



Bulletin 13

# Skills shortages in the UK economy

November 2023

# Key Highlights from the Bulletin

This thirteenth edition of the *Skills Shortage Bulletin* explores how the low competitiveness of socially and economically essential labour market roles threatens the social infrastructure and quality of life in our society. While this paints a pessimistic picture, as in [our last bulletin](#) there are signs that investment and interventions might be launched and targeted through our improved capacity to gather labour market data, particularly at a local level.

- The economic competitiveness and quality of jobs required to meet national priorities in education and green sectors are low. The UK **faces a severe teacher recruitment crisis, with a 93% increase in teaching vacancies in 2022-23**. Real-term declines in teacher and further education (FE) college staff pay, persistently high workloads, and new remote work trends have made teaching less attractive relative to other graduate professions. Edge has recently published our response to the announcements at the [Labour](#) and [Conservative](#) party conferences, welcoming the focus on FE, but reform of the education system will not be feasible without greater future investment in teachers. Demands on the education system are growing. As the NFER explore, **changes to the labour market towards 2035 will increasingly require the education system to provide young people with higher level communication, collaboration, creative problem solving, and comprehension skills** to meet the increasing demand for professional occupations, such as accountants and engineers. Indeed, already EngineeringUK identify **considerable unfulfilled employer demand for engineering roles, which accounted for 25% of all job postings in the UK in 2021**.
- Similarly, the New Economics Foundation **indicates that existing policies and investment are insufficient in supporting the workforce to adapt to a low-carbon economy**. Research from NESTA found that changes in **the language framing green skills training did not meaningfully increase interest, but the availability of loans, subsidies, and especially grants, did so substantially**. EngineeringUK report there has been a 55% increase in 'green' engineering job postings over the past five years, without an accompanying rise in the number of engineering and technology apprentices, and Youth Employment UK evidence indicates 74.7% of young people have not heard of green jobs. Urgent policy action, and above all investment, is required to address competitiveness of such employment and training if the UK is to realise these essential social goods.
- The Open University's Business Barometer shows, **nearly three-quarters (73%) of UK organisations are currently experiencing skills shortages**. They highlight one strategy with the John Lewis Partnership to provide higher education to care leavers, diversifying their workforce and utilising hidden talent pools. But most employers, especially SMEs, lack resources to strategically address the skills gaps. The Institute for the Future of Work emphasises **that preparing the labour force to meet changes in skills demands should focus on 'good work'** - where employment promotes dignity, resilience, and fosters future prospects. Their recent publications identify which locations labour markets require investment and are at most risk of disruption by automation technologies, and argue that workers should be empowered in the process of tech adoption to improve job quality.

- The lack of investment in young people's needs and spaces continues to depress their outlook. The Youth Voice Census **reveals ongoing mental health challenges among young people, causing disconnection and disenfranchisement. Just 12.4% of young people believe quality work is available** where they live, and there is little confidence in employer support especially as they approach working age. Self-efficacy is especially low in economically disadvantaged areas and for transgender individuals. Meanwhile, the Resolution Foundation shows **the number of 18-24-year-olds not working due to ill health has almost doubled in a decade**, rising from 94,000 in 2012 to 185,000 in 2022. Their absence from the labour market can 'scar' their future employment prospects. Regional disparities exist, with higher rates in parts of the North East compared to areas like East Anglia or Inner London.
- New sources of data can assist in addressing local skills shortages. In the North East, 4 in 10 of the region's 16-24 year olds are 'economically inactive', while at the same time North East firms are struggling to fill labour-intensive and high- and medium-skilled roles. The North East Local Enterprise Partnership have developed analysis to direct intervention, **identifying good matches between the skills supply and demand in healthcare, trade and construction, but oversupply in manufacturing, retail and law, and an undersupply in areas of the arts and administration in the North East.** Finally, the Unit for Future Skills in the Department for Education explain their work at a national level.



This bulletin highlights the urgent need for all young people to have opportunities to develop creative problem-solving and communication skills if they are to thrive in future jobs and feel hopeful about their lives. The skills shortages reported by UK organisations are sobering, and a growing problem of teacher-retention adds to the difficulty of dealing with this through high-quality education.

At The Economist Educational Foundation we believe it's vital for young people not only to develop critical-thinking and effective communication skills, but also to learn to use these to engage with real-world issues. Such an ability is essential for flourishing in future work and beyond. This task requires a deep understanding of local needs. So it's exciting to see signs that those of us committed to tackling these issues might gain access to increasingly useful data about what might be most needed and where.

The Economist Educational Foundation's free Topical Talk programme enables teachers to build students' critical thinking and communication skills through inspiring discussions about the news. If you are interested in this for your school, or supporting the Foundation's work, email Steff at [stephanieyoung@economist.com](mailto:stephanieyoung@economist.com).

### **Daniel Franklin**

Executive Editor at *The Economist*, and Chairman of The Economist Educational Foundation



The world is changing fast and education needs to keep up. Edge is an independent, politically impartial education foundation. We want education to be relevant to the twenty-first century. We gather evidence through research and real world projects and partnerships and use this to lead the debate and influence policy and practice.

Edge believes all young people need to be equipped with the skills that today's global, digital economy demands, through a broad and balanced curriculum, high quality training, engaging real world learning and rich relationships between education and employers.

**Visit [www.edge.co.uk](http://www.edge.co.uk) to find out more.**

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# Youth Voice Census 2023

## Youth Employment UK

The Youth Voice Census is the largest collection of youth voice and insight in the UK. It provides a unique understanding of the experiences young people are having in the systems around them, how they are doing right now and how they are feeling about their future. Now in its sixth year, the Youth Voice Census provides us with a repository of information for young people in education or training, looking for work, in work or those currently not engaging with these systems. Here we highlight some of the insights around careers information and work experience, skills development and the journey to work. The [full report can be read here](#).

No. of responses: **4,276**

Age range: **11-30**

Survey dates: **31st March - 5th June 2023**

[Last year's mental health crisis](#) hasn't gone away. The anxiety, worry and loss of control young people felt has largely gone unsupported making way for fear and isolation. This year we have heard, at length, from young people that this has left them feeling disconnected with a growing sense of disenfranchisement. Change and uncertainty are the new normal for young people who have, since Covid-19 seen political, environmental and economic challenges stack up. 42.9% of young people have changed their study choices in the last year and 51.6% of young people currently in work changed their career plans and choices in the last 12 months.

Year on year the number of young people who think they can access quality work where they live is decreasing, just 12.4% of young people think there are quality opportunities available where they live, a reduction of 3 percentage points on last year. Only 1 in 3 young people think employers are supportive of hiring them and just under half are not confident that they will progress into a good job. The closer young people get to working age the more likely that they will answer these questions negatively.

As young people get closer to working age their confidence decreases, those aged 19+ are less likely to feel confident that they have the right skills, relevant work experience, qualifications and network than their younger peers (and by around 5% each compared to last year). This is likely to be explained by the experiences these young people had during Covid-19 but without any catch up support they are now navigating the journey to work feeling unprepared.

### Careers education, experience of work & skills

For young people in secondary school we see a much needed and welcome increase in careers and education experiences. All careers experiences were up but in particular we see a 10 percentage points rise on last year's figures for careers fairs, access to mentors and employers visiting schools. Young people were 7 percentage points more likely to rate the support offered by their school as 'good' or 'very good' this year too. We see too that young people in education are hearing more frequently about apprenticeship opportunities with more parity with university discussions than ever before.

- 37.3% of young people in secondary education would rate their careers education as 'good' or 'excellent' in helping them prepare for their next steps, an increase of 7.6 percentage points on last year.
- 38.6% of young people thought they understood the skills employers were looking for.

- 38.5% of young people had self-belief.
- 29.2% of young people had received work experience in secondary school, a 6.8 percentage points drop on last year's figures.

## Skills in secondary school

### How confident are you in the following skills?

**Table 1.** How confident are you in the following skills? YEUK, 'Youth Voice Census 2023 Report', p. 38.

	Not confident	Neutral	Confident
Communication	15.5%	29.3%	55.3%
Speaking	24.2%	27.8%	48%
Listening	5%	15.8%	79.3%
Teamwork	10.2%	26.4%	63.4%
Leadership	22.8%	30.3%	46.9%
Problem solving	7.3%	24%	68.7%
Self Belief	32.1%	29.5%	38.5%
Resilience	13.3%	31.9%	54.8%
Staying positive	28%	29.8%	42.2%
Confidence	27.8%	27.8%	44.4%
Motivation	29%	30.9%	40.1%
Self Management	18.4%	34%	47.7%
Initiative	12.8%	35.7%	51.5%
Organisation	18.9%	27%	54.2%
Aiming high	14.2%	26.1%	59.8%
Accountability	10.1%	34.4%	55.6%
Digital skills	9.4%	27.9%	62.7%
Numeracy skills	12.6%	23.9%	63.5%
Literacy skills	9.3%	26.3%	64.5%
Creativity	9.7%	22.6%	67.7%

- The biggest increase in confidence based on last year's scores are for listening with a 9.3 percentage points change.
- Male respondents are most likely to rate themselves as 'confident' or 'very confident' in their listening skills, problem solving ability, numeracy skills and digital skills. They are least confident in their motivation, self-belief, leadership skills and self-management capabilities.
- Female respondents rate themselves as 'confident' or 'very confident' in listening skills, creativity, teamwork and literacy skills. They are least confident in their self-belief, staying positive, motivation skills, and confidence.

### Which of these skills do you think are the most important for work?

**Table 2.** Which of these skills do you think are the most important for work?, *ibid*, p. 40.

Communication	50.2%
Problem Solving	28.3%
Listening	22.9%
Self Management	17.5%
Speaking	13.6%
Resilience	12.6%
Self Belief	10.1%
Motivation	10%
Organisation	9.6%
Leadership	8.3%
Confidence	7.9%
Creativity	7.6%
Digital Skills	5.3%
Staying positive	5.2%
Initiative	4.8%
Accountability	3.4%
Numeracy Skills	3.4%
Aiming high	3.2%
Literacy Skills	3.2%
Other	1.3%



## Green jobs and green skills for those in secondary schools

### Have you heard about 'green jobs' or 'green skills'?

The vast majority of respondents responded that they had not heard of green jobs or green skills (74.7%), where as only 18% said they had and 7.2% were unsure.

Many respondents felt that having an awareness of environmental issues and being passionate about looking after the planet and eco-friendly practices as the main skills required for 'green jobs'. Resilience was often mentioned, as well as problem solving, creativity and empathy.

### What skills do you think will be required for 'green jobs'?

Eco-friendly, team work, problem solving, communication - especially speaking and listening.

Understanding of the environment and the world around you.

Biology, other sciences, maths, geography.

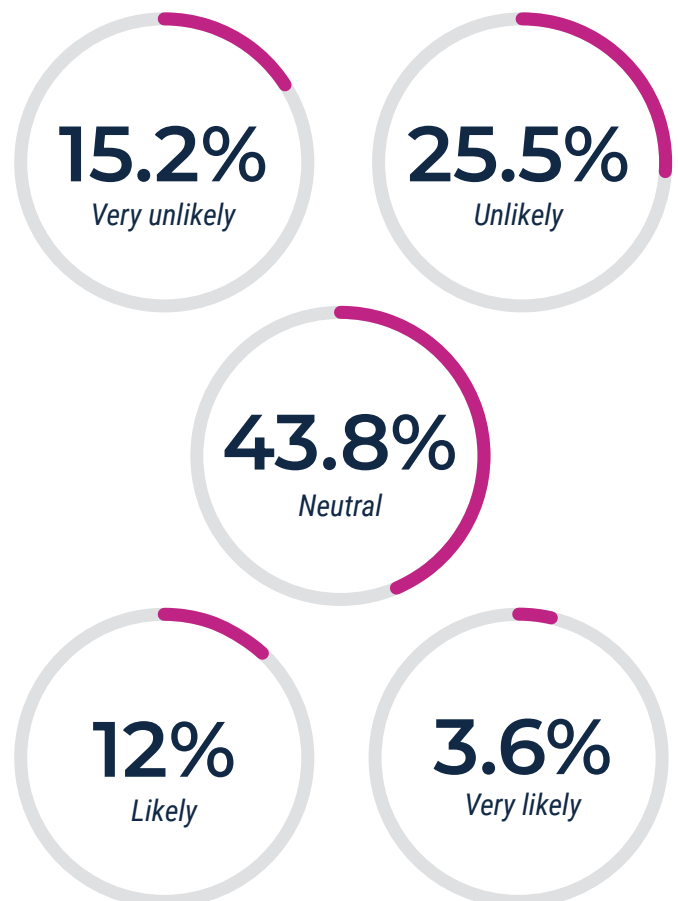
A basic understanding of global warming and our impact on the planet. GCSE's.

Empathy, an understanding of the consequences of our actions, a passion for the environment, resilience in the face of hopelessness.

Creativity and resilience. Some ideas won't work at first and a good idea will require a few attempts to be an ideal solution.



### How likely are you to apply for a 'green job'?





## Journey to work

A lack of work experience, has for the past 6 years, featured as one of young people's biggest barriers to work. It is currently the biggest barrier young people not in work face.

For young people aged 19 plus, as well as those out of work and those looking for work:

- 44.6% of respondents think they understand the skills employers are looking for, a reduction in confidence of 12.4 percentage points on last year's scores.
- Young people rated communication, listening and teamwork as the most important skills for work and rated themselves most confident in listening, problem solving and literacy skills.
- 47.1% of respondents had any idea of the type of career or jobs they would like to do in the future, an increase of 12.4 percentage points on last year's scores.
- 51.5% of respondents are confident they had relevant work experience.
- 59.6% are confident that they had the right qualifications.
- 44% are confident that they had a good personal network.
- Transgender respondents and those who were eligible for free school meals were consistently the least confident in their skills and that they had the right skills, qualifications and network to progress into work.
- Black, African, Black British or Caribbean respondents were consistently less likely to have undertaken in person experiences by an average rate of 8 percentage points despite being twice as likely to have applied for these experiences. In addition, Black, African, Black British or Caribbean respondents were at least 10% more likely to have undertaken online experiences despite being less likely to apply for these.



Young people want to succeed, they want to do well in education and they want to have careers that matter to them but for too many this feels desperately out of reach. The uncertainty and change of the last few years has left young people unsure of the future they are facing and how they can prepare for it.

We are pleased to see more career experiences in schools, but we need more opportunities for all young people to understand their skills, interests and gain more work experience. Those who have aged out of secondary education in the past 3 years have been left feeling that their skills, qualifications and experience is simply not good enough to get a job. We can not let this sense of hopelessness continue and so we have adapted how we support employers to consider the design and delivery of their programmes to show young people that there are good youth employment opportunities.

### Lauren Mistry

Deputy CEO, Youth Employment UK

# Left behind: exploring the prevalence of youth worklessness due to ill health in different parts of the UK

**Louise Murphy, Resolution Foundation**

In 2023, just three years on from the start of the pandemic, there are reasons to be optimistic about young people's standing in the labour market. Fears of a lasting rise in youth unemployment in the wake of Covid-19 have not come to pass, with the unemployment rate for 18-24-year-olds no higher at the start of 2023 than on the eve of the pandemic. Likewise, in the spring of 2023, the number of young people not in education, employment or training (NEET) stood at 740,000, far below the post-financial crisis peak of 1.1 million.

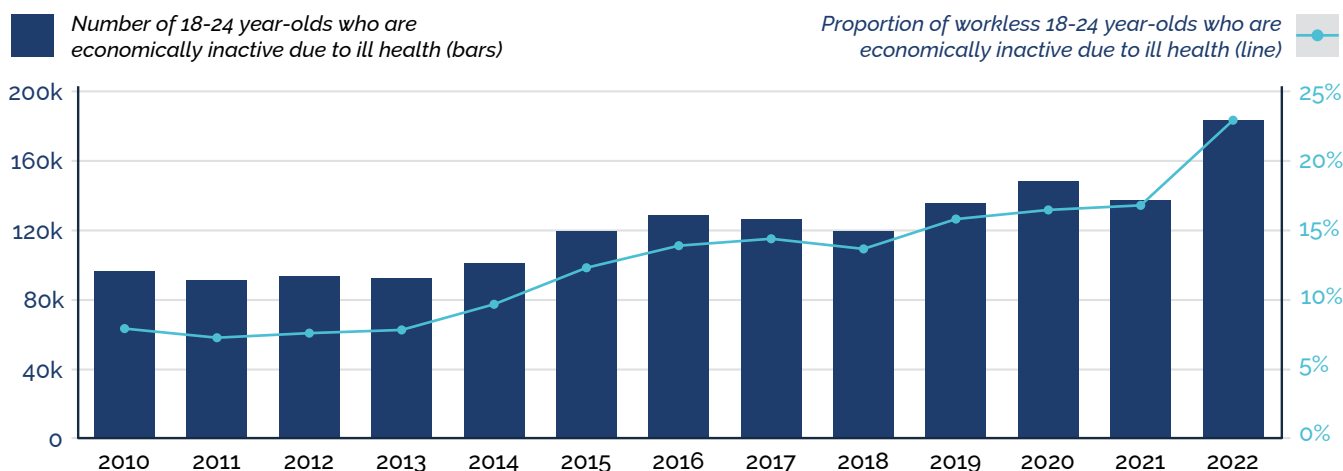
But alongside the good news is evidence of a more worrying trend: a sharp increase in the number of young people who are not working due to ill health. The number of 18-24-year-olds in this category has near-doubled in the last ten years, rising from 94,000 in 2012 to 185,000 in 2022. Today, almost one-in-four workless young people are not working because of ill health, up from less than one-in-ten in 2012. This is shown in Figure 1 below.

Across the UK, 2.9 per cent of 18-24-year-olds were not working because they were unwell in the period 2020-2022 - but there is considerable variation between

parts of the UK. Just 1.6 per cent of young people in East Anglia, and 1.7 per cent in both Inner London and Merseyside, were too unwell to work in 2020-2022, compared to 5.1 per cent in parts of the North East such as Darlington, Durham and Middlesbrough.

The most striking spatial difference when it comes to rates of youth worklessness due to ill health is that between large cities and smaller places. Young people living in core cities such as London, Cardiff, Glasgow or Liverpool are the least likely to be workless because they are unwell: in 2020-2022, 1.8 per cent of 18-24-year-olds in London, and 2.0 per cent of 18-24-year-olds in

**Figure 1.** The number of young people not working due to ill health has risen dramatically in recent years.



Notes: Workless young people are defined as those who are not in employment or full-time education.  
Source: RF analysis of ONS, Labour Force Survey

other core cities, were not working due to ill health. This contrasts with 3.4 per cent of 18-24-year-olds living in places dominated by small towns or villages such as Derbyshire, Devon and South Wales.

Of course, the type of 18-24-year-olds living in cities is different to those living in smaller places, and there are two particularly important differences. First, more than two-in-five young people in London and other core cities were full-time students, a much larger proportion than in small towns or villages - and full-time students cannot be classed as workless due to ill health, even if they have health problems. Second, with the many opportunities they afford, cities are far more likely to attract graduates than smaller conurbations: more than a quarter of 18-24-year-olds in London and other core cities were graduates in 2020-2022, compared to less than one-in-six young people in small towns and villages. Given that young graduates are very unlikely to be workless due to ill health, their uneven spatial distribution is a material reason why overall rates vary so much by place. When we look at young people who are neither in full-time education nor graduates, the gap between places narrows considerably.

Taken together, our analysis suggests that policy makers must pursue a twin-track approach to support young people who are out of work because of ill health. First, given that mental health problems are the most common reason for young people to be workless due to ill health, better - and more consistent - mental health

support must be available at the earliest possible stage to prevent young people from falling behind in the first instance.

Second, alongside early health support, action is needed to help unwell young people catch up with their education later down the line. Given that four-in-five young people who are workless due to ill health lack qualifications above GCSE level, efforts to increase the number of young people attending university or doing apprenticeships miss the mark. Instead, policy makers must invest to make it easier for adults to achieve GCSE and A Level skills (Levels 2 and 3) after leaving compulsory education, most obviously through funding courses leading to Level 2 and Level 3 qualifications for those aged 24 and above (currently statutory funding is only available up to the age of 23).

Any spell out of the labour market at a young age can have scarring effects on future employment prospects, but young people who are workless due to ill health are doubly disadvantaged by the combination of ill health and low qualification levels. Policy makers should remember that worklessness due to ill health is not solely an older-adult issue: the 185,000 young people currently in this category, many of whom are 'left behind' in so many different senses, deserve better than that.

The Resolution Foundation report 'Left behind: Exploring the prevalence of youth worklessness due to ill health in different parts of the UK', is available to [read here](#).



Overall worklessness among young people is currently low, but beneath this welcome headline trend lies a worrying rise in the number of young people who are not working due to ill health.

Worklessness due to ill health among young people is most common in small towns and villages, but reflects these young people's low levels of education far more than the nature of their area. This highlights the protective effect that education can have on a person's ability to access mental health support, and to succeed in the labour market.

We cannot afford to let young people who are workless due to health problems get left behind, so we need both to improve their education opportunities and to ensure that everyone has access to better mental health support.

**Louise Murphy**  
Economist at the Resolution Foundation

# Overview: the teacher recruitment and retention crisis in schools and FE colleges

The education sector currently faces considerable difficulties recruiting teachers to meet adequate staffing levels. This overview considers the findings of reports published over the last year which have addressed elements of recruitment crisis, mainly in schools:

- Dawson McLean, Jack Worth and Henry Faulkner-Ellis, [‘Teacher Labour Market in England Annual Report 2023’](#), National Foundation for Education Research (NFER),
- Becky Allen, Iain Ford, and Timo Hannay, [‘Teacher Recruitment and Retention in 2023’](#) released by Teacher Tapp and SchoolDash and funded by the Gatsby Foundation,
- The Education Endowment Foundation (EEF) [‘Teacher quality, recruitment, and retention: Rapid Evidence Assessment’](#),
- Alan Felstead, Francis Green, and Katy Huxley, [‘Working in Schools: job quality of education professionals before and after the pandemic’](#), commissioned by the National Education Union.

But similar challenges are affecting the FE sector, as explored in:

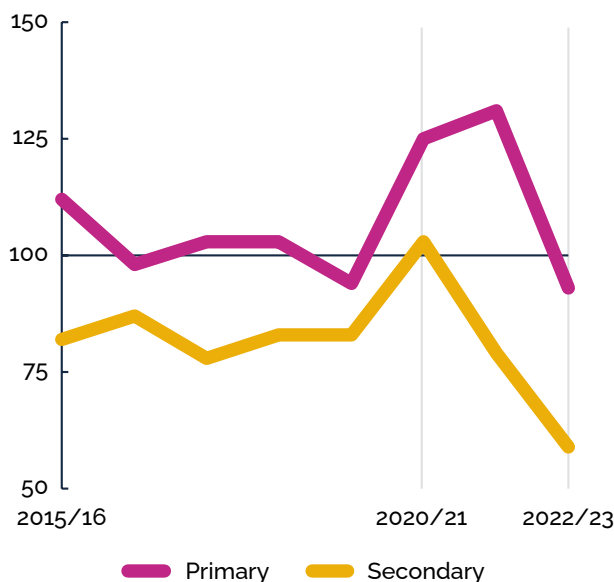
- Lifelong Education Institute (LEI), [‘Developing Industry-Expert Teaching for Higher Skills’](#), in partnership with the Chartered Institution for Further Education.

## Declining relative competitiveness

The size and quality of the education provided through the school system in the UK is, of course, heavily dependent on the number of teachers. Current demands for teachers in the UK are being fuelled, as Allen et al. outline, by a demographic bulge, with more 11-year-olds entering secondary schools than 16/18-year-olds exiting. At the same time, the graduate cohort from which the lion’s share of new trainee teachers are drawn from is comparatively small, and the proportion of the workforce approaching retirement is large and increasing.

While these underlying increases in demand would pose a challenge to supply systems at any time, many schools are substantially underrecruiting. NFER indicate that vacancies were up 93% in 2022-23 and the situation appears likely to continue. The scale of the problem has intensified since the pandemic. While recruitment and retention recovered between 2020-22 in response to uncertainty elsewhere in the labour market, these gains have subsequently vanished. In 2022-23 recruitment to initial teacher training was 20% or more lower than before 2020.

**Figure 2. Postgraduate Initial Teacher Training recruitment vs target 2015/16 – 2022/23 (%)**



Source: Department for Education ITT census, cited in McLean et al., ‘Annual Report 2023’, p. 8.



The cause of the recruitment and retention crisis is, arguably, in the declining competitiveness of teaching as a profession compared to other graduate destinations. Strikingly, pay for teachers has fallen appreciably in real terms since 2010, following a series of lower than inflation pay awards and a pay freeze in 2021. The NFER found that pay in 2021/22 was 12% lower in real terms than in 2010/11. They also found that 'real earnings growth since 2010/11 was 11 percentage points lower for teachers than for similar graduates' (p.5), and 17 percentage points lower than the wider labour market (p.14).

Beyond pay, research also stressed other factors are decreasing the relative attractiveness of teaching as a career. While a policy focus on reducing teacher workload hours has paid dividends since its peak in 2015-16, down by about three hours a week to 2021/22, NFER identified teachers still work on average 4.5 hours a week more than similar graduates. Teachers still felt they spent too much time on 'administration, data input, marking and lesson planning' (p.6). Importantly however [as other research has shown](#), it is the low quality of work which is of primary concern. Felstead et al.'s survey of NEU members identified not only were working these longer hours at a greater intensity than other professional workers (p.22), but also cited evidence that 'three out of four secondary school teachers reported spending over

half their working hours on tasks other than teaching' (p.7). Teaching unions have particularly decried the proliferation of '[punitive accountability systems](#)', and Felstead et al., identified the school inspection regime especially damaging to job quality (p.30). Teachers reported that workload from outside influences had negatively affected their 'mental and physical health'. Ofsted inspections were especially singled out as high pressure, 'not always accurate, are not beneficial to the children and are not necessary' (p.31).

The relative attraction of teaching has potentially also been impacted by the dramatic increase since the pandemic of the proportion of other similar graduates working from home, which the NFER identified rose from 15% in 2018/19 to 44% in 2021/22 (p.6). Allen et al. reported that 4 in 10 teachers indicated they would like to have the flexibility to have their planning, preparation, and assessment time at home, and other minor adaptations to work conditions such as flexible time off. There was, however, wide variation in how far schools accommodated such requests and most senior leaders thought such requests were impractical (p.3). Further research is needed to assess how emerging flexible working patterns affect the relative attractiveness of teaching, [especially to some of the fastest leaving groups of teachers such as women in their early 30s](#).

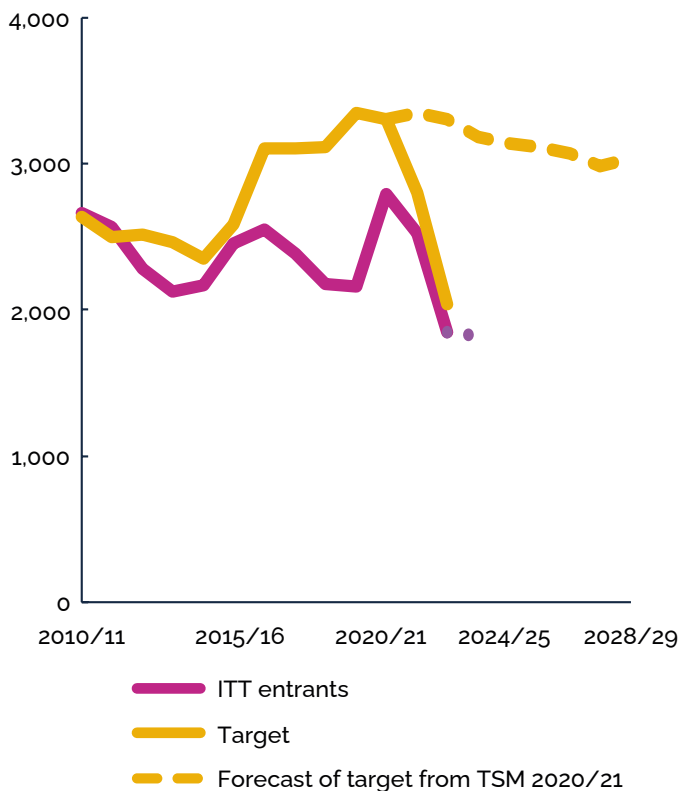
The diminishing relative attraction of teaching has consequences for teachers' self-perception of their vocation. Allen et al. found, alarmingly, that only 58% of teachers 'said they would choose to become a teacher if given the chance again, compared to 71% when asked in 2019. There had been a similar scale of decline in the number of teachers expecting to be teaching in three years' time, down to 59% from 74-77% pre-pandemic (p.2).

As NFER noted, the scale of the recruitment crisis had been made more visible especially in struggling subjects such as physics by changes in how the Department for Education (DfE) calculated targets to better reflect 'accumulated teacher shortfalls from historical under recruitment'. However, NFER noted with concern that in the case of maths, obscure changes to how the target appears to have been calculated had produced potentially misleading assessments of how far supply was meeting demands and needs. In the two years before the pandemic Maths had reached no more than 70% of its recruitment target. In 2022 it appears to have recovered and reached 90% of its recruitment target. However, counterintuitively this did not actually reflect an increase in the absolute number of maths teacher trainees, which had steadily fallen since the pandemic.



Instead, the NFER identified the apparent gains represent a 'steep decrease in the maths recruitment target, which fell by 39% from 2019/20 to 2022/23'. NFER requested clarity from the DfE as to why the maths recruitment target has fallen so rapidly. 'There is considerable uncertainty as to whether last year's maths recruitment target accurately reflects the education system's need for maths teachers', NFER noted, especially in light of Prime Minister Rishi Sunak's then recently announced plans for greater provision for maths (p.9) – plans which have become even more ambitious in the months since the NFER published their report (discussed below).

**Figure 3. Number of postgraduate teacher trainees in maths**



Note: Purple dotted line represents NFER's forecasted maths recruitment for 2023/24.  
Sources: ITT Census, Teacher Supply Model 2020/21, NFER analysis of DfE Apply data, cited in McLean et al., 'Annual Report 2023', p. 11.

In the FE sector, as the LEI explored, the picture is similarly dire to schools. The LEI, drawing on Institute for Fiscal Studies data, demonstrate that FE colleges and sixth forms have seen the 'largest falls in per-pupil funding of any sector of the education system since 2010-11' (p.13). Pay in FE had stagnated with a '5% aggregate increase in cash terms during that period'

lagging 'well behind school teachers' pay, which has seen a 25% increase', and unlike teaching there is no statutory pay structure (p.13). The problem of relative competitiveness is especially acute in FE colleges on account of the importance of prioritising teaching staff with the necessary expertise and experience to deliver both a high standard of general teaching and 'cutting edge technical content, both theoretical and practice, and develop students' high-level technical skills' (p.7). By virtue of such skillsets such 'dual professionals' possess, they are often in demand across industry and beyond FE. The LEI report identified one case where one college lost:

its only specialist lecturer in geo-spatial surveying – a key curriculum element of their Institute of Technology initiative – to a local university able to offer a salary £15,000 a year higher and a teaching load 50% lower (p.20-21).

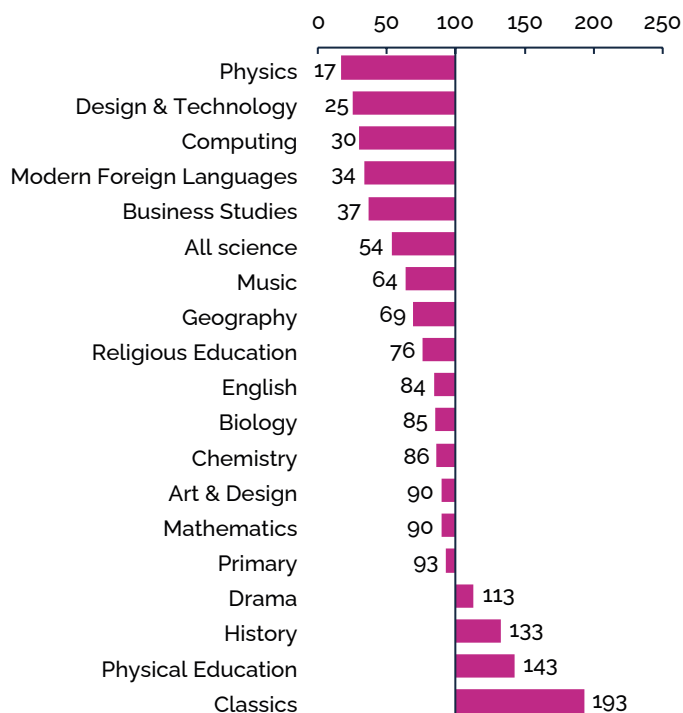
The relative attractiveness of teaching was a particular problem for the provision of certain technical subjects, such as robotics, AI, and data science (p.14-15).

### The consequences of the crisis

These difficulties have raised apprehensions as to the effects on the quality of teaching and learning. EEF in their review found that teacher quality had a high influence on pupil attainment, second only to student background (p.5). In schools, the impact is disproportionately distributed across disciplines, and most acutely in secondary schools and in already underprivileged schools, a pattern likely reflected in FE.

Secondary schools were facing the most acute shortage. NFER demonstrated that in 2022 secondary recruited in total just three-quarters of the number of recruits in 2019/20, representing only '59% of its target number of trainees and varied considerably across individual subjects'. 13 out of 17 secondary subjects missed their recruitment targets, including physics, design & technology, and computing, which recruited less than a third of their respective targets (p.9). Allen et al., drawing on evidence from job vacancies, identified the greatest growth in teaching adverts in technology and humanities, matching already high number of vacancies in subjects like maths and the sciences p. (4-5). Concerningly NFER identified Primary which normally recruits strongly and close to target also underrecruited, reaching 93% of target, demonstrating 'the high degree of recruitment challenge' (p.8).

**Figure 4. 2022/23 postgraduate ITT recruitment vs target, by subject (%)**



Source: Source: Department for Education ITT census, cited in McLean et al., 'Annual Report 2023', p. 9.

Consequently, NFER reported schools posted 93% more vacancies in 2022/23 compared to the year before the pandemic. Meanwhile Allen et al. found that 59% of senior leaders, an increase in 5 percentage points from the previous year, in the primary sector indicated a decrease in the number of applicants. 80% of their counterparts in the secondary sector, a rise of 15 percentage points from the previous year, reported a similar shrinking of the field of applicants (p.5-6). Half of secondary school leaders said their school found no suitable interviewees for a position due to a weak field, and 40% had 'reluctantly appointed a candidate lacking adequate qualifications or who performed poorly at interview' (p.3). In FE, vacancy levels are, the LEI report, around 8-9%, double the rate prior to 2019 (p.20).

The effects of the crisis disproportionately impact schools already struggling to recruit and are likely to be in disadvantaged areas. Allen et al. found that '80% of teachers in the most deprived school said at least one of their subject's GCSE classes faced major disruption this year, compared to 52% in fee-paying schools.' (p.3). In Felstead et al., 66% of teachers in schools with high social deprivation reported coming home from work exhausted compared to 61% of other teachers (p.31). Where schools had high numbers of Special Educational Needs and Disabilities students and in areas of deprivation, teachers

reported suffering from 'mental illness, stress, sleep deprivation, and more', with little to no support (p.33).

In their review of international evidence, EEF found that of all factors influencing recruitment and retention in disadvantaged schools, by far the strongest was the financial incentive, with workload and access to effective coaching and leadership in collaborative teams (p.4). With financial support to improve the competitiveness of teacher pay unlikely to be forthcoming, schools and colleges have pursued a range of strategies to support provision. Allen et al. indicated how:

Primary strategies include agency staff and higher-level teaching assistants as class teachers, deputies and heads into class teaching positions. Secondaries wider range of options, including adjusting student timetables, reducing GCSE options, increasing teaching group sizes, employing non-subject specialist teachers (p.2).

LEI report that FE colleges have resorted to using 'various forms of salary enhancement to local campaigns targeted at professionals from specific industry sectors' (p.19), including holiday award, induction and support, flexibility and work from home, and emphasising work values and culture in recruitment campaigns.

The inability of schools and colleges to attract and retain talent is likely to have consequences across areas of government priority. In FE, as the Rt Hon the Lord Lingfield, Chairman of the Chartered Institution for Further Education identified in his forward to the LEI report, when government has identified expansion of the skills system and courses such as T Levels and Higher Technical Qualifications at levels 3 and 4 as a priority:

it is an irony that those colleges and training providers which are being called upon to deliver more and better training to reduce shortages are now themselves being hampered by a lack of skilled staff (p.2).

## Recommendations

NFER argues that 'the deteriorating competitiveness of teaching compared to other occupations, in both pay and working conditions, [...] requires urgent policy action across the sector to address'. At the time of the publication of the report, the DfE's proposed pay increase of 3.5% emphasised the pay of early-career teachers but not experienced teachers, and was less than forecast for 2023 earnings growth in wider labour market of 4.1%. An increase of 3.5% was, according to NFER 'likely to have



minimal impacts on improving recruitment and retention'. Training bursaries seemed to be slightly improving application numbers in some secondary courses in 2023, but overall recruitment was anticipated to be 'little better than last year'. 'Recruitment and retention challenges are likely to persist unless policy action addresses the falling competitiveness of pay and working conditions' NFER concludes (p.20). NFER recommended matching earning growth of the wider labour market as part of a long-term strategy for improving competitiveness relative to other occupations, whilst ensuring schools have sufficient funding without having to make cuts elsewhere, a call [also raised by teaching unions calling for a 'national workforce plan'](#). In FE, the LEI similarly call for greater attention through something like an industrial strategy to direct resources towards addressing local skills needs through 'place-based collaboration', through Local Skills Improvement Plans (LSIPs) and in collaboration with local higher education providers and employers (p.21).

The problem of the relative attractiveness of teaching has broader implications for policy ambitions. Allen et al. recognises the imminent scale of the problem caused by demographic trends required immediate attention, but that beyond the current bulge 'we may enter a prolonged phase characterised by declining demand for teachers in both primary and secondary phases' (p.10). The demand for teaching is not per se dependent on the population of school-aged children but on government policy of universal education up to secondary education at a determined level of quality of provision. A sustained higher level of supply of teachers will be necessary to deliver the government's recent plans announced October 2023 for the broadening and lengthening of English 16-19 education through the [Advanced British](#)

[Standard](#) and the proposed increase in the number of taught hours by 15%. This announcement was accompanied by the commitment of an initial 'c£100m each year' to 'improve the recruitment and retention of teachers of key shortage subjects', expanded to cover FE, with up to £30k as a tax-free bonus for new teachers in shortage areas over 5 years (DfE, 2023). Other proposals to address the crisis include expanding [Teaching Degree Apprenticeships](#). Whether the governments proposed investment can address under recruitment and deliver such an ambitious plan will require further research.

*Josh Patel, Edge Foundation*

### References:

- Allen, B., Ford, I., Hannay, T. (2023). Teacher Recruitment and Retention in 2023: Teacher views on coping with shortages, job attachment and flexible working. Teacher Tapp, Gatsby, School Dash.
- Department of Education. (2023). A world-class education system: The Advanced British Standard.
- Education Endowment Foundation. (2023). Teacher quality, recruitment, and retention: Rapid Evidence Assessment. Education Endowment Foundation.
- Education Support. (2023). 1970s working conditions in the 2020s: Modernising the professional lives of teachers for the 21st Century. Education Support, Public First.
- Felstead, A., Francis, G., Huxley, K. 2023. Working in Schools: job quality of educational professionals before and after the pandemic. National Education Union.
- Lifelong Education Commission. (2023). Developing Industry-Expert Teaching for Higher Skills. Respublica.
- McLean, D., Worth, J., Faulkner-Ellis, H. (2023). Teacher Labour Market in England: Annual Report 2023. National Foundation for Education Research.



Teaching is both a rewarding and demanding job, but it is becoming even more demanding, especially when compared with comparable occupations which have benefited from the growth in hybrid working. Without change, it will be difficult to tackle the acute recruitment and retention crisis facing the sector. The school inspection regime, in particular, needs to be reformed in order to reduce pressures and workload on teaching staff. Currently, the fear of school inspections worsens many features of job quality as schools prepare for the arrival of the inspection team and this, in turn, reduces staff well-being.

#### **Professor Alan Felstead**

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# How to increase the appeal of green skills and training

## Nesta / Behavioural Insights Team (BIT)

**Authors: Ed Whincup, Shoshana Davidson, Reny Kiryakova, Jordan Whitwell-Mak**

Nesta worked with BIT to run an experiment through BIT's online experiment platform Predictiv, to test how a variety of message framings and financial incentives could encourage current and future workers to take up green skills training based on a hypothetical green skills course advert (a green skills offer). BIT recruited a sample of 4,093 economically active adults and 4,027 recent A-/T-Level or university graduates in the UK between 13 March – 12 April 2023.

An online experiment was designed to test whether various messaging framings and financial incentives could increase current and future workers' interest and sentiment towards undertaking a green skills training course, when shown a hypothetical green skills course advert. Participants were randomly assigned to see one of five framings of a green skills offer:

- › A dynamic social norm framing
- › A social impact + pro-environmental impact framing
- › A job security + demand framing
- › A pride + future generations framing
- › A simple control

Participants were then asked about their intentions to take up training. They were later re-randomised into one of four arms. Three of these included an additional financial incentive to take up green skills training: a grant, a loan and a subsidy, while one had no additional incentive with the cost of the training incurred by the participant (control).



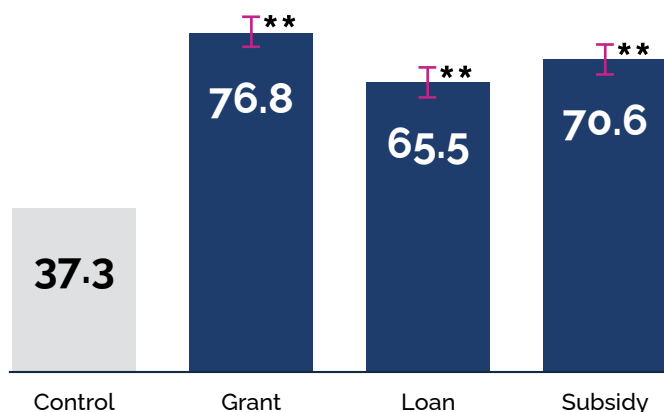
## The effect of framing of green skills training courses

Participants generally had positive sentiment towards all green skills advertisements, regardless of framings. Participants felt that the dynamic social norm, social impact and pride framings were the most engaging. However the framings did not significantly increase interest in the green skills training offer, compared to the control. We also found no differences in the effect of framings on interest for men and for women, nor did we find differences across economically active people and recent graduates.

## The effect of financial incentives

The grant (+39.5pp), loan (+28.2pp) and subsidy (+33.3pp) all significantly increased interest in green skills offers compared to the control group.

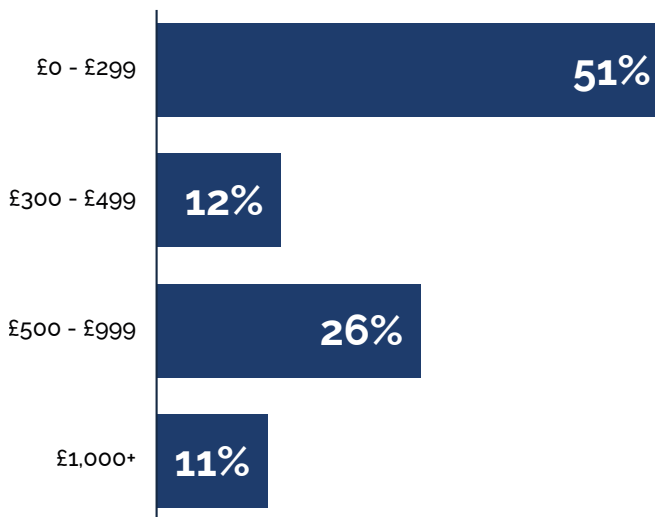
**Figure 5.** After seeing the financial information, % who would be interested in going on a green skills training course



N = 8,120  
 Primary analysis. Logistic regression including covariates.  
 Corrected for multiple comparisons.  
 \*\* p < 0.01, \* p < 0.05, + p < 0.1  
 Numbers in bars equals the control mean +/- treatment effects.  
 Data collected by BIT on 13 March – 12 April 2023.

The research found that any financial incentive increased the percentage of those who would be interested in going on a green skills training course, but that a higher percentage were interested if they did not have to pay back the incentive (i.e., 76.8% were interested in the grant arm, whereas only 65.5% were interested in the loan arm).

**Figure 6.** % who say they would pay the following for a green skills training course



Source: Whincup et al., 'How to increase the appeal of green skills and training', p. 20.

In the survey, participants could enter a number as free text. For the purposes of visualisation, BIT grouped the amounts in the following pay brackets: £0-299, £300-499, £500-999, £1,000+.

## Reasons for why people were or were not interested in doing green skills training course

The main reason people wanted to do a green skills training course was because they wanted to work in a job that would help the environment, while many also said that the demand for green jobs will increase in the coming years or that a green job is one they could be proud of.

Those who were not interested in taking a green skills training course said that they were too expensive, being priced at £500-£3,000. Among those who were not interested, 24% (12% of the full sample) thought that green jobs were not suitable for them, while 21% (or 10% of the full sample) thought the offer was not relevant to them.

## Implementation of green skills training courses

Of those who were interested in going on a green skills training course, the most popular course length was up to a month, and four to eight hours per week. Participants were more likely to attend weekday courses in the evening, and Participants preferred to have online or hybrid courses.

Preferences for course length		Preferences for course hours	
<b>23%</b>	Up to a month	<b>34%</b>	4-8 hours
<b>20%</b>	2-3 months	<b>23%</b>	8-16 hours
<b>19%</b>	Up to 2 weeks	<b>21%</b>	2-4 hours
<b>17%</b>	More than 3 months	<b>8%</b>	16-32 hours
<b>9%</b>	Up to week	<b>5%</b>	0-2 hours
<b>6%</b>	A one-off standalone course	<b>4%</b>	Don't know
<b>6%</b>	Don't know	<b>3%</b>	More than 32 hours

% who said they would be most likely to attend their course on a...(n = 5,115)	
...weekday, in the evening	<b>35%</b>
...weekday, in the day	<b>23%</b>
...weekend, in the day	<b>20%</b>
...weekend, in the evening	<b>8%</b>
Any of the above 10%	<b>10%</b>
6%	<b>6%</b>

Online vs in-person	
<b>38%</b>	Online course
<b>35%</b>	Hybrid course
<b>20%</b>	In-person course
<b>5%</b>	Any of the above

The Nesta/BIT report 'How to increase the appeal of green skills and training' is available to [read here](#).





# Skills for a new economy: investing in workers and closing the green skills gaps

## New Economics Foundation

Research by: **Fernanda Balata, Alex Chapman, Paulo Yunda, Rebekah Diski**

The development of the education and skills of the labour force is central to the net zero and levelling up challenges facing the UK. Such a rapid and managed decarbonisation of our economy, must be delivered through social dialogue, which produces jobs, training and skills, social protection, and community stability, while leaving no worker – or community – behind. An effective skills transition programme is a key pillar of what new research from the New Economics Foundation (NEF) calls a 'just' green transition.

Previous [NEF analysis](#) of current emissions across industrial sectors shows that 3.4 million people – 12% of the working population – have jobs with high or very high greenhouse gas (GHG) emissions. Not all these jobs are at risk. Some are in industries that will remain important, for example, agriculture and waste collection, treatment, and disposal services, but will need to significantly reduce their emissions with likely implications for workers' roles and skills requirements. Others, like in the offshore oil and gas industry, are not compatible with a low-carbon economy and must be phased out. A just transition must be ensured for workers.

### UK unprepared to provide a just transition

However, infrastructure and investment to provide such a just transition are severely lacking in the UK. Investment and participation in skills training have been in decline in the past decade. The UK [government's plans](#) to grow the green economy are focused on highly skilled jobs. To access highly skilled jobs (skill levels 3 and 4), the majority of workers (64%) would require a qualification of Regulated Qualification Framework (RQF)<sup>1</sup> level 4 or above. This means achieving at least a qualification

equivalent to a higher apprenticeship or higher national certificate (HNC), but in the majority of cases (86%), this means completing some form of HE.

The upskilling and retraining required to expand access to green jobs necessitates a well-functioning and well-funded FE system. But, to bring green jobs to levelling-up target areas, this system will need to support workers to reach higher skill levels than those addressed by the government's current policy targets. Critically, this will also mean addressing inequities in both the delivery and retention of HE qualifications, including higher apprenticeships and degree-level qualifications as well as the pre-degree-level qualifications (RQF levels 4 and 5) which universities historically had responsibility for. [Qualifications at RQF levels 4 and 5](#), most commonly HNCs and Diplomas, have also seen a rapid decline in recent years (from 229,000 active learners in 2014-15 to 161,000 in 2020-21).

We are falling short of potential capacities to secure and generate jobs throughout the economy. There is still little and poor integration between skills initiatives and the needs of the green transition. Policy interventions by the UK government, including the Apprenticeship Levy

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<sup>1</sup> The RQF distributes the types of qualifications an individual can attain into nine levels (entry level plus levels 1-8). The RQF was set up in October 2015 to replace both the Qualifications and Credit Framework (QCF) and the National Qualifications Framework (NQF), by merging them together.

and the Lifetime Skills Guarantee, have been insufficient so far in addressing the general skills deficit, let alone supporting the workforce to adapt to the needs of a low-carbon economy. Although employers fund the majority of all UK training, they tend to prioritise already senior, high-skilled employees. Larger employers are also more likely to invest in training than smaller employers (those with fewer than 50 employees). Most other training is paid for by individuals themselves – if they can afford it. Free courses run by the government make up about 3% of all accessed training courses.<sup>2</sup>

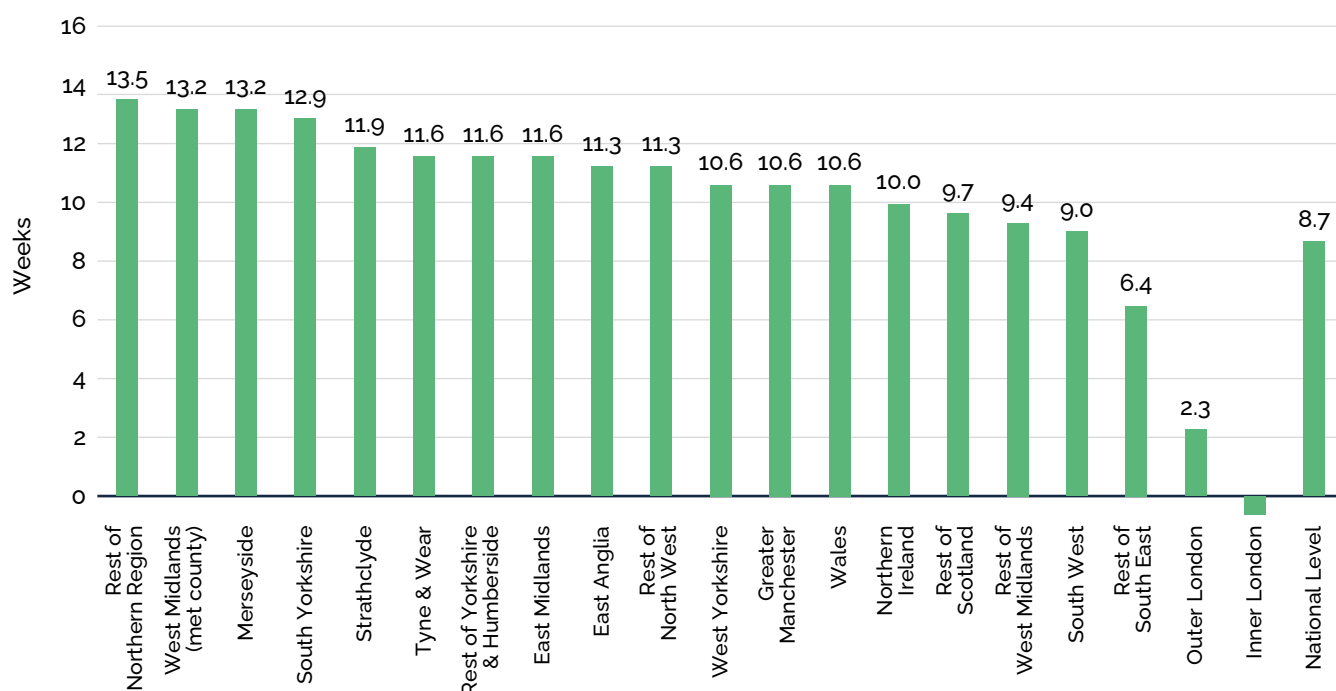
Those with the lowest or no qualifications are much less likely to get an education and training than those already highly qualified. The Learning & Work Institute (L&WI) has grouped different barriers to learning into two main categories. Situational barriers arise from an individual's personal and family situation, including affordability, childcare arrangements or other caring responsibilities, transport links, work and other time pressures, and a lack of digital equipment or broadband for online learning. Dispositional barriers relate to the attitudes, perceptions, and expectations of individuals, including

their perceptions of age, lack of confidence, and lack of digital skills for online learning.

## Skill levels in green jobs versus non-green jobs

According to New Economics Foundation's analysis of ONS data, the average skill level for all jobs in the UK is 2.79. This means that the average worker in the UK is in a job below skill level 3.<sup>3</sup> To analyse the average skill level of green vs non-green jobs, NEF used an existing green jobs classification by the Greater London Authority (GLA). To note, all current classifications of green jobs were found to be limiting, but the GLA one provided the most comprehensive list. Based on the GLA classification, the analysis suggests that the current average skill level for green jobs is 3.06 (meaning workers with jobs at a minimum of skill level 3), and 2.69 for non-green jobs. This implies that the average worker does not meet the current minimum skill level required for green jobs; they would require additional work-related training to access existing green jobs, either undertaken on the job or in an educational institution.

**Figure 7.** Average weeks of educational training required per person to lift the average skill level of UK regions to the average required for a green job, assuming a 35-hour full-time training week.



<sup>2</sup> Greater Manchester Combined Authority study (by New Economy), 2017

<sup>3</sup> Applies to occupations that normally require a body of knowledge associated with a period of post-compulsory education (such as time spent in college) but not normally to degree level



## Skills policy reform

When asked about the green transition, workers are more than willing to move into new roles should their current ones become obsolete, but they say that funded access to quality training and skills development to support them through any adaptations required, as well as job quality, are essential.

This report particularly focuses on the challenge of delivering what NEF call a 'just skills transition': tackling existing barriers to retraining and upskilling so that we close the green skills gap and leave no worker behind. Delivering this requires a managed, collective effort and social dialogue, a task that government initiatives so far have not been able to address. The report outlines three particular reforms:

### **1. A skills transition through social partnership**

Social partnership is a working relationship between trade unions and employers, aimed at improving the prosperity of the company and its employees. It refers both to cooperation at an employer level and to institutional arrangements for dialogue at a national, sectoral, or local level. Compared to other advanced

economies, and indeed to other nations within the UK, England has relatively limited formal arrangements for social partnerships in the skills system. Only 13% of organisations in the UK currently have a collective training agreement (Dromey, 2020). This needs to change. We need to set formal arrangements for social partnerships in the English skills system. A shift to a social partnership approach could begin through a reformed model of Local Skills Improvement Plans (LSIPs). This reform would include social partners defining and managing the LSIP, as opposed to the existing model, which is employer-led only. As well short-, medium-, and long-term skills needs are identified by the workforce as well as employers, such as through skills audits where workers have an established channel to report their training needs and concerns in relation to possible lack of skills.

### **2. Targeted policy and investment to address key barriers to learning**

To raise the qualifications and skills levels of the average worker and ensure that those most vulnerable can access green and better jobs, we must address key barriers to participation in learning, including affordability, time, and less-tangible barriers.



Decent levels of social security support can help ensure that, when industrial change threatens to, or does indeed, lead to job loss, the financial impact on families is lessened. Examples of incentives to businesses include [income tax deductions](#) and public grants for subsidising training, especially for small businesses.

Financing mechanisms are not enough to increase the level of engagement in learning. It needs to be complemented with more holistic and proactive approaches that effectively address less-tangible, dispositional barrier. For example place-based skills development initiatives operating at the workplace, community, and local authority levels, that have a tailored approach to support those furthest from the education system – or most at risk of being left behind by national programmes – to gain confidence and access skills and training.

### 3. A national skills and labour market strategy

The UK government should develop, alongside social partners, a national skills and labour market strategy, which provides an overarching assessment of the varying degrees of green skills needs and green job opportunities across the whole economy. A national strategy would support local and regional efforts in linking green skills to green jobs more effectively, as areas maximise the opportunities for job creation within their geography and build on their assets. This should include increased public investment in adult education, greater devolved control over the skills system at the regional level, and programmes at national and/or regional and local levels to support SMEs' access to knowledge and information on climate and environmental sustainability.

The NEF report 'Skills for a new economy: investing in workers and closing the green skills gaps' is available to [read here](#).

## References

- Cutter, J., Trappmann, V., Balderson, U., Sudmant, A. & Norman, H. (2021). Workers' perceptions of climate change and the green transition in Yorkshire and the Humber: Building the evidence base for the just transition in the region. University of Leeds, Leeds University Business School, Centre for Employment Relations, Innovation and Change. [https://business.leeds.ac.uk/downloads/download/250/worker\\_perceptions\\_of\\_climate\\_change\\_and\\_the\\_green\\_transition](https://business.leeds.ac.uk/downloads/download/250/worker_perceptions_of_climate_change_and_the_green_transition)
- Diski, R., Chapman, A., & Kumar, C. (2021). Powering the Just Transition. Putting workers and unions at the centre of industrial change in Yorkshire and the Humber. London: NEF. <https://neweconomics.org/uploads/files/A-Just-Transition-in-YH.pdf>
- Dromey, J. (2020). Levelling up skills after coronavirus. The role of trade unions and social partnership in workforce training. Leicester: Learning and Work Institute. <https://learningandwork.org.uk/resources/research-and-reports/levelling-up-skills-after-coronavirus-the-role-of-trade-unions-and-social-partnership-in-workforce-training/>
- Gov.UK. (2021). Every UK job has the potential to be green. <https://www.gov.uk/government/news/expert-report-every-uk-job-has-the-potential-to-be-green>
- Hall, S., Jones, E., & Evans, S. (2021). Adult participation in learning survey 2021. Leicester: National Learning and Work Institute. <https://learningandwork.org.uk/resources/research-and-reports/adult-participation-in-learning-survey-2021/>
- Higher Education Statistics Agency (HESA). (2022). HE Student Data, who's studying in HE? <https://www.hesa.ac.uk/data-and-analysis/students/whos-in-he>
- Mayor of London. (2022). Identifying green occupations. <https://www.london.gov.uk/business-and-economy-publications/identifying-green-occupations-london>
- Unison. (2019). Demanding a just transition for energy workers. <https://www.unison.org.uk/content/uploads/2019/01/just-transition-to-low-carbon-leaflet.pdf>
- WEF. (2017). Accelerating workforce reskilling for the fourth industrial revolution. [https://www3.weforum.org/docs/WEF\\_EGW\\_White\\_Paper\\_Reskilling.pdf](https://www3.weforum.org/docs/WEF_EGW_White_Paper_Reskilling.pdf)

# Business Barometer 2023

## The Open University

As the job market rapidly evolves, the widening skills gap continues to present a challenge for organisations across the UK.



The Open University has released its [annual Business Barometer report](#), published in partnership with the British Chambers of Commerce, which provides a temperature check on the UK skills landscape. This year's report reveals that nearly three-quarters (73%) of UK organisations are currently experiencing skills shortages, which remains one of the top challenges facing employers. Commenting on the finding, Michelle Smyth, Head of Government & External Affairs at The Open University said:

"It's evident that whilst businesses continue to show resilience, we're still seeing a pattern that refuses to change. As organisations navigate the revolving job market, it's imperative that employers embed a culture of life-long learning for the sake of future economic growth."

The report highlights that despite the ongoing skills shortage, over a half (54%) of organisations don't have any specific initiatives, skills programmes or workplace adjustments in place for specific talent pools including underrepresented groups such as people with disabilities, workers from diverse ethnicities, care leavers or ex-military. The findings from the survey suggest that employers are missing out on the hidden talent pool and an opportunity to 'grow your own' talent during a time when 42% of organisations say they have been prevented from filling roles due to a lack of applicants.

As well as promoting a more inclusive workforce and helping to bridge skills gaps, investing in underrepresented groups can also unlock a wealth of diverse talents, experiences and perspectives that

may otherwise remain untapped. For example, The Open University works with the John Lewis Partnership, offering higher education to care leavers to make education accessible as well as helping to alleviate the skills gap.

Through collaboration with the John Lewis Partnership, the OU has helped to deliver the Care Experienced Scholarship, a programme which offers four full undergraduate scholarships to young people aged 25 and under, who have spent time in care and have faced significant barriers to entering and succeeding in higher education. Those successful in applying for the scholarship can study flexibly, including spreading their learning over more than three years if they wish, to fit in with family or existing work commitments. As well as helping to future proof the John Lewis Partnership's workforce, the programme aims to improve the lives of those who have grown up in care.

Another concern is the threat of an ageing workforce retiring, without employers having the skills to replace experienced employees. A third (31%) of employers reported an increase in the number of employees over the age of 50 in the last three years. Despite the ageing workforce, 85% of organisations don't have a specific initiative in place for workers over 50, while 77%

of organisations don't have any written annual plans to prepare for people exiting the business. The report highlights the need for employers to ensure they have succession plans in place for when employees exit the organisation. This is to help safeguard against skills shortages and nurture a more robust talent pipeline.

Additionally, the persistent skills shortage continues to exert an adverse ripple effect on the morale and wellbeing of current employees, with three in four (72%) of organisations reporting increased workload for existing staff. Organisations also reported an impact on reduced activity or output (42%) and reduced long-term growth plans (40%), meaning the additional pressure of skills shortages are impacting the future of organisations which could lead to further challenges for the economy as well as meeting Net Zero and equality, diversity, and inclusion goals.

While there is a collective effort to address the skills shortage as most organisations (79%) intend to use some form of training for their staff over the next twelve months, the report revealed that businesses, especially SMEs, lack the necessary expertise and resources to strategically address the skills gaps and challenges effectively. As a result, many firms are trapped in a cycle of continual recruitment and retention challenges.



**Viren Patel**

Director of the Business Development Unit, The Open University

While the current climate poses challenges, now is the time for employers to invest in their people and begin to future-proof their workforce. This is vital because future years will likely bring additional obstacles, as the absence of a skilled workforce will undoubtedly adversely impact both growth and profitability.

With a tight labour market and low unemployment, employers should tap into hidden talent pools such as underrepresented groups and develop a process that grows staff through education, and this could be achieved through a number of ways including apprenticeships and short courses.

# A capability approach to skills: human flourishing in an age of AI

**Anna Thomas, Director and Co-founder, Institute for the Future of Work (IFOW)**

Adoption of AI and automation technologies is already advancing, but research from the Pissarides Review suggests how a high-skilled, 'good work' future can be achieved.

We are living through the greatest technological transition since industrialisation, with AI and automation precipitating major transformations in the nature and experience of work. Real wages, training hours and worker engagement are falling, economic inactivity remains high, and the skills mismatch is growing. Structural transformation driven by technology, overlaid by the recent pandemic and the cost of living crisis, raises new questions about how to recognise, develop and reward people's skills.

Our belief at IFOW is that a focus on 'good work' is the best way to achieve this. Good work is more than employment. It is work that promotes dignity, autonomy and equality; work that has fair pay and conditions and where people are supported to develop their skills over time. Research shows that it builds resilience against social, economic and health shocks and, more than any other single factor, determines future prospects for people and places. Improving access to good work should be a core priority, and creating local environments where skills development is forefronted is central to that.

This begins with understanding the geographies of good work. Each year we publish the [Good Work Time Series](#), which aggregates data from 203 Local Authorities across England, Scotland and Wales across five dimensions of good work. Using this, we are able to see with a granular focus where investment in access to good work is needed.

But we also need to see the wider structural picture. [Our Pissarides Review](#), funded by the Nuffield Foundation, is a multi-year project led by our Co-Founder and



Nobel laureate, Professor Sir Christopher Pissarides, that - across multiple workstreams - is attempting to understand these transformations and how we can shape a better future of work and wellbeing.

One dimension of that work has been to track the changes in skills being demanded by employers. Adzuna is an online job search engine that collates information on job postings from thousands of sources, including employers' websites and recruitment software providers. Hugely comprehensive, it covers around 93% of all vacancies in the country. IFOW has gained access to data from 2016-2022 collected via weekly snapshots,



aggregating to nearly 200 million job advertisements published by over 600,000 organisations, with information on the job description, job titles and Standard Occupational Classification (SOC codes), as well as around 4000 unique skills extracted by Adzuna themselves. Our research team have been classifying these and examining trends over this period, exploring which new skills are gaining importance and which are becoming less important, and which occupations are seeing the biggest changes to skill composition. Key research questions include which skills co-occur with selected other skills, and how clusters of skills appear and change over time.



This work, publishing in the next couple of months, will be launched with the UK's first 'Disruption Index'. This will map across UK regions the extent to which labour markets are at risk of disruption by automation technologies. It aggregates geographic data around three pillars: technological transformation (including venture capital investment, expenditure in R&D, demand for tech skills), enabling factors (including digital infrastructure like mobile coverage, and human capital like education level) and automation exposure. Coupled with the Good Work Time Series and the skills trends work with the Adzuna database, this will give unparalleled insight into where there are skills gaps.

Importantly though, we also need to understand what impacts are being felt now, and hear that both from those running firms and investing in new technologies, and those working within firms having to adapt to them.

[Published in September 2023](#), our report on a survey of managers in 1000 UK companies found that, in the past three years, nearly 80% of firms have adopted automation technologies for a physical task, with the same proportion reporting for a cognitive task too. This shows just how quickly adoption is happening. But the net impact on jobs and level of skills within jobs was found to be net positive. Importantly, the main factor mediating the extent of adoption and the impact on jobs and skills was Regional Innovation Readiness - an aggregate measure from our forthcoming Disruption Index that includes local tech infrastructure and levels of human capital.

The most striking finding though was around the impact on good work. Where Regional Innovation Readiness was high, and management practices prioritised engaging workers, adoption of technology led to improvements in job quality. However, where RIR was low, and management practices were not focused on engagement, job quality was negatively impacted.

This has major implications, both for policymakers at national and regional level, but also for those involved in skills development and HR management. If we are to achieve a future of good work - with all of the benefits that that brings - then we must engage workers in the design, development and deployment of new technologies.

Such an approach suggests a 'reframing' of the skills question, as outlined in our [recent publication](#) on how this might be done. The conventional view puts the emphasis on workers in 'matching' to new demands from industry by upskilling. In contrast, a Capability Approach sees workers as active participants in change, and highlights the importance of their agency in the process of tech adoption.

Research on this is ongoing in the Pissarides Review, with findings from a survey of 6000 workers and their experiences of technological change forthcoming. But, with skills policy in constant flux and the 'productivity puzzle' of our economy proving difficult to solve, we hope that this work will offer a new way of considering how a good work future can be built.



As we navigate this technological transition, the evidence base for the importance of investment in people as well as machines is growing. Last year, the government's Digital Strategy 2022 highlighted the need to reform our skills and talent provision. This year, novel applications of generative AI have amplified the urgent need for new skills that can harness the opportunities that these new tools present.

A revolution in skills provision is overdue. But what might this look like in practice?

Here we offer an overview of what research across our work at IFOW is suggesting, including our Good Work Times Series, a rich analysis of skills trends from the job site Adzuna, and the results of a survey of 1000 UK firms

**Anna Thomas**

Director and Co-founder, IFOW



# Skills Imperative 2035

**Luke Bocock, NFER**

“Generative AI” tends to evoke both excitement and fear. On the one hand, excitement to capitalise on new opportunities, whilst on the other, a fear that new technology will lead to large scale job destruction in some sectors. The rise of artificial Intelligence (AI) and automation - compounded by social, environmental, and economic changes – are almost certainly going to continue changing the jobs that are available in the labour market and the skills needed to do these jobs. But to what degree, and by how much?

The hype about generative AI is compounded by reports like [this one by Goldman Sachs](#), which suggests that up to two-thirds of jobs are vulnerable to partial automation by AI and that generative AI could substitute up to one-fourth of current work. But sceptics draw parallels with the birth of the internet age, when many people predicted a breakthrough in productivity that never materialised, leading economist Robert Solow to famously conclude, “you can see the computer age everywhere but in the productivity statistics.”

The debate continues to rage. Is generative AI a blessing that will emancipate us from the mundane and unleash our creativity, or is it a curse that will lead to a collapse of white- and blue-collar jobs centred on performing routine cognitive or manual tasks? Or will it merely lead to the glacial rate of change in the labour market increasing ever so slightly?

At NFER, we wanted to ground predictions in data-driven projections. In the first phase of [The Skills Imperative 2035 programme](#), we modelled [different employment scenarios – including an ‘automation scenario’ that assumes an acceleration in take-up of automation related technologies, including Artificial Intelligence \(AI\)](#). Our projections identified that elementary administration and service occupations are expected to see the largest employment declines by 2035 (-0.52 million), followed by secretarial and related occupations (-0.20 million), but other occupations will increase their share of UK employment. We summarised our findings [in the twelfth edition](#) of the Edge Skills Shortages Bulletin.

Since publishing our projections, we’ve noticed the mixed emotions it can evoke. Sometimes the emotion is relief that our projections suggest the labour market is going to continue changing steadily and inexorably, and this is robust to scenarios that assume faster take-up of automation and AI. Moreover, there is something called ‘replacement demand’ (job openings created by people leaving the labour market permanently or temporarily) that will continue to create many jobs even in sectors that are projected to decline. Amongst others, the emotion is anxiety, because by 2035 the structure of the labour market will have changed substantially, and our projections identify some occupations that will see their share of UK employment decline significantly, with potentially millions of people vulnerable to job destruction as a result. And it is not as if skills shortages aren’t already a problem - there are now over a million job vacancies in England and [some recent employer surveys](#) suggest we are seeing unprecedented levels of skills shortages.

In the most recent phase of The Skills Imperative 2035 programme, we went a stage further and [projected future skills demands across the labour market](#). We did this by combining our employment projections with occupational skills profiles created using data from O\*NET, the primary source of occupational information in the United States. We used a range of techniques to project the utilisation of different skills by occupation in 2035. Our projections identified a set of six transferable ‘essential employment skills’ that will be vital across the labour market in 2035; communication, collaboration, problem-solving, organising, planning and prioritising



work, creative thinking and information literacy (skills related to gathering, processing, and using information). Our projections also suggest these skills are going to be in even greater demand across the workforce by 2035 than they are today, and that almost 90 per cent of the 2.2 million new jobs that are anticipated to be created in England between 2020 and 2035 will be professional and associate professional occupations (e.g. engineers and accountants) which require higher levels of these skills.

Once again, these projections have evoked mixed reactions. Some people are eager to point out these skills aren't new. Perhaps they were expecting more radical change in skills demands? Others highlight that the development of transferable skills is under-emphasised in the English school curriculum; that employers already report difficulties recruiting people with these skills; and that occupational change in the labour market is being driven by growth in professional occupations that require higher levels of these skills, meaning skills shortages are likely to worsen unless urgent action is taken.

The extent and pace of change in the labour market doesn't need to be seismic for it to create significant numbers of winners and losers. [Our projections](#) suggest some sectors (e.g. transport) and occupations (e.g. receptionists) may experience significant losses. Furthermore, the growth of higher-skilled, higher-paid occupations is not mirrored in lower-skilled, lower-paid jobs, and the growing demand for 'essential employment skills' in expanding sectors and occupations might make it harder for people in declining areas to move sideways. [Research suggests job-to-job moves are less prevalent in declining occupations.](#)



[and people in these occupations](#) may have fewer opportunities to develop the 'essential employment skills' required to move into expanding sectors.

NFER believes it is essential that there is co-ordinated action led by government. NFER recommends that, under the Cabinet Office, a cross-cutting body is established to work effectively across government departments and with employers, educators and other relevant stakeholders to ensure that the implications of projected changes in the labour market are understood and there is a coherent and strategic cross-sector response.

In the next stage of the research programme, we will quantify skills mismatches, identify the groups most vulnerable to change, and investigate how workers, employers, government, and educators can best respond. For more information, please [visit the NFER website here](#).



In May 2023, NFER released its latest report as part of 'The Skills Imperative 2035', a five-year research programme funded by the Nuffield Foundation. This report anticipates the demand for skills in the labour market in 2035 and identifies six 'essential employment skills' that are likely to be most vital across the future labour market.

**Luke Bocock**  
Research Director, NFER

# The Unit for Future Skills: Our Work

## Unit for Future Skills



I lead Unit for Future Skills (UFS) – an analytical and research team within the Department for Education. Our goal is to improve the quality of jobs and skills data and evidence, to help the skills system deliver the right training for good jobs and higher productivity. While we are a relatively new team, having been set up just last year, we have been working on lots of exciting projects that we are keen to share. Read on to learn more about what we have been up to, and how we might be able to collaborate.

**Frank Bowley**

Unit for Future Skills (UFS), Department for Education

## Introducing the UFS

Building on the work of the [Skills and Productivity Board](#), the UFS works to:

1. **Improve the coverage and timeliness of jobs and skills data** to provide a robust foundation of research and data;
2. **Structure and improve access to the data** by linking up data sets, mapping education, skills and jobs at local levels and providing tools that enable exploration of the data;
3. **Provide insights** to enable learning, thinking and discussion on skills data and research as a centre of expertise for skills data and future insights on the labour market.

The Chair of the UFS is [Professor Sir Ian Diamond](#), the National Statistician, who regularly meets with us to help shape and develop the Unit's strategy.

## Our work to date

Since our set up, we have:

- Published [detailed job projections up to 2035](#) for the UK, regional and local level (part of The Skills Imperative research programme, led by the National Foundation of Education Research).
- Published the [Local Skills Dashboard](#), which shows statistics on local employment and skills in England to support local skills planning and delivery.
- Published a Horizon scanning [research report](#), identifying emerging trends in the labour market over the next 15-20 years.
- Worked with ONS, developing new detailed statistics on online job adverts, providing insight on demand for different occupations in local areas. The aim is for statistics to be published regularly from 2024 and for the underlying data to be accessible across Government.
- Developed a new data capacity that will allow us and external researchers to identify the common educational pathways to specific jobs, considering the routes through schools, colleges and universities. We are looking to release descriptions of which learners move through the education system into jobs next year.'
- Recently published a research paper on methodology and use cases for a UK-specific Skills Classification, laying the foundations to build this valuable data resource.
- Been working with the Green Skills Delivery Group and the National Science and Technology Council (NSTC) to understand the data and evidence around STEM and green skills.

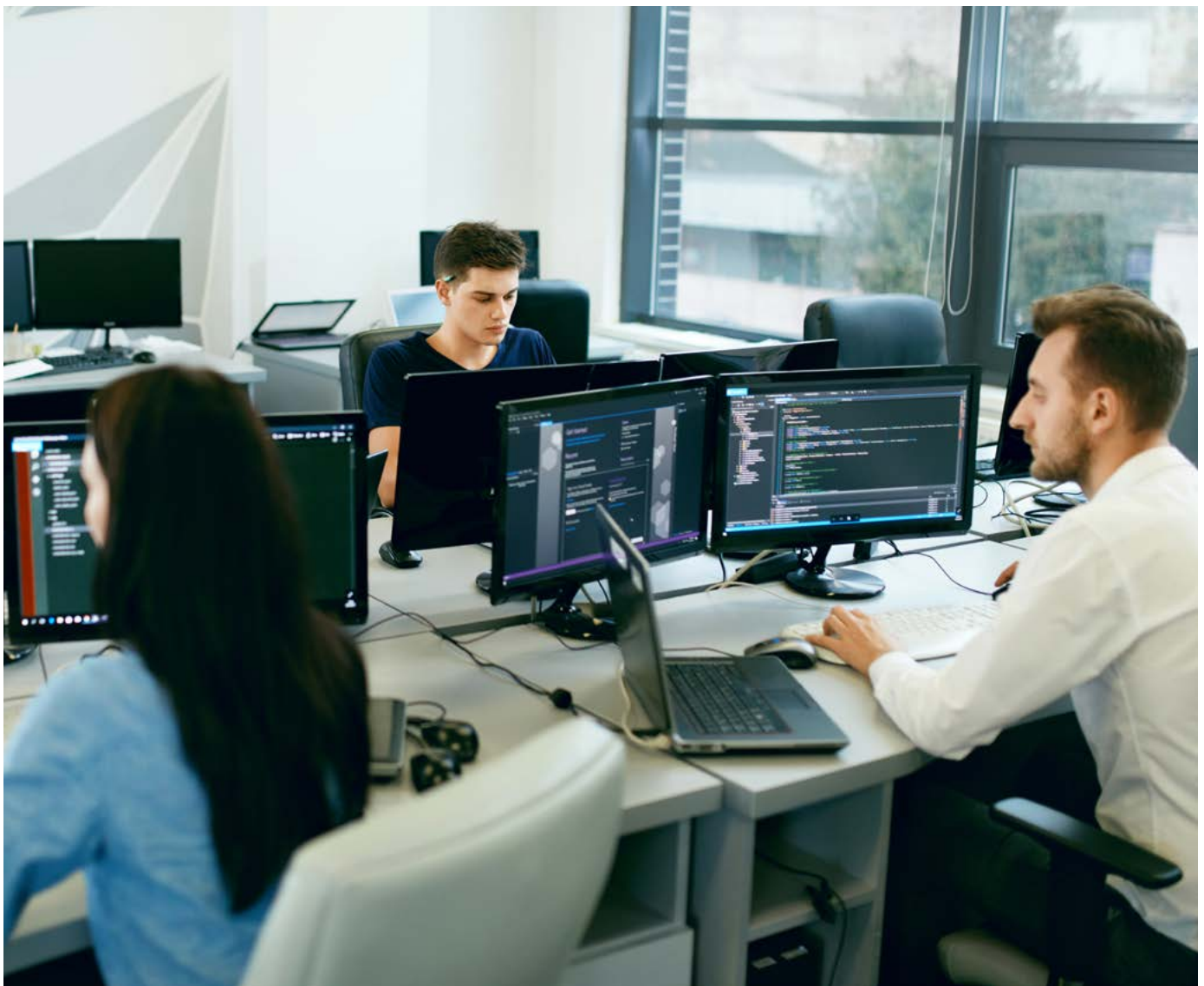
## What's Next

We will be working on a number of exciting projects over the next six months. Amongst other things, we are looking forward to publishing our work on the exposure of different occupations to AI; the supply and demand of science, technology and computing skills; and research on new methodologies for future job projections (to provide insights on good practice methodologies for estimating future skills needs).

At the UFS, we are always looking for ways to collaborate with those in the skills community, and for feedback from users of our products to improve them. As part of our

work on the Local Skills Dashboard, for example, the UFS worked closely with Employer Representative Bodies, to ensure it could help support decision making at a local level. Since August 2022, just under 10,000 active users have accessed the local skills dashboard, and it was referenced in around a third of LSIP reports..

As a team, we want to hear what users think of our products, how you use them, and how we might improve them. If you would like to collaborate with us on any of our projects, to give us some feedback, or to share what you do, please contact [ufs.contact@education.gov.uk](mailto:ufs.contact@education.gov.uk) where a member of my team will be in touch.



# Realising North East Ambition

## Kim Smith, North East Local Enterprise Partnership

*Is there a mismatch between young people's ambitions and the North East job market?*

*When businesses are struggling to recruit, why are we still seeing a high rate of young people who are not in employment, education or training in the North East?*

*A collaborative piece of research, called [Realising the North East Ambition](#), has examined this mismatch and resulted in six recommendations for change. Kim Smith, Regional Lead Education (Technical) and Enterprise from the North East LEP, explains the findings.*

### The Research

Collaborative research from Insights North East, conducted 2022 and launched in Spring 2023 in partnership with the North East Local Enterprise Partnership and David Marlow from Third Sight Economics, aimed to build on the work of [North East Ambition](#), a programme which aims to support schools and colleges across the North East to meet good careers guidance benchmarks by 2024.

The authors were interested in two research areas:

- 1) looking at the drivers for students' intended career destinations and the education pathways chosen.
- 2) identifying the key influences for any change to intended destinations, with a particular focus on exploring how these compare with local labour market opportunities.

This research is not an evaluation of the careers interventions delivered across the post-16 education sector. It is rather an exploration of how interventions like careers guidance and work experience provision especially amongst further education college students can begin to close skills gaps. -

The research identified areas for policy development to improve the connectivity between learner supply and labour market demand.

### Key findings

The Realising North East Ambition report team gathered quantitative data relating to more than 7,000 students in further education in the North East, and combined it with insight from focus groups with learners across four colleges and a series of roundtables with policymakers. Our analysis of data from the colleges illustrates that at one end of the spectrum over 50% of learners were interested in education and training (further education – level 2/3), whilst at the other end, 5% were interested in an apprenticeship.

The majority of students, 4 in 5 (78%), stick with their intended destination, with the vast majority of FE students intending to stay in education and training. During the academic year, 22% of students changed their mind. Where intended destination changed, it was predominantly away from apprenticeships and further education towards higher education or employment.

The key influences of changes over intended destinations were:

- Money, and the perceptions of earning potential, or the need to begin earning sooner.
- Stress, in relation to the process of choosing courses and pathways, and meeting deadlines while making the 'right' choice.



- Advice, for example, careers guidance can be valuable, but experiences and engagement with it are varied, meaning parents, peers and popular media influence choices too.
- Experience - in that work experience is highly valued but is inconsistent and disconnected from careers pathways.
- Default positions in terms of learners choosing the well-trodden pathway to higher education for those who meet the criteria.

### Where are the skills mismatches?

In this report we have approximated the skills match across five sectors using skills supply from colleges' intended destinations data and job vacancy data. We can suggest the following skills matches for FE skills:

- across healthcare and trade and construction there is a good future skills match in this sector, whereas across retail and manufacturing, there is a skills oversupply to this sector;
- across the arts, there is there is a skills mismatch in this sector with a shortage of skills supply to the sector, and therefore employment may be a fruitful destination for students on these programmes;
- business, administration and law is more mixed, with an undersupply of skills in administration into the immediate labour market, whilst for law there is an oversupply into the sector.

### Areas for policy development

Our research has highlighted some areas of excellent practice in the colleges regarding embedded careers advice and ambitious data collection. It is important to acknowledge and build on the great work that is already happening in the North East and elsewhere. Our areas for policy development have been developed in collaboration with regional and national practitioners with the intention to build on the strengths and good practice in the sector. These are:

1. Include the student voice in development of careers support.
2. Embed and evaluate the Good Careers Guidance benchmarks.
3. Position careers guidance as part of 'whole-person' support to students covering liveability, employability and career development.
4. Expose students to the world of work earlier – starting at primary level.
5. Gather better evidence, especially from Further Education.
6. Reduce system complexity.

You can read the full report and briefing documents here: [Realising North East Ambition - Insights North East](#)



**Kim Smith**

Regional Lead Education (Technical) and Enterprise, North East Local Enterprise Partnership

We have high levels of regional youth unemployment alongside high levels of vacancies; obviously something isn't matching up in terms of what students plan to do after their education, and labour market demand.

Since this research for example, the higher profile of degree apprenticeships is one example of changing pathways so we need the skills funding system to be more agile to match this fluidity and support mobility across pathways, not just at transition points. Specifically, we need a system which does not penalise providers, but rewards them for their responsiveness to the changing demands of the local labour market.

## Uncertainty around local investment in skills

The findings of [Local Government Association \(LGA\) survey](#) indicate that members fear uncertainty over the availability of funding could perpetuate skills shortages despite demand growing. LGA members in England and Wales identified unmet demand for skills in new industries such as renewables and green technologies, and digital and cyber, as well as more established industries including hospitality, social care, logistics, and haulage. At the same time, numbers of economically inactive people and those not in employment, education or training is also on the rise, attributed to a lack of diversity in available training offered to young people and the incidence of physical and mental health issues.

However, there is uncertainty around the availability of funding to satisfactorily address these shortages. Some authorities were concerned the loss of European Social Fund and its domestic replacement the £2.6 billion UK Shared Prosperity Fund in 2024 would leave them unable to provide the same level of service to local residences as in previous years. Half of local authorities answered that funding from ESF is higher than expected from UKSPF, while 29% reported funding from ESF is lower than expected from UKSPF. [Authorities were also unable to effectively utilize last-minute modifications to UKSPF restrictions](#) permitting lead authorities to allocate more funding for people and skills, having already committed most of their funds. Further, the LGA argued that bidding processes for 'skills bootcamps' and other programmes use up resources that might better be deployed in longer-term strategies. Inconsistency in funding poses challenges at a time when forward-oriented thinking is paramount.



# Demand for engineers increasing, with rapid growth in green jobs

**Beatrice Barleon, EngineeringUK**

Given rapid labour market developments and changing workforce needs, EngineeringUK recently commissioned analysts Lightcast to explore engineering and technology skills needs, and how these have changed across the sector in recent years. The findings from this research highlight the ever-growing importance of the engineering and technology sector, but also the worrying scale of the demand we face.

The report, '[Engineering skills needs – now and into the future](#)' and accompanying discussion paper, finds there were approximately 6.1 million engineering jobs (including tech roles) across all industries in 2021, representing around 19% of all jobs in the UK. At the same time, in the past year, recruitment activity for engineering roles accounted for 25% of all job postings in the UK. This mismatch suggests that the skills shortage in engineering is greater than in other areas, or that employers are hiring for future growth, or a combination of the two. Indeed, the research also finds that the demand for engineers is predicted to grow faster than for other occupations.

The growth in 'green engineering' roles cannot be underestimated. With engineers playing a central role in the development of solutions to help adapt to and fight climate change, the report finds that postings for 'green' engineering jobs have increased by 55% in the past 5 years, and postings requiring 'green skills' increased by 48%. Interestingly, 'green' roles appear across a wide range of engineering sectors – from civil and electrical through to ICT and software - showing that the application of these skills is far-reaching and important to the economy at large.

Jobs in engineering and technology are continuing to grow and at a faster rate than the average for all other professions, with potential for even faster growth if further investment is made, as planned and anticipated, by government or industry towards net zero targets for carbon emissions.

However, this is set against a decline in the number of engineering and technology apprentices over the last 5 years, and numbers of students studying engineering and technology subjects in higher education that are not increasing at a fast enough rate to meet the future (new and replacement) needs of the sector. This, combined with rapidly emerging new roles related to green skills and technology advancements, highlights the need for sustained and growing investment in training young people, as well as reskilling and retraining those already in the labour market, especially those where automation is likely to change the shape of their job.







It also highlights the need for a clear skills strategy and as part of that a clear STEM education strategy to support it and the need to ensure that all pathways are open to young people looking for a career in engineering and technology. In addition to investing in training, reskilling, and retraining both the future and existing engineering and technology workforce nationally, it is also important that clear strategies are developed to address regional challenges and skills needs. Strengthening links between engineering companies, education providers, and local communities, for example through LSIPs, and developing more locally focused programmes of support for young people, is a good starting point. This will be essential for widening

participation, and ultimately increasing the number and diversity of young people considering joining the future engineering and technology workforce. Only by improving workforce diversity and reaching the full pool of talent can the sector fill its skills and labour gaps.

It's clear that for engineering and technology to thrive, we need to ignite an interest and passion for engineering and technology among young people from all backgrounds from an early age and give them opportunities to engage with relatable real-life engineers and technicians – so that more are inspired to pursue careers in our sector.



**Beatrice Barleon**

Head of Policy and Public Affairs, EngineeringUK

Given the soaring demand for engineers across all sectors, it's essential that the UK has a robust skills plan and funding in place to train the future workforce. This will need to include bringing more young people from all backgrounds into engineering and technology, alongside reskilling and retraining the current workforce."

"With the growth in green skills, and the central role engineers and technicians play in transitioning to a green economy and addressing climate change, ensuring that the engineering and technology sector has the skilled workforce needed to thrive is more urgent than ever.



The shortage of talent attracted to work in the engineering sector has been a recognised problem for years. This issue sits across engineering sectors and is exasperated by an ageing workforce, with many employers facing losing a large percentage of their skilled workforce to retirement over the next five years. The rapid growth of environmental and so-called 'green engineering' as some of the world's brightest minds attempt to solve some of the world's most urgent and challenging environmental issues will only add to this shortfall.

Engineering continues to create demand for jobs faster than most other sectors, and this is expected to continue and accelerate as the UK Government and individual companies work to reach net zero targets for carbon emissions.

Whilst I agree it is impossible to make direct correlation between the demise of design and technology GCSE and A Level entries in our schools (430,000 and 26,000 at their peak, down to 78,000 and just under 10,000 respectively) and the lack of youth interest in engineering as a potential career; it would be a perfectly logical assumption to suggest that without the provision of design, technology and engineering experience at our schools pre-sixteen, young people may understandably struggle to picture the role that they might play in helping to solve the world's global design and engineering issues.

The current government has emphasised a 'knowledge-rich' school curriculum since late 2010. There is no doubting the need for knowledge, but what has this emphasis meant to our young people's lived experience? I would strongly argue that the focus on remembering facts and data to be recycled in timed examinations has been at the expense of experiential learning. Our schools have become averse to risk as teachers work to cram vast quantities of knowledge into young heads, often at the expense of experimentation (no time and insufficient funding) and curiosity..." Great question, but we don't have enough time to explore that".

Working toward an end goal of the exam may motivate ten to fifteen per cent of the school population. The rest need to be shown beyond the examination to the exciting opportunities that lie ahead. Context for learning is an essential ingredient that is all too often missing from young people's educational diet. We need to stop, rethink, and reset the dial on how we educate students to live, work and thrive in a modern world.

Our partial solution to this problem is our recently launched 'Inspired by Industry' resources ([www.inspiredbyindustry.org.uk](http://www.inspiredbyindustry.org.uk)). Within these free-to-access resources, we strive to link the often-disparate worlds of education and business/industry. We have worked with industry partners to capture a real-world problem facing a company's engineers/designers, and without watering this down, we use video and written support materials to allow young people to provide their own solutions. The result (which we will test through an externally validated research programme) we believe, will encourage more young people to view engineering as a way to solve complex problems using whatever resources are available to us.

Watch this space....

**Tony Ryan**  
Chief Executive Officer, Design and Technology Association

**DESIGN &  
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