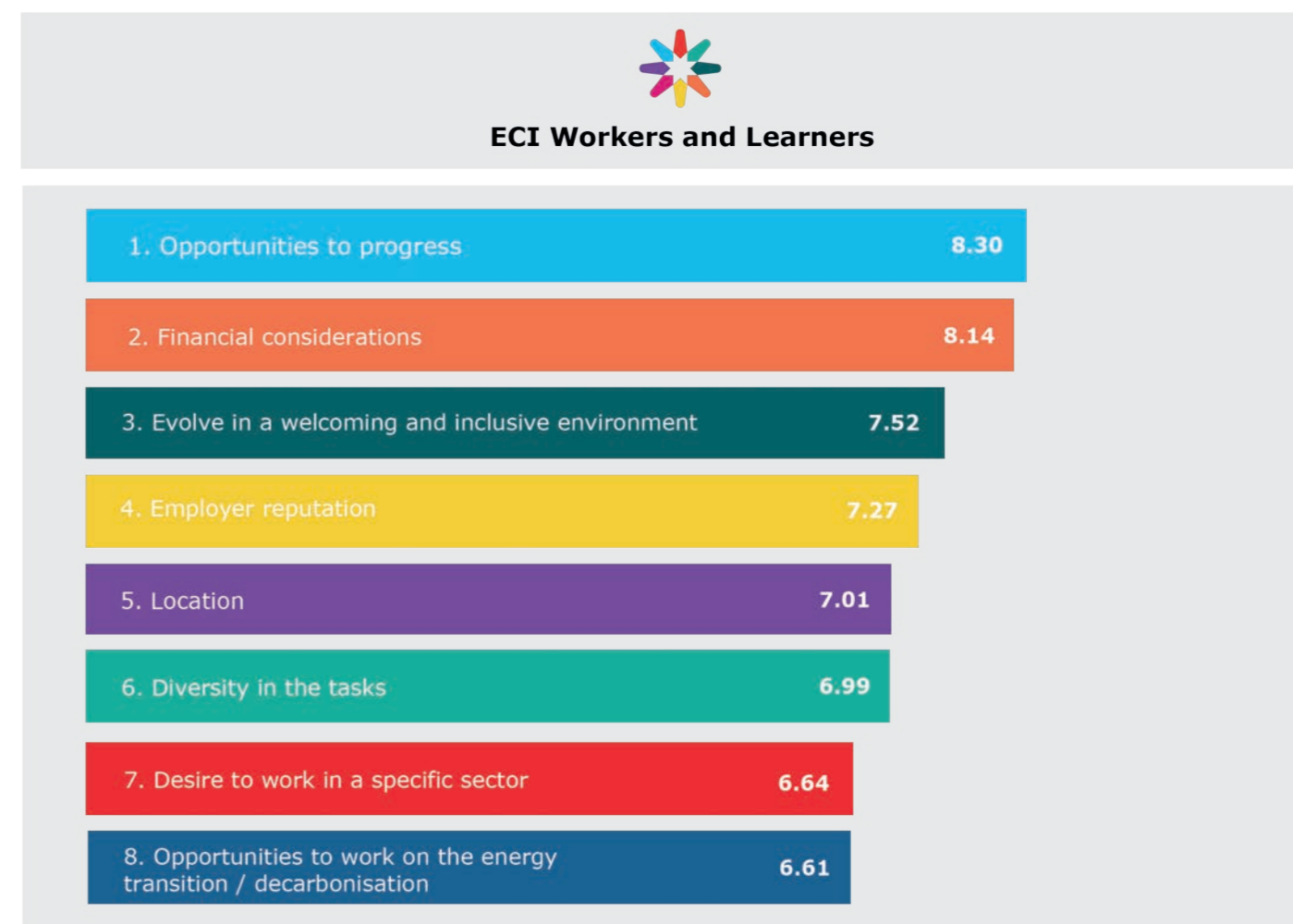
For the specific context of the ECI, further studies, particularly with larger sample populations, are needed to firstly confirm or reject these differences (between genders but also expand to other characteristics such as ethnicity), and, secondly, to potentially determine why this lower propensity to assert career anchors persists as well as the differences in ranking observed here.

Motivating Factors

Learners and workers who took part in this study were asked to give their views on what motivates their career choices.

Each individual rated eight items, covering specific aspects of their career. These elements are more specific than the career anchors and were rated out of ten (the higher the score, the higher the importance of the item for respondents).

The results for the entire sample are as follows:



The high rating of *opportunities to progress* indicates that participants strongly value career growth, advancement, and the potential for professional development. It implies they are motivated by the chance to acquire new skills, take on more responsibilities, or achieve higher positions (and compensation) within their chosen field. This can also be interpreted as a desire to be recognised for their efforts.

The second factor, *financial considerations*, suggests that individuals prioritise earning potential, financial stability, and the ability to meet their financial goals when choosing a career path. It is worth noting that this factor does not necessarily imply that participants are solely motivated by financial gain, but rather that they recognise its major importance in their career choices, far above many other aspects.

The difference in scores between the second item (*financial considerations*) and the third item (*evolve in a welcoming and inclusive environment*) is the largest between different factors. This gap shows that *opportunities to progress* and *financial considerations* are by far the most common and important items on the list for respondents. *Inclusion*, which comes third on the list, seems to confirm the growing importance attached to well-being, cultural empathy, and open-mindedness in the workplace.

Of particular interest is the low score of *opportunities to work on the energy transition* compared to the other items. The defence of the environment and the fight against climate change are regarded as essential parts of the fundamental values of younger generations.

The results show that respondents from 16 to 29 attributed 6.8 to this item, while those above 30 attributed 5.7. While the importance of the protection of the environment amongst younger generations is confirmed by wider surveys³, the results of this research suggest that this alone may not be a sufficiently strong determinant of career choices for most people. While there is no doubt that some individuals attach a great deal of importance to the energy transition in the results, it seems that being perceived as a company or sector that contributes to decarbonising the economy will rarely compensate for an unattractive salary, lack of career progression or the absence of a welcoming and inclusive working environment. It is also worth noting that this was the item most often rated 0 in respondents' scores (8.7% of respondents attributed 0 to this item). The discourse on decarbonisation in the context of engineering construction can seem rather vague and idealistic, which does not help people visualise themselves in the industry. Similarly, the term 'energy transition' may not be widely understood or may be interpreted in different ways.

Demonstrating what decarbonisation entails in practical terms could increase appeal to those sensitive to the subject, bridging the gap between the idea and everyday life practices in the work environment.

When aggregated by gender, the top three items for both groups are the same and are ordered in the same way. However, the distance between these three and the other five items is greater for women than it is for men. Further analysis shows that the top three items for men are on average only 1.04 points ahead of the average for the remaining items, whereas for women this gap is 1.47. This shows that, once women's lower propensity to assert strong preferences is set aside, these first three items are even more important compared to other items.

Analysis highlights that women score *financial considerations* slightly lower than men (-0.07). In fact, *opportunities to progress* and more specifically the presence of a *welcoming and inclusive environment* are what make most of the difference (+0.28 and +0.59 respectively for these items' scores between women and men). In a similar way to how the high scores for the *security and stability* career anchor and the item *financial considerations* can be understood, a high score in these items can also reflect that people strongly value what they feel they lack. This suggests that recruitment of more women into the ECI workforce and retention rates may be particularly improved by ensuring women are given opportunities to progress by acquiring new skills, taking on more responsibility and moving into more senior positions.

Location is an interesting factor, particularly when aggregated by age – it is increasingly important as age increases. This can be explained by the willingness to stay in a single region, or by the emphasis individuals place on the availability of

schools or hospitals as well as proximity to family.

When respondents are asked more specifically to rate from a list what factors may motivate them to relocate, results show that *financial considerations* – either through relocation expenses or accommodation, or simply a higher salary – comes first. The importance of both items (salary and relocation expenses) decreases with age. Younger generations attach more importance to the cost of living, particularly housing, than people aged over 30 when considering the factors likely to encourage them to relocate.

³ Mann, B. (2021, June 1). The environment is once again a top three priority for the British public. YouGov.

Industry Perceptions

The learners and workers surveyed were asked whether they would consider joining any of the sectors on a pre-defined list. Seven of these belong to the ECI, and two are industries whose labour markets are often considered to operate with some degree of overlap with the ECI, namely construction and rail.

The top three sectors according to the data are renewables, oil and gas, and nuclear (the latter scoring very similarly to chemicals).

The renewables sector ranks as most popular with both the ECI panel and the wider population and is particularly popular among women and young people. There are multiple factors as to why the renewables sector is so popular in terms of ranking; the sector has experienced significant growth, and this is not forecasted to decline. People may value the sector's potential for longer-term employment and professional growth. Another important factor is that renewables are characterised by technological innovation, which can be attractive to people that enjoy being at the cutting edge. Furthermore, although not a key motivating factor (cf. *Motivating factors*), many individuals are increasingly concerned about environmental sustainability, and the sector offers an opportunity to contribute to mitigating climate change.

Oil and gas, which are generally expected to decline in the long term, remain attractive to the ECI panel. This can be explained by the high wages that the sector is known to offer. This sector has also long been the most prominent employer in the industry, and still was in 2021⁴ although the nuclear sector has been gaining ground on it. Oil and gas and nuclear are, however, unattractive to the wider public, scoring in 7th and 9th place respectively.

This could pose recruitment challenges, indicating that these sectors might be more successful concentrating recruitment efforts from within the ECI community where they enjoy relative popularity, rather than attempting to win over a hostile wider public. These sectors may find it productive to consider their image and representation outside of the ECI before attempting to further recruitment efforts along current paths.

The food and drink sector, on the other hand, enjoys a relatively good public image whilst being seen unfavourably within the ECI population. From the ECI panel (excluding those already in the sector), 36% said they would never consider joining this sector. Alternatively, the wider results from the poll suggest that only 39% of the UK population said they would not consider joining the sector at all. This is the fourth lowest percentage of all sectors and is just 2 percentage points below the renewable energy sector, which has the best image among the general public.

The sector could potentially benefit more than most other ECI sectors from favourable public opinion in attracting new employees. To bridge the gap and encourage people under 19 to take up ECI pathways, the sector could possibly target them through job fairs and workshops aimed at a younger audience, perhaps even before the age of 16. In terms of attracting within the ECI, the sector would do well to promote its journey towards Net Zero and promote the diversity and novelty of skills associated with the energy transition of the sector which, if promoted properly, could attract people.



3. Introduction



This research was conducted to confirm or refute common perceptions regarding the career choice and the factors that motivate these choices, of predominantly people under the age of 24.

The younger age bracket is of particular interest given the low ratio of new entrants to retirees in Engineering Construction and understanding the motivations of this group is paramount to ensuring workforce needs are met. Nevertheless, the research also encompasses the perceptions of over 24-year-olds including those currently working in the engineering construction industry. This is important for the purposes of identifying cross-generational trends and where motivations might shift according to life stages. The study looks at perceptions of the different sectors comprising Engineering Construction, as well as Rail and Construction as two industries that share similar skill sets. Attitudes towards working patterns common to industry, such as working offshore, and relocating were also analysed in this research.

The research consists of a series of surveys targeting three groups: the general population regardless of professional sector, learners working towards qualifications

applicable to the Engineering Construction Industry (ECI), and those already working in the ECI. The surveys were constructed around a series of career anchors developed by Edgar H. Schein to give continuity and structure to the responses, and to allow for comparisons across sectors, geographies, and other characteristics. This report has drawn out these differences were significant.

Career motivations change over an individual's lifetime, as well as according to external environmental factors; readers should keep in mind that this piece of research was conducted in a post-pandemic, post-Brexit economy, which is currently perceived as being in a cost-of-living crisis. Several industries and sectors have also experienced current or recent industrial action and the effects of such events can be long-lasting; young people, in particular, may not feel the same level of economic security as their parent's generation at a corresponding time in life. These factors are worth bearing in mind as readers work through the report.

4. Methodology

Considerations regarding the determinants of career choices have been widely addressed in the existing literature. However, they have rarely been addressed with similar methodologies in the context of the engineering construction industry. Therefore, this research aims to be a first step in linking the evidence gathered in the literature to the specific context of the industry. The extensive literature review that formed the first stage of the underlying methodology of this research was used as a set of references to which the results refer regularly throughout the following pages.

The report initially uses Edgar Schein's career anchors, which are a common methodology for studying the determinants of career choices, to link this research to existing and future research conducted in various sectors and countries. These anchors can be used by ECI stakeholders to reflect on how their organisation aligns with employee motivations to potentially increase job satisfaction, employee engagement and reduce turnover. The literature on career anchors is extensive, and this report is intended as an entry point for stakeholders who may wish to use this existing knowledge in the context of the ECI. Ongoing engagement with ECI stakeholders has been useful in further aligning the underlying methodology to reflect the specificities of the industry.

For the purposes of this research, the ECITB compiled two databases through a series of surveys:

a. Database of responses from learners who are studying courses relevant to the ECI and workers already in the ECI.

The ECI learners who responded to our survey come from all over Great Britain and are studying a wide variety of disciplines including, but not limited to, electrical engineering, pipefitting, welding, mechanical fitting, chemical engineering, process manufacturing and engineering, and maintenance and operations. Respondents ranged in age from 16 to 32, with an average age of 19.

The ECI workers who responded to our survey mainly work in the oil and gas, chemicals, nuclear and renewables sectors and, to a lesser extent, in sectors such as water and waste treatment, food and drink, pharmaceuticals and paper mills. They work mainly as instrument and control technicians, civil engineers, electrical technicians, mechanical engineers,

planners, non-destructive testing technicians, project managers, or in human resources departments. Based throughout Great Britain, they have an average age of 27, ranging from 17 to 61. Learners who are already working in the industry under real conditions (e.g. apprentices) are included in this group, as opposed to learners who have not yet experienced a real working environment. Apprentices represent 16% of this group.

Together, these samples represent 154 people (89 ECI learners and 65 ECI workers). Given the sociological nature of most of the considerations relating to the determinants of career choices, particular attention was paid to qualitative data, both in the surveys and as part of follow-up discussions.

b. Database of responses from the wider population.

The ECITB commissioned DeltaPoll Ltd to carry out a survey of a representative sample of the UK population to gather their views on the different ECI sectors. This allows the views of ECI learners and workers to be compared with those of the general public in order to assess potential differences that may highlight possible barriers that each sector may face when developing policies to expand the talent pool from which it draws. These comparisons are presented in the chapter *Sectoral and Industry perceptions*. This sample is composed of 1,626 individuals.

Although most of the results are obtained using descriptive statistics and follow-up interviews, clustering techniques have been applied to check the validity of the findings in the report and to highlight particular interactions (or the lack of) between variables that otherwise would not have been identified.

Career Anchors



A person's career anchor is his or her self-concept, consisting of 1) self-perceived talents and abilities, 2) basic values, and, most important, 3) the evolved sense of motives and needs as they pertain to the career. **Career anchors evolve only as one gains occupational and life experience.** However, once the self-concept has been formed, it functions as a stabilizing force, an anchor, and can be thought of as the values and motives that the person will not give up if forced to make a choice. **Most of us are not aware of our career anchors until we are forced to make choices** pertaining to self-development, family, or career. Yet it is important to become aware of them so that we can choose wisely when choices have to be made.

Edgar H. Schein⁵



Learners and workers surveyed as part of this study were asked to read a selection of statements and state to what extent each statement was true for them. Their answers were analysed to identify the relative importance of career anchors, comprised of eight categories in line with Schein's methodology, which has been further refined by the work of other researchers, sociologists, and psychologists over the last decades⁶.

These eight categories, describing the priorities individuals have and aspects they value in working life that guide career and employment choices, are:



1. Functional / technical competence

Individuals with this anchor find fulfilment and success by becoming experts in a specific field or discipline, focusing on developing their technical or functional skills.



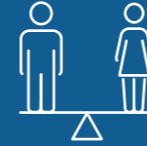
2. Managerial competence

Individuals with this anchor derive satisfaction from taking on managerial roles, leading and coordinating teams, and achieving organisational goals through effective management practices.



3. Autonomy / independence

This anchor represents individuals who value freedom, autonomy, and independence in their careers, preferring to work independently or have a high degree of control over their work and decisions.



4. Security / stability

Individuals with this anchor prioritise stability and security in their careers, seeking long-term employment and job security, often valuing benefits, and a sense of stability and conformity in the workplace. Financial security and stability are covered by this anchor.



5. Entrepreneurship / creativity

This anchor characterizes individuals who are driven by entrepreneurial pursuits, enjoying the process of creating and developing new ideas, products, or businesses, and are willing to take risks in order to achieve their goals.



6. Service / dedication

Individuals with this anchor find fulfilment in contributing to a greater cause or serving others, often working in non-profit organisations, or pursuing careers that align with their personal values and a desire to



7. Pure challenge

This anchor represents individuals who are motivated by the desire to continuously face new and difficult challenges, seeking opportunities that push their limits, expand their capabilities, and provide intellectual stimulation.



8. Lifestyle

This anchor reflects individuals who prioritise achieving a specific lifestyle or work-life balance, seeking careers that allow them to align their work with their personal interests, passions, and values outside of work.

⁵ Schein, E. H. (1996). Career anchors revisited: Implications for career development in the 21st century. *Academy of management perspectives*, 10(4), 80-88.

⁶ Danziger, N., Rachman-Moore, D., & Valency, R. (2008). The construct validity of Schein's career anchors orientation inventory. *Career Development International*, 13(1), 7-19.

4. Findings

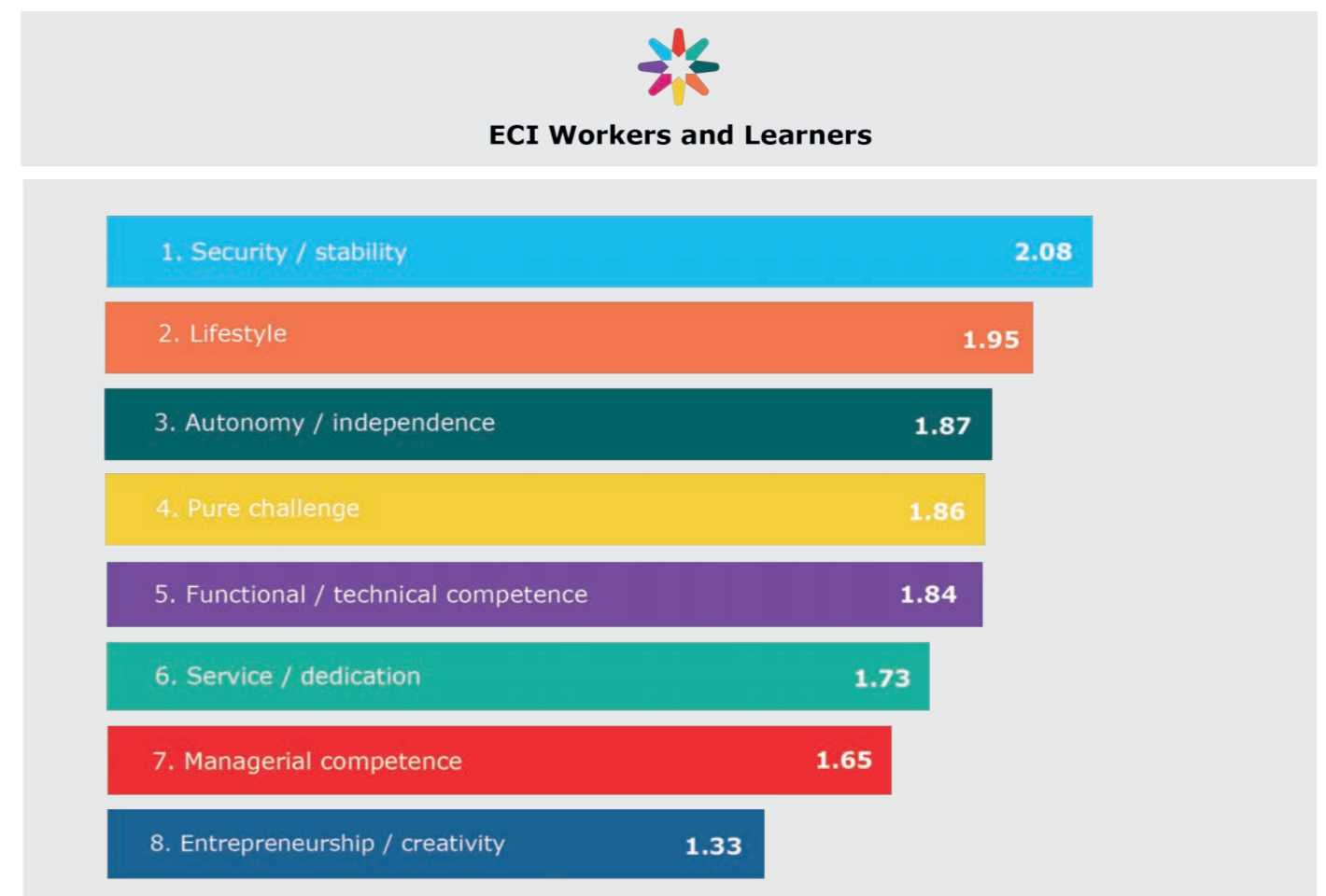
These eight career anchors should not be interpreted as a rigid categorisation, but rather as a methodology for identifying trends in individuals' behaviours and motivations. These patterns are measured by the scores assigned to each anchor for each participant based on their answers. Each individual has a unique set of scores. These scores range from 0 (low importance of the anchor being considered) to 3 (high importance).

Overview of Findings

The analysis of career anchors for the sample of ECI learners and ECI workers who took part in this study shows that the *security and stability* category come first, followed by *lifestyle* (cf. Figure 1).

Considerations regarding *autonomy and independence*, *pure challenge*, and *functional or technical competence* all obtain a similar score between the third and the fifth place. *Service and dedication*, *managerial competence*, and *entrepreneurship and creativity* complete the list in that order. Lower scores do not mean respondents do not attach any importance to the items being considered, but rather imply an order of preference.

Figure 1: Career anchors between 0 and 3.



Economic factors, such as the state of the labour market or broader economic conditions, can influence individuals' career motivations and may partly explain why *security and stability* comes first in the results. During times of economic uncertainty or downturns, people often prioritise stability and job security. Generally, different levels of optimism towards the future have an impact on career choices and on the relative importance that each individual give to career anchors.

⁷ Financial Lives 2022, Key findings from the FCA's Financial Lives May 2022 survey, Financial Conduct Authority, July 2023.

The average age of respondents is 23 years old. However, results can be analysed according to age. The youngest respondents are 16 years old, while the oldest are 61 years old. It should be noted that the importance of *security and stability* decreases with age. Younger generations put more emphasis on these aspects of their career, which includes financial considerations, than their elders. One explanation for this is that older generations have had the time and opportunity to achieve relatively acceptable financial stability compared to new starters⁷. Thus, they may consider that security and stability are less of a priority.

Uncertainty in the wider economic context and job insecurity may also play a key role. People at the start of their careers have grown up in times of economic instability, such as economic recessions, increased job market competition, and more recently the COVID-19 pandemic which may have had lasting effects on the way they perceive the future. They may have experienced or witnessed the consequences of job instability and economic uncertainty, leading them to prioritise *security and stability* in their career choices. Furthermore, changes in employment patterns in the wider economy, including the rise of temporary or contract jobs, and the gig-economy and zero-hours contracts, can contribute to a general sense of unpredictability and insecurity⁸. However, shorter but lucrative contracts can provide a sense of security, provided there is some level of certainty that people's skills will be recognised across the industry to increase employability.

Younger generations also face rising housing costs compared to previous generations. These pressures can drive a need for financial security and stability in their careers to address their economic

responsibilities and secure their future.

The anchor *lifestyle* coming second in the survey results can also be explained by several factors. Recent years have witnessed an increased emphasis on achieving a favourable work-life balance and pursuing personal interests outside of work. This shift in work culture may have influenced individuals to prioritise a lifestyle that allows them to have time for their hobbies, family, and personal well-being. This underlines the importance of implementing work/life balance policies, procedures, and benefits wherever possible.

Many individuals value *autonomy and independence* as it allows them to have more control over their work and career decisions. They may seek opportunities where they can make independent choices, take ownership of their work, and have the freedom to pursue their ideas and initiatives. The degrees of autonomy and independence that are achievable highly depend on the type of tasks carried out by employees. However, the importance of *autonomy and independence* is a general trend in the data. Whilst it can be difficult for employers to adapt working practices to meet autonomy and independence aspirations, it is an area that employers would do well to consider in order to increase retention rates. This could be improved by addressing developmental goals or ambitions at reviews, considering 'stretch' projects to allow exposure to new opportunities and development of skills. Several aspects can explain the scores attributed to *pure challenge* and *functional or technical competence*. Individuals who value the latter anchor may prioritise building deep expertise in a specific area and being recognised for their knowledge and skills. Technical expertise recognised as such is often linked to career advancement.

Developing and demonstrating competence in a specific field can open doors to higher-level positions, increased responsibilities, and better career prospects. People who value *pure challenge* derive satisfaction from tackling difficult tasks and overcoming obstacles, and they seek opportunities to demonstrate their competence and excel in their field. These two anchors have some degree of overlap.

Over the past few years, the industry has been increasingly recognising the importance of widening its talent pool to reduce skills shortages and meet the rising labour demand for both conventional projects, and also those that constitute the road towards the decarbonisation of the economy. The ECITB gathered evidence that the engineering construction industry (ECI) workforce in 2021 was far from representative of the UK population, with just 13.8% of the workforce being women (compared with 50.6% for the UK population), and 4% from ethnic minorities groups (compared with 13%)⁹.

Although geography explains part of the difference for the latter, due to the location of ECI sites and offices across the country in areas where the proportion of people from ethnic minority groups is lower than the national average, it may not explain the whole of the difference. As for the gender split, geography gives no indication as to why the gap is so significant. Twenty-one percent of the learners and workers who took part in this study are women. People from ethnic minority backgrounds represent 10% of workers and learners surveyed, which is also greater than what was observed in 2021. Considering learners may not all choose to work in the ECI, it is too early to conclude that this more diverse population in terms of gender and ethnicity will increase the ECI workforce's diversity. Furthermore, given the small sample size, further research would be needed to

consolidate the subsequent findings.

Further analysis based on gender and ethnicity characteristics provides additional context. On average, individuals from ethnic minority groups seem less inclined to display strong preferences. The average score for this group across the eight anchors is lower than that of the entire sample. (1.71 compared with 1.79). The other main difference for this subsample is that *service and dedication* comes in first position followed by *functional and technical competence*, while these only come sixth and fifth when considering the entire sample. *Security and stability* as well as *lifestyle*, closely follow.

Previous research has indicated that cultural norms and values can potentially play a significant role in influencing how individuals from diverse ethnic backgrounds express their preferences and motivations¹⁰. Certain cultural backgrounds may emphasise humility, collectivism, or a focus on community goals over individual aspirations, which could lead some individuals to downplay their personal preferences in a career context. This may partly explain the differences in ranking between sub-groups.

When it comes to gender, it is observed that women also have a lower propensity to assert strong preferences compared to men, with an average score across the eight anchors of 1.69 for women compared to 1.82 for men. Researchers have previously identified the effect of self-efficacy on individuals' motivation, behaviour, and career development¹¹. Self-efficacy can be understood as an individual's belief in their own capabilities to successfully execute specific tasks, achieve desired outcomes, and effectively navigate challenges. This may impact the expression of preferences and subsequently

⁸MacDonald, R., & Giazitzoglu, A. (2019). Youth, enterprise and precarity: or, what is, and what is wrong with, the 'gig economy'? *Journal of Sociology*, 55(4), 724-740.

⁹ECITB Workforce Census 2021: Overview of the Engineering Construction Industry.

¹⁰Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. sage.

¹¹Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of vocational behavior*, 45(1), 79-122.

the pursuit of career goals, and in a different way depending on gender, ethnicity, and other attributes. The learning and working environment in which women find themselves when following engineering construction-related courses, or when working in industry, can have an impact on self-efficacy, which is then reflected in scores. Similar differences are observed throughout the report, including with regards to the likelihood of joining specific industry sectors.

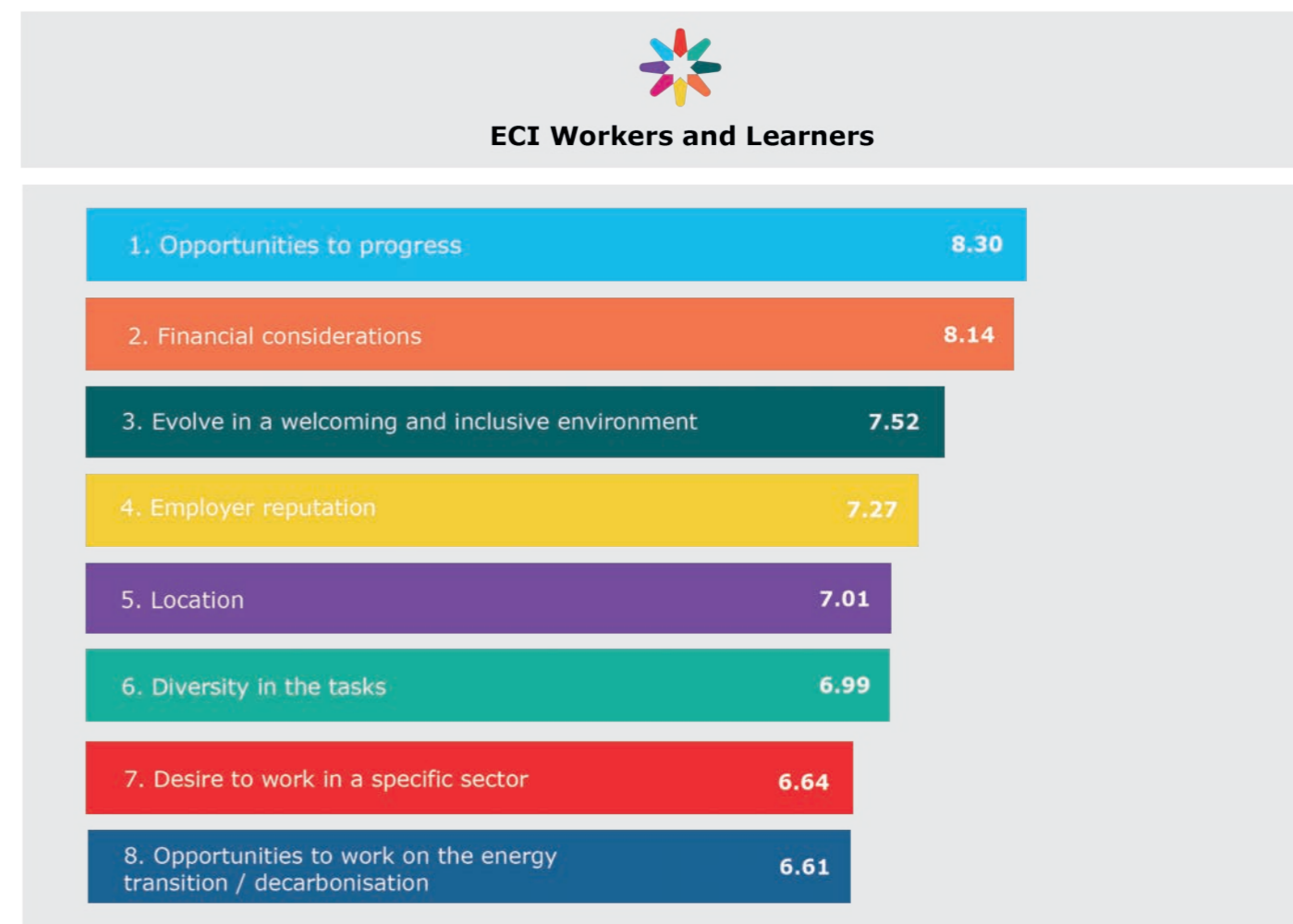
For the specific context of the ECI, further studies are needed to first confirm or reject these differences, and second to potentially determine why this lower propensity to assert career anchors and the differences in ranking are observed here.

A regional analysis of the responses from the ECI samples (learners and workers) unveiled little to no disparities in the results. The main difference being that the most important anchor for Londoners is *service and dedication*. There is an overlap here with the results obtained for individuals from ethnic minority backgrounds, with 47% of surveyed Londoners coming from such backgrounds.

Motivating Factors

As a means of further exploring the way in which career choices are structured, the learners and workers who took part in this study were asked to give their views on what motivates their career choices. Each individual rated eight items, covering specific aspects of their career. These elements are more specific than the career anchors and were rated out of ten (the higher the score, the higher the importance of the item for respondents). A relatively low score does not mean that the item is not important for respondents, but rather that other topics are more important. The results for the entire sample are as follows:

Figure 2: Factors that motivate career choices.



The high score of the item *opportunities to progress* indicates that participants strongly value career growth, advancement, and the potential for professional development. It implies that they are motivated by the chance to acquire new skills, take on more responsibilities, or achieve higher positions (and compensation) within their chosen field. This can also be interpreted

as a desire to be recognised for their efforts. Follow-on discussions with survey respondents revealed that progression opportunities should not be offered simply to promote someone in order to increase retention rates. Rather, it is about ensuring that everyone can benefit from appropriate training and development, so that the overall progression benefits

both the employee and the employer. Companies' efforts to diversify their workforce by promoting people from different backgrounds can backfire if appropriate training is not provided. In such cases, those promoted may receive comments questioning their legitimacy and face distrust from their colleagues, with effects quite the opposite of those originally intended. Instead of showing that the company is a welcoming environment for all, this could lead people from diverse backgrounds to reconsider their future within the company or sector, after witnessing the mishandling of a promotion.

The second factor, *financial considerations*, suggests that individuals prioritise earning potential, financial stability, and the ability to meet their financial goals when choosing a career path. It is worth noting that this factor does not necessarily imply that participants are solely motivated by financial gain, but rather that they recognise its major importance in their career choices, far above many other aspects. In the context of competitive wage inflation that the industry has experienced in recent years, the high score for *financial considerations* is likely to represent a huge challenge, as it seems to confirm a mismatch between the aspirations of younger generations and what some sectors of the industry are able to offer. Given the score of 8.14 and 8.30 for these top two factors, it is not clear whether employers who may even tick all the other boxes will be able to attract and retain new entrants without offering salaries and career progression considered attractive.

The difference in scores between the second item (*financial considerations*) and the third item (*evolve in a welcoming and inclusive environment*) is the largest one that can be found in figure 2. This gap shows that opportunities to progress and financial considerations are by far the most common and important items on the list for

respondents. Inclusion, which comes third on the list, seems to confirm the growing importance attached to well-being, cultural empathy, and open-mindedness in the workplace.

Employer reputation, the next item on the list in terms of importance, can be influenced by several factors. A company that effectively attracts and retains new employees sends a positive signal to potential new entrants. The way a company presents itself to the public and its efforts to establish a positive brand image play a significant role in shaping its reputation. This includes elements like marketing campaigns, social responsibility initiatives, efforts to foster a welcoming workplace, and public perception of the organisation's values and authenticity. However, it must be acknowledged that the not insignificant number of small ECI companies (approximately 80% of ECITB in-scope employers) may not have the necessary resources to engage effectively in reputation enhancement campaigns. Furthermore, some of these aspects are relevant to many companies in the ECI, regardless of their size, and could potentially be approached from a cross-organisational perspective.

It is increasingly common for new entrants to seek views shared by current and former employees through platforms like employee review websites and social media. Positive feedback and reviews can enhance an employer's reputation, while negative experiences can of course have detrimental effects. Thus, the quality of leadership and management practices within a company can greatly impact its reputation.

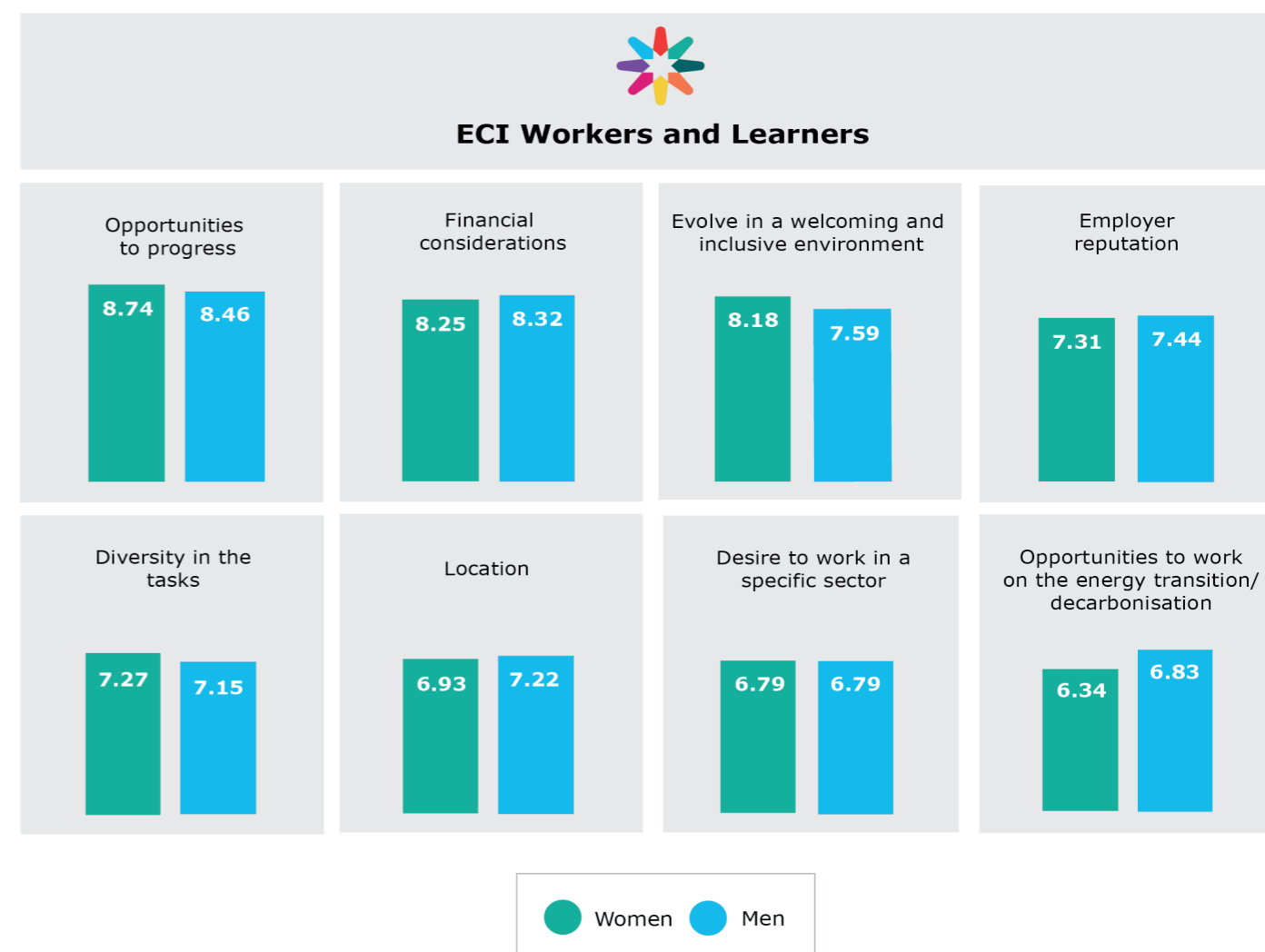
Another factor that shapes employer reputation is the sector in which the company operates. Certain sectors may face challenges with less attractive public perceptions compared to others. This will be further explored in the subsequent

section, *Views on the industry*.

Of particular interest is the low score of *opportunities to work on the energy transition* compared to the other items. The defence of the environment and the fight against climate change are regarded as essential parts of the fundamental values of younger generations. The results show that respondents from 16 to 29 attributed 6.8 to this item, while those above 30 attributed 5.7. While the importance of the protection of the environment amongst younger generations is confirmed by wider surveys¹², one needs to be careful to not too hastily assume that these alone could be a determinant of career choices for most people. While there

is no doubt that some individuals attach a great deal of importance to the energy transition in the results, it seems that being perceived as a company or sector that contributes to decarbonising the economy will rarely compensate for an unattractive salary, lack of career progression or the absence of a welcoming and inclusive working environment. It is also worth noting that this was the item most often rated 0 in respondents' scores (8.7% of respondents attributed 0 to this item). The discourse on decarbonisation in the context of engineering construction can seem rather vague and idealist, which does not help people to visualise themselves in the industry.

Figure 3: Factors that motivate career choices (gender breakdown, scaled to Men average as the larger sample)



¹²Mann, B. (2021, June 1). The environment is once again a top three priority for the British public. YouGov.

The top three items for both groups are the same and are ordered in the same way. These are *opportunities to progress*, *financial considerations*, and *evolve in a welcoming and inclusive environment*. However, the distance between these three and the other five items is greater for women than it is for men. By creating two sub-groups of items, one composed of the top three aforementioned items, and one with the remaining five items, one can compute the difference in the averages for both populations and thus analyse this distance. This shows that the top three items for men are on average only 1.04 points ahead of the average for the remaining items. Meanwhile, the distance between these two subgroups for women is 1.47. This shows that, once women's lower propensity to assert strong preferences is set aside, these first three items are even more important compared to other items. Having a closer look at individual scores, we can see that women score financial considerations slightly lower than men (-0.07). In fact, *opportunities to progress* and more specifically the presence of a *welcoming and inclusive environment* are what make most of the difference (+0.28 and +0.59 respectively for these items' scores between women and men). In a similar way to how the high scores for the security and stability career anchor and the item *financial considerations* can be understood, a high score in these items can also reflect that people strongly value what they feel they lack. This suggests that recruitment of more women into the ECI workforce and retention rates may be particularly improved by ensuring women are given opportunities to progress by acquiring new skills, taking on more responsibility and moving into more senior positions.

When it comes to age (cf. Figure 4), the relative importance of *financial considerations* decreases with age. One possible rationale for this is that older generations have had the chance and resources to attain a reasonably stable financial situation in contrast to when

they began their careers. As a result, they might perceive security and stability to be of lesser priority.

Results in figure 4 are scaled to allow for a better comparison between groups' profiles. The *diversity in the tasks* is an item that gains significant importance for people above 30 years old. One might think that after spending years carrying out similar tasks, some changes might be welcome to break the routine. Employers looking to increase retention rates would be well advised to ensure that the workforce is not carrying out the exact same tasks for extended periods of time. While some people enjoy repetitiveness because it gives them a sense of stability and control, creating opportunities to change this for those who would like to can be a real benefit for businesses.

Location appears to be increasingly important as age increases. This can be explained by the willingness to stay in a single region, or by the emphasis individuals place on the availability of schools or hospitals as well as proximity to family.

When respondents are asked more specifically to rate from a list what factors may motivate them to relocate, results show that *financial considerations* – either through relocation expenses or accommodation, or simply a higher salary – comes first. The importance of both items (salary and relocation expenses) decreases with age. Younger generations attach more importance to the cost of living, particularly housing, than people aged over 30 when considering the factors likely to encourage them to relocate.

Further analysis revealed several respondent profiles with particular characteristics when it comes to showing preferences among the items on this list. Of particular interest is the fact that a small number of respondents (7%) show the strongest preferences for *financial considerations*, while consistently discounting other factors. When

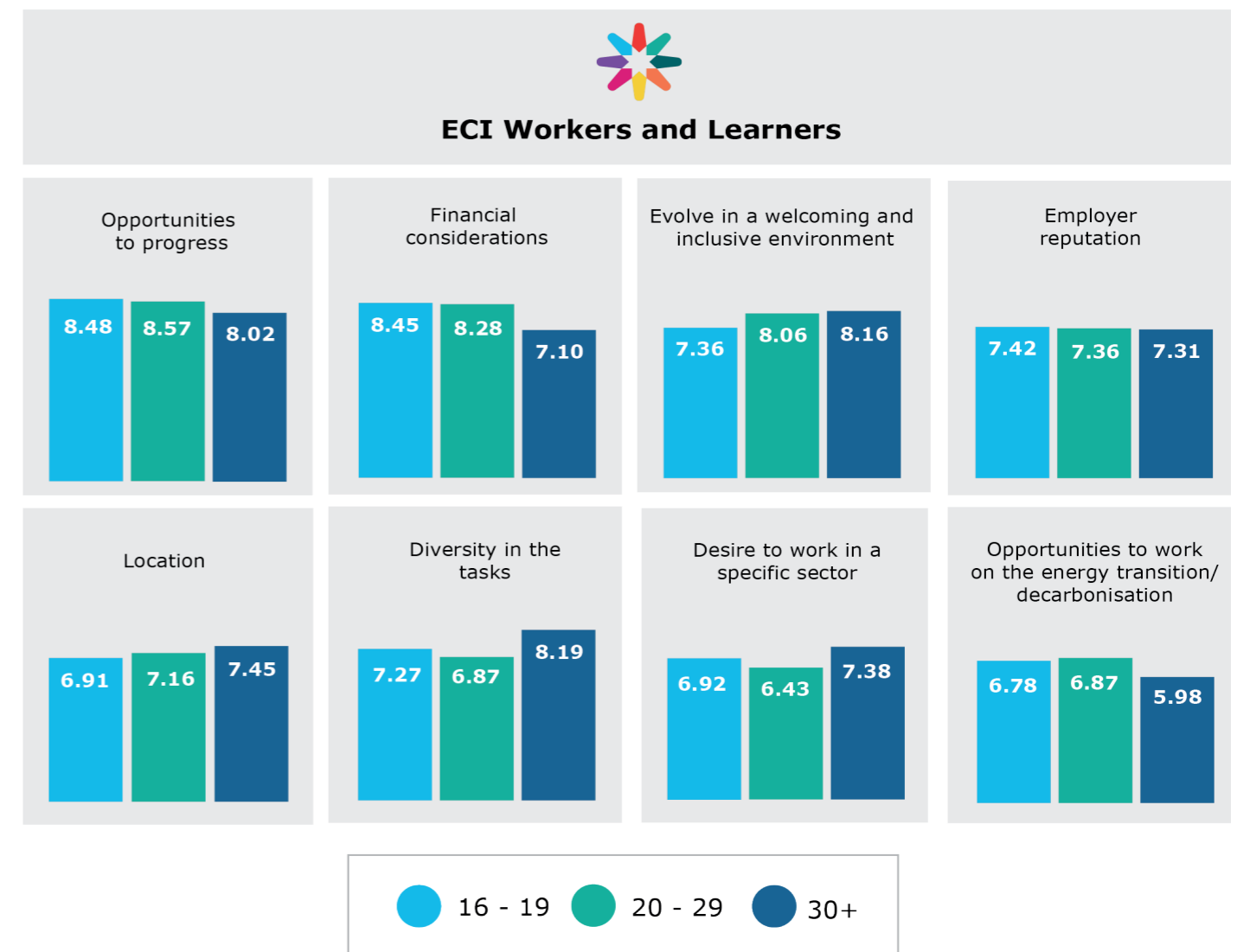
compared to other respondents, these individuals particularly overlook *employer reputation and inclusion*. Also noteworthy is the correlation between preferences for *decarbonisation and inclusion*. This means that there is no ideal strategy for attracting and retaining employees. It is partly a question of targeting specific populations with a tailored approach according to what the company or sector can realistically offer.

Differences in sector and location mean that companies (or sectors) are not on an equal footing when it comes to improving on each specific item on the list. As a result, companies (or sectors) may need

to target specific populations if they are to maximise the effectiveness of their attraction and retention policies within budget constraints, rather than applying general considerations about potential newcomers and what they may want as a group.

Another interesting point mentioned in follow-up discussions with some respondents is the relatively low degree of alignment between their aspirations and what the industry offered at the start of their career. It is not uncommon for new entrants to be offered a job that is not the one they originally applied for. Depending on whether or not the new entrant can

Figure 4: Factors that motivate career choices (age breakdown, scaled to 16-19 average)



afford to wait for job offers from other companies, and on the benefits associated with this alternative offer, the implications may be different. Some newcomers are prepared to accept the alternative offer because it still meets most of the criteria, and they end up discovering a new career that they come to appreciate. More generally, this shows that opportunities do not always have to emanate solely from employees' wishes, but can also be proposed by employers, provided that the offer still matches certain key aspects of new entrants' preferences. However, it is important to recognise that this may not work for everyone, especially over the long term, and that not giving newcomers the opportunity to realign themselves with their initial interests may deter them from pursuing a career in the company or sector.

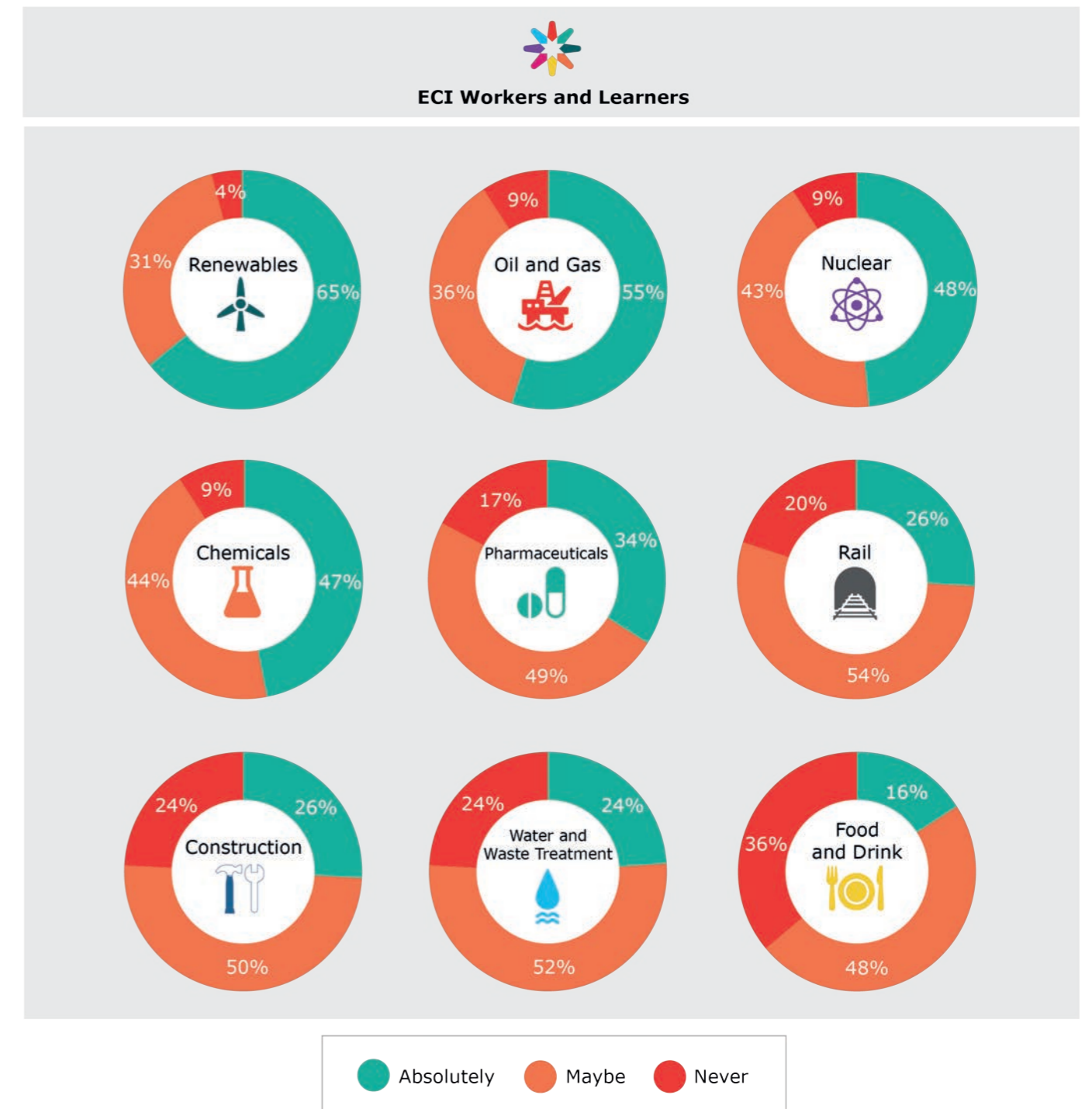
For some particular learning pathways, the misalignment with initial aspirations may be rooted in a lack of practical industry experience. New entrants are not always aware of all the options open to them when they enter the industry. The first practical experience can radically change aspirations, as the new entrant learns what the job really entails and discovers other jobs.

Industry and Sectoral Perceptions

Views on the industry

The learners and workers surveyed were asked whether they would consider joining any of the sectors on a pre-defined list. Seven of these belong to the ECI, and two are industries whose labour markets are often considered to operate with some degree of overlap with the ECI, namely construction and rail.

Figure 5: "Would you consider joining the following sectors?"



The top three sectors according to the data are renewables, oil and gas, and nuclear (the latter scoring very similarly to chemicals). Oil and gas, which are generally expected to decline in the long term, remain attractive to the ECI panel. This can be explained by the high wages that the sector is known to offer. This sector has also long been the most prominent employer in the industry, and still was in 2021¹³ although the nuclear sector has been gaining ground on it. The sector is solidly established in the industry and has strong links with stakeholders. In addition, many workers and learners in the ECI know someone who works or used to work in the sector. These factors may explain why oil and gas remains attractive to many learners and workers in the ECI, despite being expected to decline in value to the economy over the long-term and a public image that has deteriorated among a section of the population since climate change became a major concern in the country.

The rail and construction sectors fare rather poorly in comparison, with only 26% of respondents saying they would absolutely consider joining these sectors. However, this situation changes completely when examining the perceptions of the general public. Indeed, a national survey conducted by Deltapoll for the ECITB during the preparation of this study shows that the rail and construction sectors are better perceived by the general public than oil and gas. 49% of this representative panel of the UK population stated that they would give no consideration at all to joining the oil and gas sector, compared with 45% and 39% for rail and construction respectively.

The food and drink and water and waste sectors are the two least attractive ECI sectors according to the workers in the ECI and learners undertaking ECI relevant training who took part in this study, with 36% and 24% saying they would never

consider joining these sectors respectively. Looking at the wider results from the poll, the food and drink sector is viewed favourably, with only 39% of the UK population saying they would not consider joining the sector at all. This is the fourth lowest percentage of all sectors and is just 2 percentage points below the renewable energy sector, which has the best image among the general public.

A person's view of different industries can be influenced by various factors. For instance, where they grew up can have a significant impact on their views. Some of these sectors are major employers in some regions across the UK. People from these regions may logically be pulled towards these sectors. The course content of certain learning pathways can also have an important impact since it sometimes favours application to certain specific sectors rather than others. It is also possible that misconceptions of careers in particular sectors exist – for example general knowledge of food and drink processing and manufacturing in the general population is likely to be poor, and potentially mistakenly viewed as low-skilled and low-paid within the ECI.

Looking Deeper

The following pages present a deeper analysis of differences between views from workers and learners surveyed and the wider public in the UK. These pages provide several rankings according to the percentage of people who stated that they would not consider joining these sectors at all. Positive and maybe results were summed to create the ranking. The sector with the highest popularity percentage is ranked first.

It should not be surprising to see higher percentages of 'negative' responses in the general public sample compared to the ECI samples because the general public sample also considers views of those completely disconnected from industry while the ECI population is already aware of opportunities in the various sectors and may be able to more realistically consider a career in these sectors.

To enable comparisons, the following pages present the views of each population using both rankings and percentages. Percentages are useful for quantifying the popularity of a sector within a group (for example, 18% of the general public and 24% of ECI learners and workers would absolutely consider joining the water and waste treatment sector).

Rankings help to understand differences between the samples (for example, the water and waste treatment sector is ranked eighth among ECI learners and workers, but is ranked sixth among the general population).

Reporting percentages alone would mask the place of the sector in the general public's view compared to other sectors. Presenting rankings alone would mask the difference in popularity between the groups.





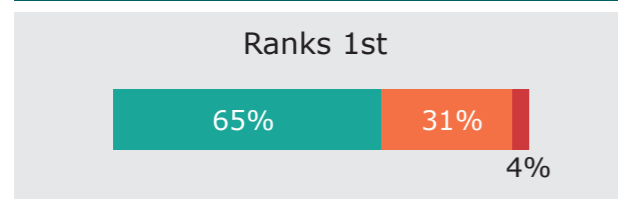
Renewables

“Would you consider joining the Renewables sector?”

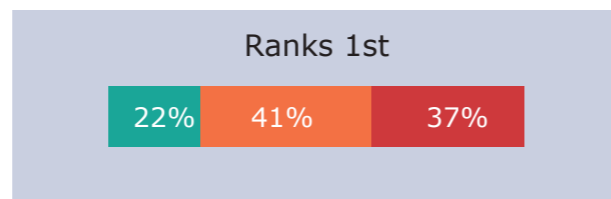

ECI Workers and Learners


UK Population

Overall



Overall



Split by gender

Men		Women
Ranks 1st		Ranks 1st
61%		73%
35%		24%
4%		3%

Split by gender

Men		Women
Ranks 1st		Ranks 3rd
26%		17%
43%		41%
31%		42%

Split by age

16-19	20-29	30+
Ranks 1st	Ranks 1st	Ranks 3rd
65%	65%	50%
35%	30%	30%
0%	5%	20%

Split by age

16-19	20-29	30+
Ranks 2nd	Ranks 4th	Ranks 1st
17%	25%	22%
49%	41%	41%
34%	34%	37%

Absolutely Maybe Never

There are multiple factors as to why the renewables sector is so popular compared to other sectors for both ECI workers and learners surveyed and the wider public in terms of ranking.

The sector has experienced significant growth in recent years driven by increased investment and Government support, and this is not forecasted to decline. People may value the sector’s potential for longer-term employment and professional growth. Another important factor is that renewables are characterised by technological innovation, which can be attractive to people that enjoy being at the cutting edge. Furthermore, although not a key motivating factor (cf. *Motivating factors*), many individuals are increasingly concerned about environmental sustainability, and the sector offers an opportunity to contribute to mitigating climate change.

The sector is, by far, the most popular among women in the ECI, with 97% stating they would potentially or absolutely consider joining the sector. In comparison, the second most popular sector according to women in the ECI (Chemicals) stands at 89% of women that would potentially or absolutely considering working in it. The renewables sector is the only sector which is ranked similarly by both men and women workers in the ECI or learners studying ECI related courses. It could be argued that the sector, which is set to boom in the coming years, is not yet bound by gender

stereotypes and offers career progression opportunities that some women may see as more promising than those offered by other sectors with more rigid, male-oriented and settled hierarchies inherited from decades of market maturation. However, the wider survey results still show an 11-percentage point difference between men and women who would not consider joining the sector at all. This may be partly explained by the fact that the engineering construction industry as a whole, which was briefly introduced to respondents, is associated with gender stereotypes which in turn influence opinions about the renewables sector, whereas workers and learners with a more sophisticated understanding of the industry may think otherwise.

The renewables sector is also incredibly popular with younger generations, especially within the ECI. All ECI respondents aged between 16 and 19 declared they would maybe or absolutely consider joining the sector. This suggests a high potential for skills transferability toward the sector from within industry.



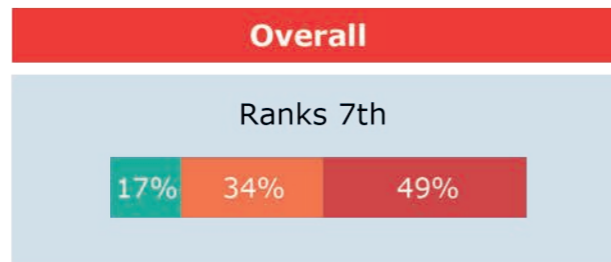
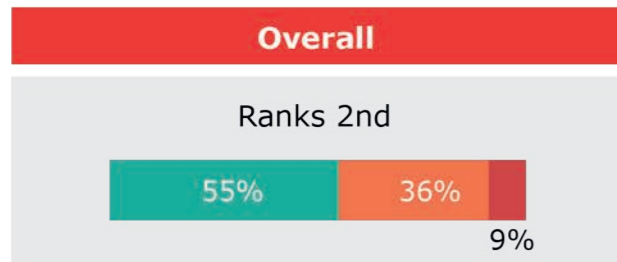


Oil and Gas

“Would you consider joining the Oil and Gas sector?”

ECI Workers and Learners

UK Population



Split by gender

Split by gender

Men	Women
Ranks 2nd	Ranks 5th
55%	48%
38%	30%
7%	22%

Men	Women
Ranks 7th	Ranks 7th
20%	14%
40%	28%
40%	58%

Split by age

Split by age

16-19	20-29	30+
Ranks 2nd	Ranks 5th	Ranks 2nd
56%	49%	50%
40%	31%	33%
4%	20%	17%

16-19	20-29	30+
Ranks 9th	Ranks 5th	Ranks 7th
15%	19%	17%
27%	45%	33%
58%	36%	50%

Absolutely
 Maybe
 Never

The oil and gas sector is attractive to people working in the ECI or studying in educational pathways that lead to the industry, being ranked second out of the nine sectors considered.

However, 22% of women in this sample declared that they would not consider joining this sector at all, thus relegating it to 5th place for women respondents in the ECI. This trend is confirmed by the wider poll, with an 18-percentage point difference with men in the proportion of women who reject the sector.

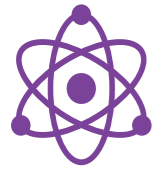
and who are considering working in the industry is almost maximised. If so, this would be a difficult challenge for a sector with an ageing workforce. Although the oil and gas sector is forecasted to decline¹⁴, exploration in the North Sea continues, field developments are underway and decommissioning is ramping up. Although the sector is offering competitive salaries, it is vulnerable to a growing skills shortage.

Oil and gas is particularly attractive to 16-19 year olds in the ECI sample, while 58% of the general public in this age group are not at all tempted to get involved. Oil and gas comes in last place for 16-19 year olds in the general public. This major difference between the samples suggests that the oil and gas sector may already have maximised its entry routes for younger individuals in the labour market, with little room for improvement. It cannot be ruled out that the number of young people who do not have a negative image of the sector as a result of environmental concerns

The favourable view of the oil and gas industry held by ECI learners and workers encourages the utilisation of ambassadors and alumni in initiatives aimed at enhancing awareness in schools and job fairs, with the goal of improving the sector’s perception among the wider public.



¹⁴OEUK: Energy demand scenarios: A window into the future (2021).

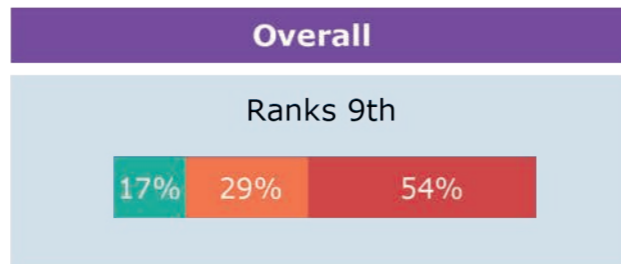
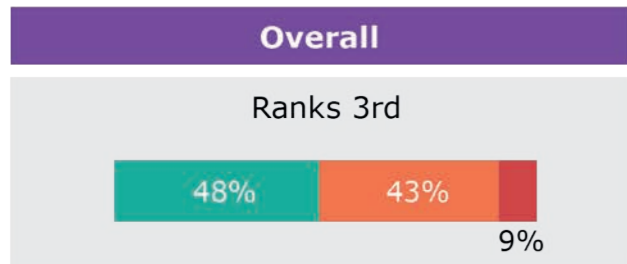


Nuclear




“Would you consider joining the Nuclear sector?”


ECI Workers and Learners





UK Population






Split by gender

Men	Women
Ranks 3rd	Ranks 4th
53% 	29%
40% 	50%
7% 	21%




Split by gender




Men	Women
Ranks 9th	Ranks 9th
22% 	12%
35% 	22%
43% 	66%

Split by age

16-19	20-29	30+
Ranks 3rd	Ranks 3rd	Ranks 1st
 52%	46%	11%
 40%	39%	78%
 8%	15%	11%

Split by age

16-19	20-29	30+
Ranks 6th	Ranks 9th	Ranks 9th
 28%	20%	15%
 25%	32%	29%
 47%	48%	56%

 Absolutely  Maybe  Never

The nuclear sector is in a similar situation to the oil and gas sector, being more popular with ECI workers and learners than with the public.

New build has been sparse following the wave of advanced gas-cooled reactors built in the 1980s, with the exception of Sizewell B in 1995, which is expected to reach the end of its lifetime by 2035¹⁵. With the decommissioning of the 1970s and 1980s reactors accelerating in the coming years, Sizewell C and Hinkley Point C under construction, and development of small modular reactors in the pipeline, the sector is likely to face a high and growing labour demand.

Although a majority of skills needed for nuclear can be described as not nuclear specific and more generic ECI skills, the absence of nuclear new build over the last 20 years has potentially weakened the extent to which people identify with the nuclear sector particularly in comparison to other sectors. This may partly explain why the nuclear sector, despite being a major employer in the industry, is not as attractive to ECI workers and learners on average as the oil and gas sector, which has had deeper and more stable relationships with training institutions and the workforce for decades.

Concerns surrounding waste management, safety and costs could explain the reason why the nuclear sector is ranked last in the wider poll results. The memory of the Chernobyl accident, and that of Fukushima, may still play a role in collective consciousness, although safety processes have improved considerably since then. The recent classification of the nuclear sector by the Government as a 'green' industry may cause some shift in perception and will be an interesting development to follow.

It is also interesting to note that people under 30 in the general public are more likely to consider joining the sector than

those over 30. This is surprising considering that older generations are generally more supportive of nuclear technology¹⁶. It is possible that a section of society that does not support the sector out of principle, still recognises that it can offer good career opportunities, sustained by Government support and high investments. Further research is needed to fully explore this nuance.

Women, both within or studying on pathways leading to the ECI and from the wider public, hold significantly more adverse views towards the sector compared to men. There is a 14-percentage points difference with men for the ECI, and a 23-percentage points difference with men for the wider public in the percentage of people that would not consider joining the sector. This could hinder efforts to diversify the workforce in this sector.

The nuclear sector is heavily location-based when it comes to some particular occupations. The more widespread use of work rotations, enabling people to work on site for a few weeks before returning home for several weeks, as can be done for offshore oil and gas projects, may encourage people to join the sector.

The sector is perceived as high-paying by many in the industry. However, this perception does not necessarily reach the general public. Stakeholders in the nuclear sector could potentially improve the sector's image with the general public by communicating on this point. In addition, the positive perception of nuclear among ECI learners and workers reinforces the value of using ambassadors and alumni involved in awareness-raising activities at schools and job fairs to change the perception of the sector.

¹⁵UK Government: Table of past and present UK nuclear reactors.
¹⁶DESNZ Public Attitudes Tracker (Spring 2023, UK).



Chemicals

“Would you consider joining the Chemicals sector?”



ECI Workers and Learners

Overall

Ranks 4th



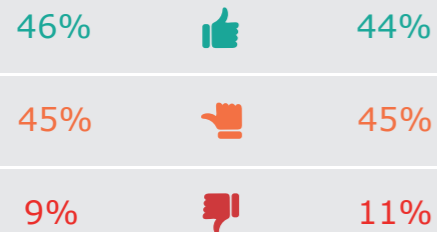
Split by gender



Men
Ranks 4th

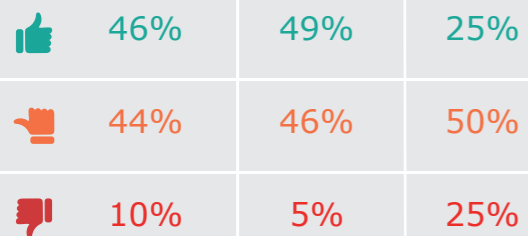


Women
Ranks 2nd



Split by age

16-19	20-29	30+
Ranks 4th	Ranks 2nd	Ranks 6th



UK Population

Overall

Ranks 8th



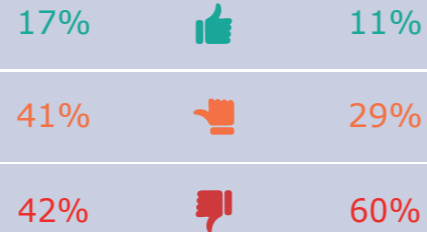
Split by gender



Men
Ranks 8th

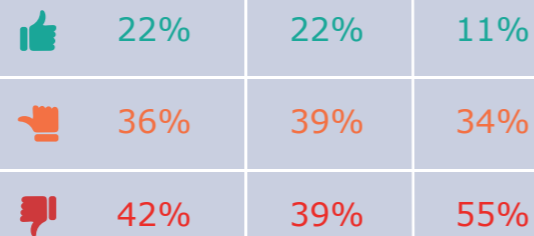


Women
Ranks 8th



Split by age

16-19	20-29	30+
Ranks 5th	Ranks 7th	Ranks 8th



Absolutely Maybe Never

Results for the chemicals sector bear certain similarities to those of the oil and gas and nuclear sectors.

It is generally attractive to industry workers and learners, while being unappealing to the general public. The sector has long been a major employer in the industry and is known for offering competitive salaries.

However, the general public may associate chemicals with safety concerns since it involves working with potentially hazardous materials and processes. Exposure to certain chemicals and compounds can pose health risks to workers. The strict safety protocols in place to mitigate risks can deter those who are not familiar with these. The industry may also be associated with a negative environmental impact (chemical spills, land contamination, algal blooms, etc.).

Men’s and women’s preferences are similar among ECI workers and learners. The sector even ranks second among women. People over 30 hold more negative views of the sector than younger individuals. The sector is therefore well placed to diversify its workforce by attracting young workers from industry.



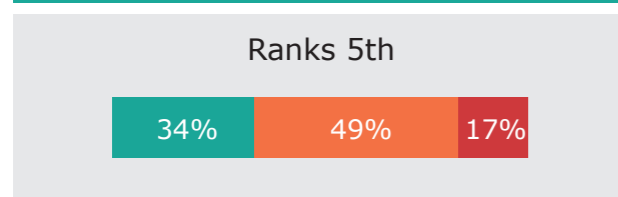
Pharmaceuticals

“Would you consider joining the Pharmaceuticals sector?”

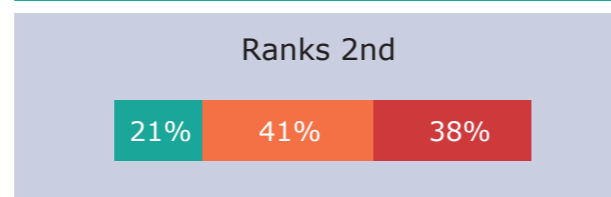

ECI Workers and Learners


UK Population

Overall



Overall



Split by gender

Men	Women
Ranks 5th	Ranks 3rd
32%	43%
52%	40%
16%	17%

Split by gender

Men	Women
Ranks 4th	Ranks 1st
21%	20%
42%	41%
37%	39%

Split by age

16-19	20-29	30+
Ranks 5th	Ranks 4th	Ranks 5th
32%	31%	33%
49%	53%	42%
19%	16%	25%

Split by age

16-19	20-29	30+
Ranks 3rd	Ranks 1st	Ranks 3rd
22%	26%	19%
43%	44%	41%
35%	30%	40%

Absolutely Maybe Never

With 62% of the general population willing to consider working in this sector, the pharmaceutical sector enjoys a positive image, second only to the renewable energy sector.

However, with 17% of ECI workers and learners not considering joining the sector at all, it is relatively far behind the top four sectors (8 percentage points behind oil and gas and nuclear) for ECI workers.

According to these results, the pharmaceutical sector, although less popular than major ECI sectors among people involved in the industry, is well placed to diversify its workforce by attracting talent from the wider population.

Forty-three percent of women in the ECI said they would absolutely consider joining the sector, a percentage only surpassed by the chemical (+1%) and renewable energy (+20%) sectors.

Differences due to age are small, with people over 30 less likely to consider joining the sector than younger generations.



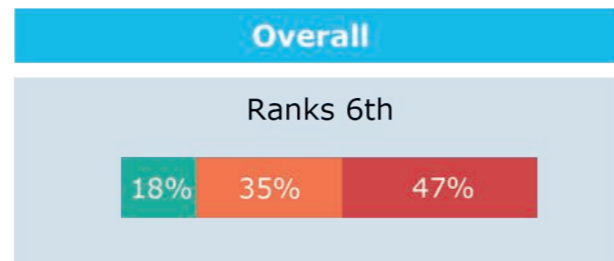
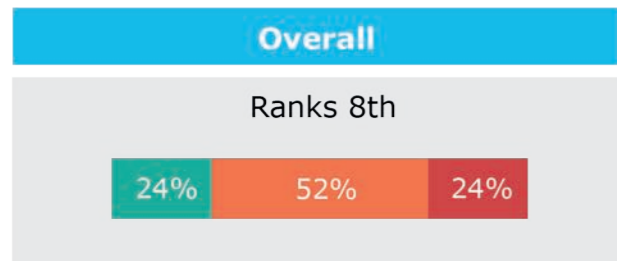


Water and Waste Treatment

“Would you consider joining the Water and Waste Treatment sector?”


ECI Workers and Learners


UK Population



Split by gender

Men	Women
Ranks 8th	Ranks 6th
28%	10%
47%	67%
25%	23%

Split by gender




Men	Women
Ranks 6th	Ranks 6th
21%	14%
41%	29%
38%	57%

Split by age

16-19	20-29	30+
Ranks 8th	Ranks 6th	Ranks 9th
23%	22%	8%
54%	56%	54%
23%	22%	38%

Split by age

16-19	20-29	30+
Ranks 7th	Ranks 8th	Ranks 6th
19%	19%	17%
34%	38%	35%
47%	43%	48%

 Absolutely  Maybe  Never

The water and waste sectors are ranked as relatively more popular with the general public than with individuals involved in the ECI.

According to the 2021 ECITB workforce census, the water and waste treatment sectors are among the smallest sectors in terms of workforce, which may partly explain why they rank 8th out of the 9 sectors considered among people from the ECI. It is better perceived (in terms of ranking) by women than by men (6th place for women and 8th place for men in the ECI), although 67% of women may consider joining the sector while only 10% would definitely consider joining the sector. The sector is much less attractive to over-30 years old in the ECI than it is to under-30 years old (ranked 9th compared to 6th and 8th). However, its more positive public image is encouraging for the sector.

Wastewater/water treatment is seen as a dirty industry to work in and there is a perception of low skill and wages, despite this not being the reality. Recent negative media coverage of water waste management will not have helped the perception of the sector and appears to be the dominant feature of news mentions on the sector.

Nevertheless, the industry is looking to promote its green credentials both from an operational and circular economy perspective. Nature-based solutions such as reed beds for filtration have been used for

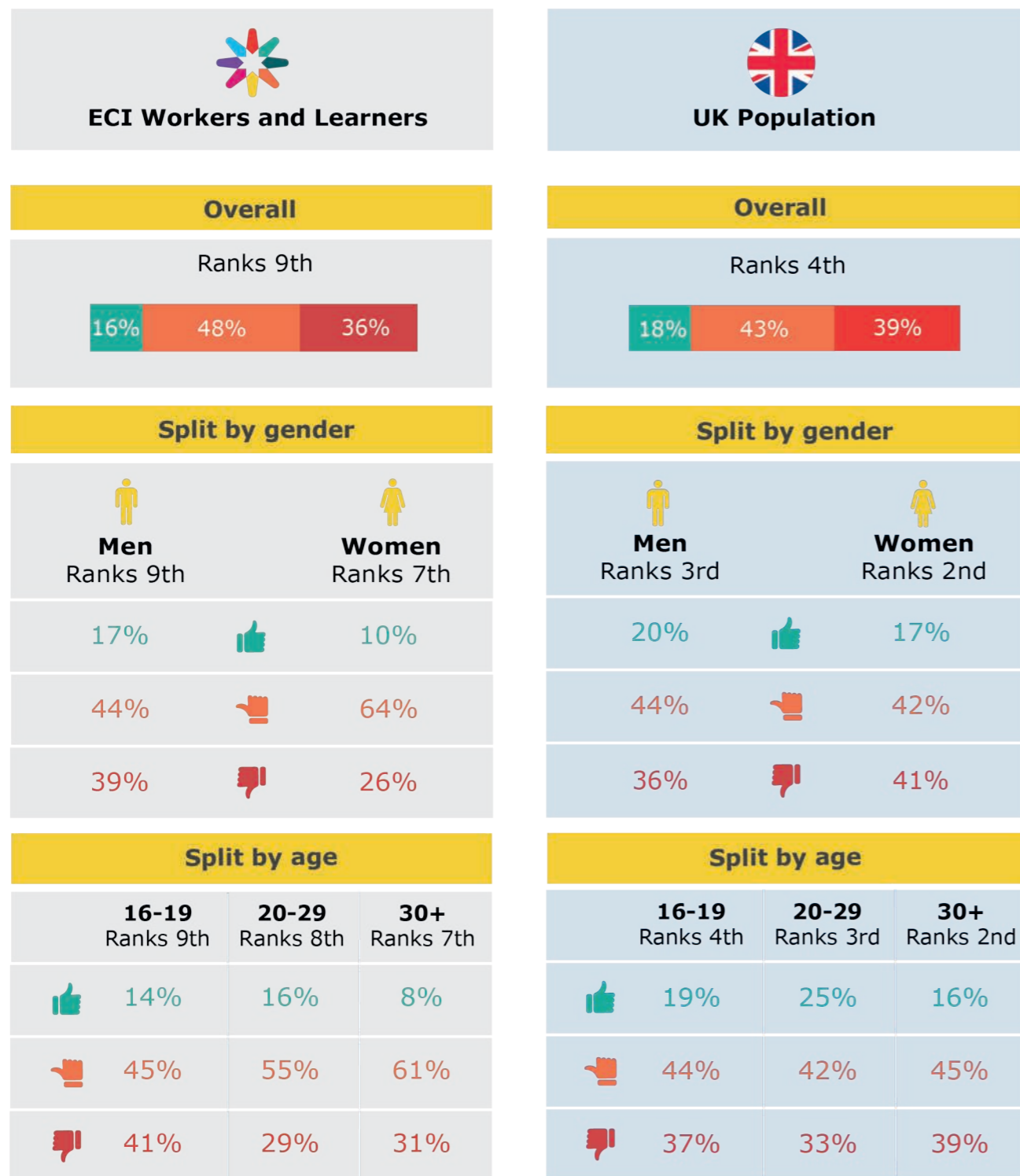
many years in the water industry and are now being promoted as an environmentally friendly way of processing wastewater. Similarly, some water companies have well-established markets for their waste products such as sewage sludge which is used as a fertiliser in agriculture.

The water industry is focused on developing technologies to address the challenges it faces, and this could be another factor to attract people to the sector. UK Water Industry Research collaborates with stakeholders within the sector to tackle issues such as leakage, infrastructure efficiencies, data collection and analytics. The industry uses cutting-edge technology such as remote sensor monitoring, data analytics, digital twins, and drones to guide and support its infrastructure investment and maintenance plans. This is used as a 'hook' to attract the next generation of workers. However, the industry works on 5 yearly Asset Management Plans (AMPS). Capital investment in treatment plans tends to be in years four and five which makes it difficult for contractors from a cashflow perspective. There is a need for workforce transferability so that contractors can work in other sectors (food & drink for example) before returning to the water sector to support AMP during years four and five.



Food and Drink

“Would you consider joining the Food and Drink sector?”



👍 Absolutely 👎 Maybe 🗑️ Never

The food and drink processing sector are a relatively small sector in terms of workforce and is by far the sector with the highest percentage of people from the ECI who would not consider joining the sector (36%, 12 percentage points higher than the water and waste treatment sector). However, women are more likely to consider joining it than men, according to ranking.

While the sector appears to be less successful than other sectors in attracting ECI workers and learners, particularly those aged 16-19, it does enjoy a good public image. The sector could potentially benefit more than most other ECI sectors from favourable public opinion in attracting new employees. To bridge the gap and encourage people under 19 to take up ECI pathways, the sector could possibly target them through job fairs and workshops aimed at a younger audience, perhaps even before the age of 16.

Like the water treatment sector, the food and drink sector is seen as a low-skill, low-wage sector among ECI learners and workers. In addition, the sector is facing a volume problem following the impact of Brexit. European labour was the backbone of sub-sectors such as fish processing¹⁷ and many workers were relatively low paid

and therefore unable to return to the UK due to the Government’s wage threshold for migrant workers. This has created a skills shortage.

The sector could improve its image with ECI workers and learners by taking advantage of its journey towards Net Zero, which focuses on decarbonising heat (gas furnaces, boiling vats, etc.). This will be achieved by fuel switching, possibly using hydrogen, but also around the electrification of infrastructure (e.g. electric ovens). Many of the larger sites will also have their own generation in the form of solar PV and small wind turbines. The diversity and novelty of skills associated with the energy transition of the sector, if promoted properly, could attract people.



¹⁷Labour and Employment in UK seafood processing 2019 Annual Report, Seafish, 2019.

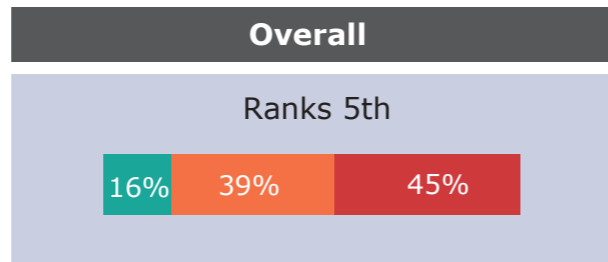
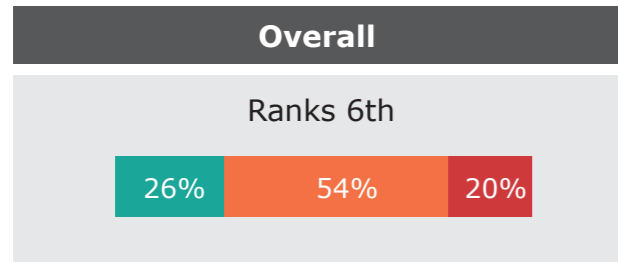


Rail

“Would you consider joining the Rail sector?”


ECI Workers and Learners


UK Population



Split by gender

Men		Women
Ranks 6th		Ranks 8th
27%		19%
55%		55%
18%		26%

Split by gender

Men		Women
Ranks 5th		Ranks 5th
22%		10%
40%		37%
38%		53%

Split by age

16-19	20-29	30+
Ranks 7th	Ranks 7th	Ranks 4th
28%	24%	7%
53%	50%	72%
19%	26%	21%

Split by age

16-19	20-29	30+
Ranks 8th	Ranks 6th	Ranks 5th
9%	20%	17%
38%	42%	38%
53%	38%	45%

Absolutely Maybe Never

The rail sector, which is not part of the ECI but part of whose labour market is often considered to overlap with that of industry, ranks fifth for the general public and sixth for ECI learners and workers.

According to the rankings, this sector is more popular with over-30s than with 16-29s. The other big difference in the results is that the rail sector ranks 8th for women in the ECI, only higher than construction, which is also not part of the ECI.

(cf. *Motivating factors*), it seems that the sector as a whole is not seen as more attractive than most ECI sectors by those involved in ECI and the general public.

Major rail projects such as High Speed 2 can potentially have a significant impact on the ECI labour market, diverting new entrants to these large projects, perhaps because of the higher salaries. However, in the absence of the main factors that drive career choices when major rail projects are not hiring, such as opportunities for progression or financial considerations



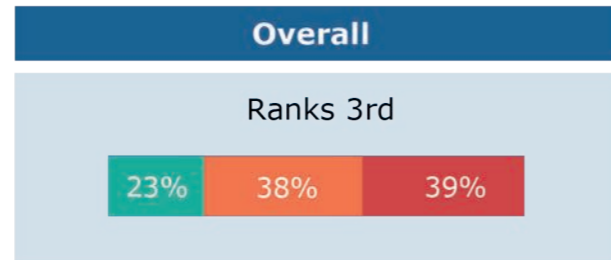
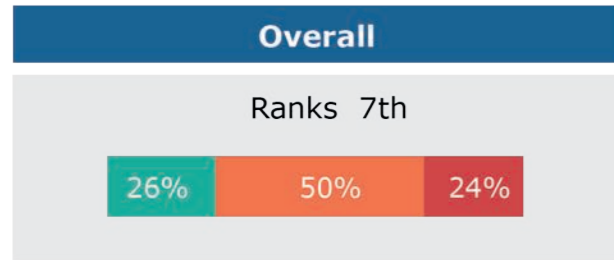


Construction

“Would you consider joining the Construction sector?”


ECI Workers and Learners


UK Population



Split by gender

Men		Women	
Ranks 7th		Ranks 9th	
28%		18%	
51%		50%	
21%		32%	

Split by gender

Men		Women	
Ranks 2nd		Ranks 4th	
25%		21%	
40%		36%	
35%		43%	

Split by age

16-19	20-29	30+
Ranks 6th	Ranks 9th	Ranks 8th
31%	17%	8%
50%	52%	59%
19%	31%	33%

Split by age

16-19	20-29	30+
Ranks 1st	Ranks 2nd	Ranks 4th
28%	26%	22%
40%	41%	37%
32%	33%	41%

Absolutely Maybe Never

The construction and built environment sector (civil construction e.g. houses, schools, hospitals etc.) is distinct from the engineering construction industry, and has a number of specific characteristics.

Firstly, 32% of women among ECI learners and workers would not consider joining this sector at all. This is 6 percentage points more than in the rail sector, and more than in any ECI sector.

compared to other sectors amongst young men in the general public. As a result, the sector is likely to attract a significant proportion of young new entrants compared to other ECI sectors.

In terms of age, 16- to 19-year-olds have a more positive image of the sector than any other age group among workers and learners from the ECI. However, the rankings never exceed sixth place for all the ECI populations considered in this study. In addition, the sector is relatively popular



Working Patterns and Travel

Working patterns have a strong influence on career choices. This report explores several aspects, such as spending nights away from home, commuting, working offshore, and working from home.

Spending nights away from home

Forty-two per cent of ECI workers surveyed are required to spend whole nights away from home (24% regularly and 18% exceptionally). Among workers who are not currently required to do so, 92% declared that they would be willing to (65% on a regular basis, and 28% on an exceptional basis).

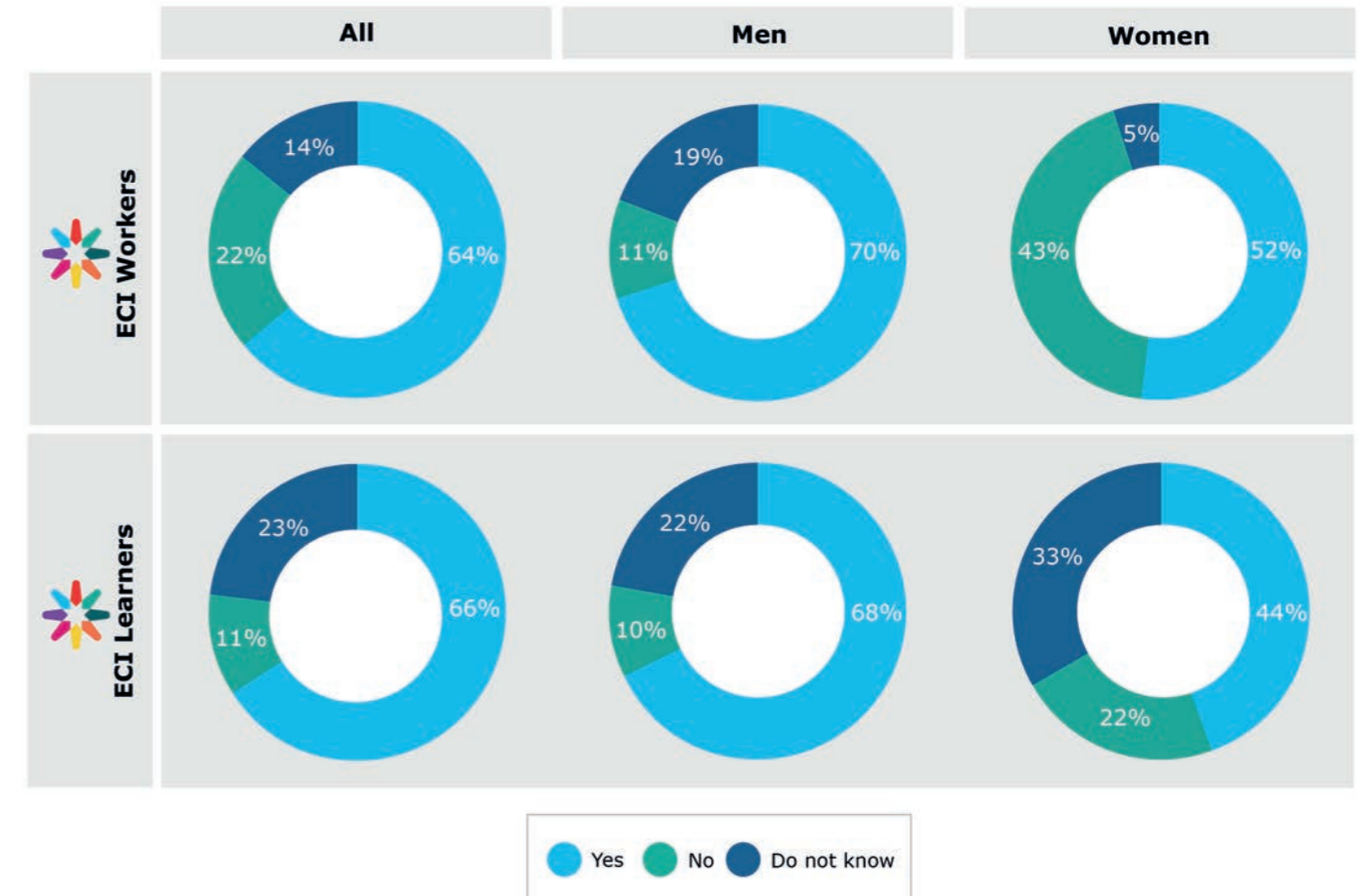
As for ECI learners, 91% of those surveyed would be willing to spend whole nights away from home (50% regularly and 41% exceptionally). This suggests that ECI learners are not rejecting nights away from home on principle and that the challenges in finding learners who accept these specific working patterns are not insurmountable. The reluctance that employers may notice may not be absolute, but rather relative to other factors, such as the presence of financial compensation considered appropriate.



Working offshore

Some workers in the oil and gas and renewables sectors may be asked to work offshore during their careers. Workers who have had the opportunity to work offshore praise the fast-paced environment, the chance to work on the frontline, the better pay, and the extended time off that come with rotational arrangements. ECI respondents who do not work offshore were asked to state whether they would consider working offshore at some point:

Figure 6: Willingness to work offshore.



Results show the industry is struggling to convince women to work offshore. Offshore sectors have historically been male-dominated environments, with few women in key roles. This lack of gender diversity can create an unwelcoming or challenging work culture for women, leading to a perception that the industry is not supportive of their presence. By way of illustration, and not specific to offshore, some respondents mentioned witnessing situations where people assumed the supervisor or team leader in a group was

a man, when the actual supervisor was a woman standing right next to them, and sometimes even after being corrected.

One point raised in follow-up discussions with respondents and also not limited to the offshore environment is that it is not only negative attitudes towards women that occur but also unnatural and overly friendly comments and attitudes, contributing to creating an environment in which women may feel uncomfortable and undervalued. In addition, women's facilities on offshore

platforms are sometimes minimal and poorly placed compared to men's facilities. The absence of role models and a sense of belonging may also discourage women from considering careers in offshore sectors. Highlighting successful women working on offshore platforms and sharing their stories can serve as inspiration and encouragement for others. Moreover, establishing networks, support systems and inclusive policies for women in the industry can help address some of these issues, and provide mentorship opportunities.

Working offshore often involves physically demanding tasks and challenging working conditions and some women may perceive these conditions as barriers or have concerns about their physical capabilities to perform certain tasks. Improving safety measures, providing adequate training, and ensuring equal accommodation standards for men and women can help address concerns related to physical demands, safety and general well-being making offshore sectors more appealing to women.

Another potential explanation for this difference is that offshore-based work often involves extended periods away from home and irregular work schedules, which can pose challenges for individuals with family or caregiving responsibilities. On average, women in the UK are still more likely to take on most day-to-day family responsibilities¹⁸.

The perception of work-life imbalance and limited flexibility can deter women from pursuing offshore careers, especially if they find themselves in the position of primary caregiver. Family support programs (for example through assistance with childcare arrangements) could assist employees in managing their family responsibilities while working offshore.

Commuting

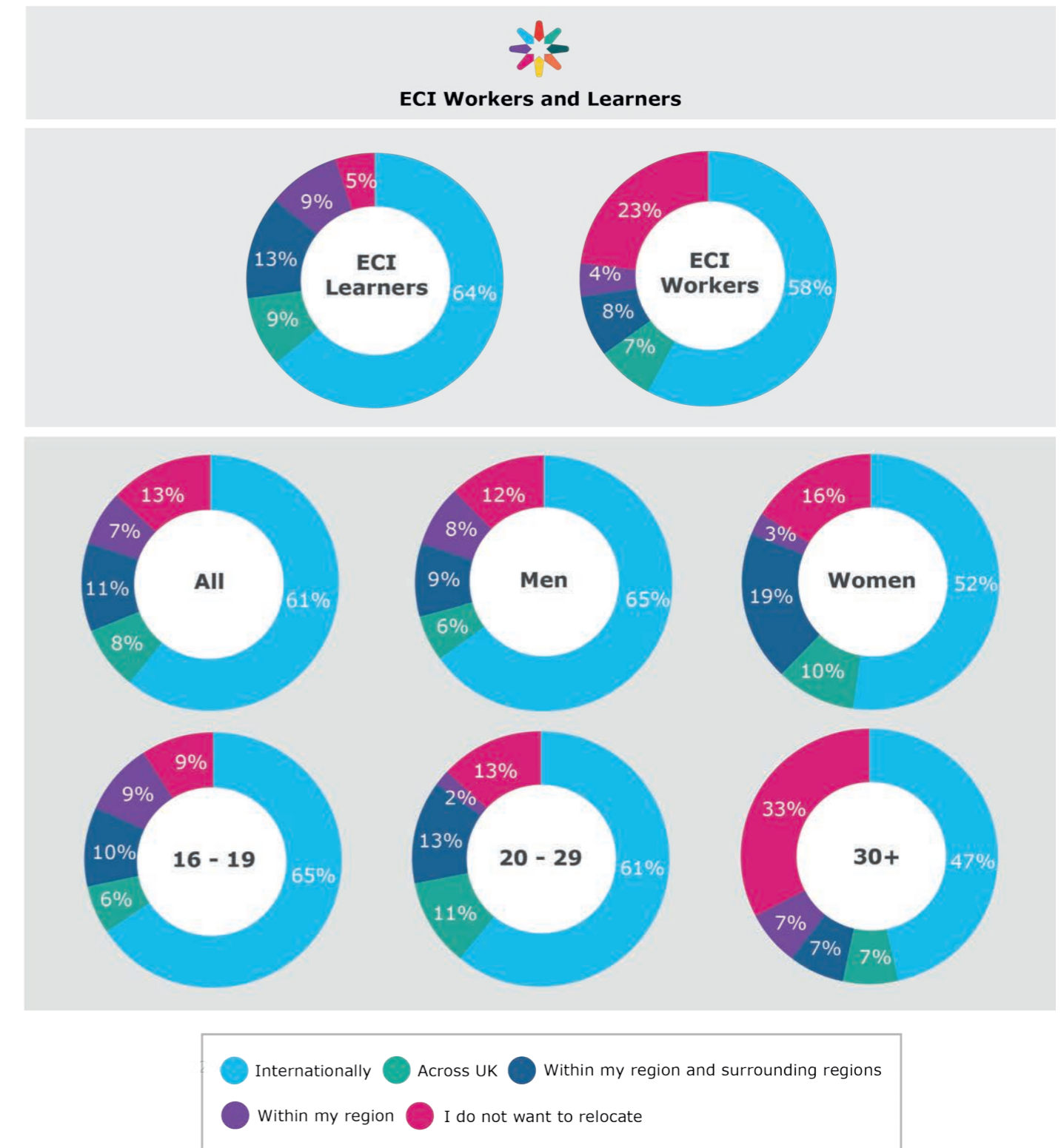
On average, ECI workers commute to and from work in 35 minutes. These workers would be prepared to make a journey of up to 57 minutes. The maximum average commuting time that learners are willing to spend is 76 minutes. This suggests that the industry will not face increasing difficulties in finding workers willing to travel as much as the current workforce. However, concerns about the rising cost of living could mean that employers facing these issues could effectively mitigate them by helping new entrants cover their commuting costs.

Although there are always individual differences, it is not just the time spent commuting that explains why some potential new entrants would refuse to commute up to 76 minutes. In addition, individuals often make a trade-off between the time spent commuting and the quality of the job offer. It is also important to recognise that some learners may underestimate the impact of travelling twice for 76 minutes on a daily basis if they have not already experienced it.

Relocating

Long-term projects may require workers to relocate. Being employed in the construction of new nuclear power stations or in industrial clusters can provide stability for years. Learners and workers in the industry were asked how far they would be prepared to move to find a job:

Figure 7: Willingness to relocate (Maximum distance).



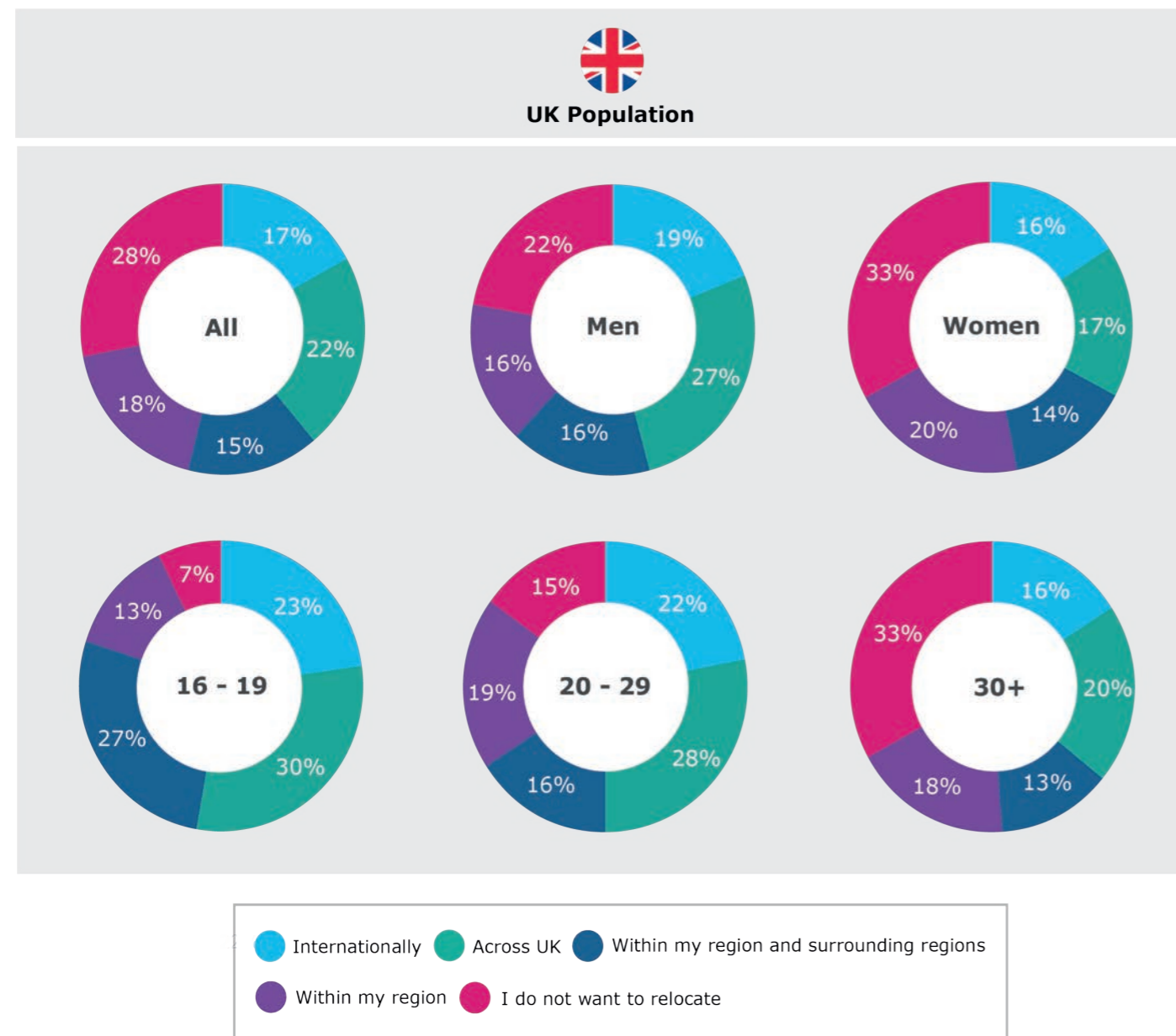
¹⁸McMunn, A., Bird, L., Webb, E., & Sacker, A. (2020). Gender Divisions of Paid and Unpaid Work in Contemporary UK Couples. *Work, Employment and Society*, 34(2), 155-173.

These results show that ECI workers and learners are exceptionally mobile, with 61% even willing to consider a move abroad. Although the average age of this sample is quite young, 66% of the over-30s are still willing to consider moving, and 47% would consider moving abroad. It should be noted that some respondents willing to relocate abroad may be reluctant to move within the UK.

Nevertheless, these figures are encouraging for companies looking to enter overseas markets with UK workers, especially as demand for engineering and construction-related skills is set to increase in many countries.

However, figure 8 shows that the industry cannot reasonably expect the general public to behave in the same way.

Figure 8: Willingness to relocate (Maximum distance, wider poll results)



Reluctance to move is highest among the general public. However, a good proportion of the public is prepared to consider a move at least across the UK (39%). In both samples, women are generally more reluctant to move. Willingness to move also decreases with age.

Companies can improve willingness to relocate in multiple ways. Clear information about the relocation process, including details about the new location, and support available during the transition (assistance with finding housing, relocating belongings, information about the local community and amenities), can help people to project themselves into a new area and reduce uncertainty. As suggested in the section on *Motivating factors*, offering comprehensive relocation packages can be an effective incentive. Moreover, demonstrating the potential for career growth can make the idea of relocation more appealing to employees.

Short-term or trial relocation assignments can be a less daunting option for employees who are hesitant. Companies can provide opportunities for employees to experience the new location and job responsibilities on a temporary basis, allowing them to assess whether the move aligns with their personal and professional goals before committing to a more permanent relocation.

Most people would probably refuse to relocate if partners cannot move with them easily. Recognising the impact of relocation on employees' families can be key. Offering support for partners to find employment opportunities in the new location, providing resources for schools and childcare can alleviate concerns and make the decision to relocate more favourable for employees with families.

5. Conclusions and Recommendations

The following conclusions and recommendations have been considered in the context of the career anchors and the trends and perceptions that this piece of research has brought to light.

The purpose of these recommendations is to initiate reflection and discussion on how industry can begin to make shifts to better represent itself to new entrants disconnected from it and better retain its current workforce, taking into consideration what the evidence suggests are the important motivating factors that people consider when making career choices.

Security and Stability

Security and stability ranked as the highest career anchor and given the broader economic and political landscape; this will not be surprising to many.

This is a complex anchor from which to make recommendations – many other factors will feed into it. Efforts to increase retention rates and create a reassuring and positive work environment will feed into feelings of security and stability. Employers should see this outcome as a positive one – ultimately, people do not want to change jobs, however, as subsequent high-ranking anchors suggest, the environment and work policies are of almost equal importance.

Financial Factors

Whilst there may be a general unwillingness to change jobs, the importance of financial factors should not be underestimated. Lucrative, short-term work is likely still very attractive to those who value financial security more highly than general stability. Industry may wish to consider expansion of skills passports, programmes such as Connected Competence, and other initiatives (for example a common skills taxonomy) to maintain a standard recognised across industry that facilitates movement between contracts and employers. Actions like these will benefit industry retention.

Autonomy and Independence

This anchor is linked with the motivating factor 'opportunities to progress'.

Individuals give value to the opportunity to gain new skills, progress beyond their scope of competence and be exposed to new opportunities. Allowing and planning for skills development through individual career plans serves both employer and employee well.

Lifestyle

Individual employers are recommended to consider their own in-work policies, particularly related to benefits and creating a positive work/life balance. Generous holiday allowance, parental leave (for both parents), flexible working, sabbaticals, 4-day work weeks etc., may not only improve retention rates, but might also contribute to changing perceptions of the industry among the general population. Perceptions of the industry from those in the general population (i.e. not attached in any way), is not positive. Creating an environment that provides and delivers progressive work policies could give the ECI an advantage over other industries. It is important, however, that these policies are advertised widely and not only at the recruitment stage. Career strategies should highlight these elements to create a positive picture of industry.

As part of this anchor, companies would do well to consider adequate and tailored support packages. These should be specific to what is being requested of an employee, be that working offshore or relocating, for instance. Policies, procedures, and expectations should be clear, and the support available should be transparent and offered before requested. Developing these opportunities in the context of the motivating factors should be a priority; making it clear to employees that what is being requested (i.e. relocating, working offshore) provides opportunities for growth, financial gain etc, can make the prospect more appealing.

Similarly, allowing for trials – to work elsewhere, offshore, in another department/area, can make the prospect less daunting and could allow people to experiment before committing. Many may find the change more welcome than previously anticipated.

Providing support that stretches beyond the individual employee could be another means by which to make more unpopular elements of work in industry more attractive. Offering support for partners to find employment opportunities in new locations, or signposting resources and support for schools and childcare could alleviate concerns, as well as providing a formal network of friendly colleagues to help ease new arrivals settle in.

Ambassadors

Sectors that enjoy positive perceptions from within industry/ ECI learners, such as nuclear and oil and gas should engage alumni and early career professionals to act as ambassadors in schools and particularly FE colleges.

Diversity and Inclusion

The findings of this study demonstrate a growing importance being placed on diversity and inclusion policies. Considerations and actions to embed equity and inclusion throughout policy and work practices ensure that diversity is visibly recognised and valued at a place of work. This recommendation cannot work in silo, however. There is a clear link between this anchor and several motivating factors, and it is important that inclusion policies are weaved through these motivating factors. One example of this is opportunities to progress. Women respondents gave more importance to this factor than men, suggesting that emphasising clear progression routes or spotlighting instances of women progressing through a company, could be positively perceived and impact on creating a more diverse workforce. Similarly, lifestyle factors such as flexible working could positively impact the diversity of the workforce, which in turn positively affects the external perception of an employer in terms of diversity and inclusion.

Other areas that could promote diversity and inclusion while demonstrating opportunities to progress could include:

- Transparent pay reporting and pay or progression structures.
- Family support programs (for example support with childcare arrangements) could assist employees in managing their family responsibilities while working offshore.
- Offering flexible working arrangements from the beginning of employment and mandatory diversity and inclusion training for all staff to create a positive work environment.
- Highlighting successful women working in industry (for example on offshore platforms or in the nuclear sector) and sharing their stories can serve as inspiration and encouragement for others.
- Improving safety measures, providing adequate training, and ensuring proper accommodations can help address concerns related to physical demands and safety, making offshore sectors more appealing to women.
- Moreover, establishing networks, support systems and inclusive policies for women in the industry can help address issues that might discourage women from joining the industry, as could providing mentorship opportunities.

The analysis of perceptions of both the industry in general and the individual sectors of Engineering Construction highlights the stark split between the two populations analysed.

Those already engaged in some way with industry tend to view it much more positively than the general population. For some sectors, it is clear that recruiting from the general population will be an uphill struggle and it may be best to focus efforts to recruiting people already involved with the industry.

As a result, companies (or sectors) may need to target specific populations if they are to maximise the effectiveness of their attraction and retention policies within budget constraints, rather than applying general considerations about potential newcomers and what they may want as a group.

Some sectors, however, may be more successful in terms of recruiting from the general population if this is targeted according to their most important motivating factors.

Opportunities to work on the energy transition

This anchor appears to be more appealing in the general population rather than to those already engaged with industry. Employers or sectors looking to recruit from the general population may wish to highlight their role in the energy transition and what decarbonisation entails in practical terms to appeal to those sensitive to the subject.

The Food and Drink sector, in particular, appears to have the strongest possibility of changing perceptions and recruiting from the general population. The sector could potentially target people through job fairs and workshops aimed at a younger audience, perhaps even before the age of 16, highlighting the elements that most contribute to the motivating factors stated in this study.

In terms of strengthening its image among ECI workers and learners, the sector should highlight the range and transferability of skills associated with the energy transition of the sector. If promoted properly, this could be a real force in terms of attracting people. Other sectors that feel they could be successful in recruiting from the general population could follow these recommendations, too.

Technical Skills

Highlighting the high level of skill and training required as well as the heightened safety measures could also be a good focus for attraction campaigns.

The impact of specialised skill requirements and risks involved mean a more attractive salary which appeals to the motivating factor surrounding financial considerations and the anchor stability and security.

7. Annex

Figure 9: Answers to the question "Would you consider joining the following sectors?" (Percentages)



ECI Workers and Learners

Sector	Level of consideration	All	Men	Women	16-19	20-29	30+
Renewables	Absolutely	65%	61%	73%	65%	65%	50%
	Maybe	31%	35%	24%	35%	30%	30%
	Never	4%	4%	3%	0%	5%	20%
Oil and gas	Absolutely	55%	55%	48%	56%	49%	50%
	Maybe	36%	38%	30%	40%	31%	33%
	Never	9%	7%	22%	4%	20%	17%
Nuclear	Absolutely	48%	53%	29%	52%	46%	11%
	Maybe	43%	40%	50%	40%	39%	78%
	Never	9%	7%	21%	8%	15%	11%
Chemicals	Absolutely	47%	46%	44%	46%	49%	25%
	Maybe	44%	45%	45%	44%	46%	50%
	Never	9%	9%	11%	10%	5%	25%
Pharmaceuticals	Absolutely	34%	32%	43%	32%	31%	33%
	Maybe	49%	52%	40%	49%	53%	42%
	Never	17%	16%	17%	19%	16%	25%
Water and waste	Absolutely	24%	28%	10%	23%	22%	8%
	Maybe	52%	47%	67%	54%	56%	54%
	Never	24%	25%	23%	23%	22%	38%
Food and drink	Absolutely	16%	17%	10%	14%	16%	8%
	Maybe	48%	44%	64%	45%	55%	61%
	Never	36%	39%	26%	41%	29%	31%
Rail	Absolutely	26%	27%	19%	28%	24%	7%
	Maybe	54%	55%	55%	53%	50%	72%
	Never	20%	18%	26%	19%	26%	21%
Construction	Absolutely	26%	28%	18%	31%	17%	8%
	Maybe	50%	51%	50%	50%	52%	59%
	Never	24%	21%	32%	19%	31%	33%

Figure 10: Answers to the question "Would you consider joining the following sectors?" (Percentages)



UK Population

Sector	Level of consideration	All	Men	Women	16-19	20-29	30+
Renewables	Absolutely	22%	26%	17%	17%	25%	22%
	Maybe	41%	43%	41%	49%	41%	41%
	Never	37%	31%	42%	34%	34%	37%
Oil and gas	Absolutely	17%	20%	14%	15%	19%	17%
	Maybe	34%	40%	28%	27%	45%	33%
	Never	49%	40%	58%	58%	36%	50%
Nuclear	Absolutely	17%	22%	12%	28%	20%	15%
	Maybe	29%	35%	22%	25%	32%	29%
	Never	54%	43%	66%	47%	48%	56%
Chemicals	Absolutely	14%	17%	11%	22%	22%	11%
	Maybe	35%	41%	29%	36%	39%	34%
	Never	51%	42%	60%	42%	39%	55%
Pharmaceuticals	Absolutely	21%	21%	20%	22%	26%	19%
	Maybe	41%	42%	41%	43%	44%	41%
	Never	38%	37%	39%	35%	30%	40%
Water and waste	Absolutely	18%	21%	14%	19%	19%	17%
	Maybe	35%	41%	29%	34%	38%	35%
	Never	47%	38%	57%	47%	43%	48%
Food and drink	Absolutely	18%	20%	17%	19%	25%	16%
	Maybe	43%	44%	42%	44%	42%	45%
	Never	39%	36%	41%	37%	33%	39%
Rail	Absolutely	16%	22%	10%	9%	20%	17%
	Maybe	39%	40%	37%	38%	42%	38%
	Never	45%	38%	53%	53%	38%	45%
Construction	Absolutely	23%	25%	21%	28%	26%	22%
	Maybe	38%	40%	36%	40%	41%	37%
	Never	39%	35%	43%	32%	33%	41%

Figure 11: Answers to the question "Would you consider joining the following sectors?" (Rankings)

Rank	All responses		Men		Women	
	ECI	Public	ECI	Public	ECI	Public
1	Renewables	Renewables	Renewables	Renewables	Renewables	Pharmaceuticals
2	Oil and Gas	Pharmaceuticals	Oil and Gas	Construction	Chemicals	Food and drink
3	Nuclear	Construction	Nuclear	Food and drink	Pharmaceuticals	Renewables
4	Chemicals	Food and drink	Chemicals	Pharmaceuticals	Nuclear	Construction
5	Pharmaceuticals	Rail	Pharmaceuticals	Rail	Oil and Gas	Rail
6	Rail	Water and waste	Rail	Water and waste	Water and waste	Water and waste
7	Construction	Oil and Gas	Construction	Oil and Gas	Food and drink	Oil and Gas
8	Water and waste	Chemicals	Water and waste	Chemicals	Rail	Chemicals
9	Food and drink	Nuclear	Food and drink	Nuclear	Construction	Nuclear

Figure 12: Answers to the question "Would you consider joining the following sectors?" (Rankings)

Rank	16-19		20-29		30+	
	ECI	Public	ECI	Public	ECI	Public
1	Renewables	Construction	Renewables	Pharmaceuticals	Nuclear	Renewables
2	Oil and Gas	Renewables	Chemicals	Construction	Oil and Gas	Food and drink
3	Nuclear	Pharmaceuticals	Nuclear	Food and drink	Renewables	Pharmaceuticals
4	Chemicals	Food and drink	Pharmaceuticals	Renewables	Rail	Construction
5	Pharmaceuticals	Chemicals	Oil and Gas	Oil and Gas	Pharmaceuticals	Rail
6	Construction	Nuclear	Water and waste	Rail	Chemicals	Water and waste
7	Rail	Water and waste	Rail	Chemicals	Food and drink	Oil and Gas
8	Water and waste	Rail	Food and drink	Water and waste	Construction	Chemicals
9	Food and drink	Oil and Gas	Construction	Nuclear	Water and waste	Nuclear



ecitb.org.uk