



EngineeringUK
INSPIRING FUTURES TOGETHER

Public Accounts Committee Inquiry – Increasing teacher numbers: Secondary and further education

Evidence from EngineeringUK, May 2025

EngineeringUK is a non-profit organisation that works with over 400 [organisations](#) across engineering and technology-related sectors to inspire and enable young people from all backgrounds to progress into engineering and technology careers.

We directly reach over 120,000 young people each year with activities such as the [Big Bang Programme](#), [Climate Schools Programme](#), and [Tomorrow's Engineers Week](#), which are designed to interest them in the variety of opportunities presented by a career in modern engineering and technology.

We work across 4 strategic strands:

- Leadership - Leading efforts to grow the collective impact of all engineering and technology inspiration and careers activities with young people of school age;
- Activities for schools - Expanding EngineeringUK's engagement to encourage more, and more diverse, young people into engineering, technician, and technology roles;
- Research and evidence - Establishing the composition of the current engineering, technology and technician workforce, future workforce needs and how to address them, and
- Advocacy - Providing advocacy and support to address policy and delivery challenges in STEM and careers education as well as workforce planning for engineering and technology.

As an organisation, we pride ourselves on providing in-depth research and evidence-based recommendations on a range of themes, from STEM education in schools to apprenticeships and technical qualifications. For example, we have recently published reports on the [Net Zero workforce](#), [STEM careers provision in schools and colleges](#), [T-Levels](#), and apprenticeships via our [Fit for the Future Inquiry](#), co-chaired by Lord Willetts and Lord Knight. We also recently teamed up with the Royal Society to produce the most recent [Science Education Tracker](#), which tracks evidence of more than 7,200 young people's experiences of and attitudes towards STEM education and careers.



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About this submission

EngineeringUK's policy interest lies predominantly in the STEM education and skills pathways and our latest School Report briefing series draws on research that we conducted in August 2024 with 800 secondary and further education STEM teachers across the UK.

We have published three briefing outlining findings from this research:

- [How teachers engage with STEM outreach](#);
- [What teachers know and think about routes into engineering and technology](#), and
- [The challenge of STEM teacher recruitment and retention](#) (England only) - to be published shortly.

The evidence quoted below is in the main derived from the last report in this series – The challenges of STEM teacher recruitment and retention.

Questions that we would like the Public Accounts Committee to put to Department for Education (DfE) officials during the oral hearing

- Given the decision to significantly reduce (and ultimately abolish) ring-fenced funding for STEM teacher Continuous Professional Development (CPD)¹ — including the end of funding for the Stimulating Physics Network after March 2025 — how does the Department plan to ensure continued access to high-quality continuous professional development for science teachers, especially in light of ongoing pressures on core school budgets?
- Considering ongoing teacher shortages — particularly in STEM subjects — and the government's recognition that more needs to be done on recruitment and retention, will the DfE commit to updating the 2019 Teacher recruitment and retention strategy

¹ Parliamentary Question [UIN 21283](#) (tabled 19 Dec 2024). Decision to proceed with cuts to ringfenced budgets for CPD programmes for STEM teachers, including the decision to cease funding the Stimulating Physics Network beyond March 2025. Consequently, ring-fenced funding for CPD for science teachers is set to drop by almost half between the 2023/24 and 2024/25 financial years, from £8.4m to £4.5m. We understand that this funding pot will be abolished entirely from the 2025/26 academic year, with future CPD funding to be drawn entirely from core school budgets, which remain highly stretched.



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to reflect current challenges and priorities, including the target of recruiting 6,500 new teachers? If so, when can we expect this updated strategy to be published?²

- How is the DfE working with Skills England and other members of the newly formed 'quad' to ensure that future sector skills plans are aligned with both STEM education priorities and the teaching workforce needed to deliver them? Specifically, will the DfE commit to embedding teacher supply considerations — including back-casting based on future economic needs — into broader cross-government workforce planning efforts?
- Labour pledged in its General Election manifesto to introduce a 'teacher training entitlement' to "ensure teachers stay up to date on best practice with continuing professional development."³ When can schools and training providers expect detailed guidance on the proposed 'teacher training entitlement'?

Summary

Despite a recent spike in teacher recruitment, evidence shows that there is more to be done to improve the recruitment and retention of secondary school teachers. Teacher recruitment targets are still not being met and leaving rates amongst existing teachers are persistently high. Rising pupil numbers in recent years, particularly in secondary schools, have exacerbated the problem.

Some of the most acute teacher shortages are in STEM subjects with STEM teacher vacancies rising for the past decade. Evidence shows that such shortages can lead to a reliance on non-specialist teachers to teach STEM subjects and a decline of students studying STEM subjects.

This submission therefore looks to make the case for greater investment in the recruitment and retention of teachers teaching STEM subjects specifically. Given government's economic and net zero ambitions, including around the industrial strategy priority growth sectors, we need many more young people to choose a career in engineering and technology, and we need the teaching workforce that will inspire them to do this.

²Despite signs of improvement show in the latest published [data on Initial Teacher Training \(ITT\) applications for courses starting in the 2025/26 academic year](#) and the reduced recruitment targets for the forthcoming academic year, due to increased recruitment and "more favourable forecasts" for teacher retention, it remains to be seen whether this trend will continue.

³ [Labour General Election Manifesto](#) (2024)



Recommendations:

- Retain Initial Teacher Training (ITT) bursaries for STEM subjects
- Implement flexible working practices
- Reverse cuts to STEM teacher CPD
- Embed increased support for teachers within the system to improve wellbeing and workload

Progress in addressing recruitment and retention issues

Data shows that the recruitment and retention of secondary school teachers is not improving.

Research shows that despite government's efforts, including through the previous administration's 2019 Teacher Recruitment Strategy and the 2022 Opportunity for All vision, the sector is still struggling to recruit and retain the teachers that it needs. Despite signs of improvement shown in the latest published data on Initial Teacher Training (ITT) applications for courses starting in the 2025/26 academic year and the reduced recruitment targets for the forthcoming academic year, due to increased recruitment and "more favourable forecasts" for teacher retention, it remains to be seen whether this trend will continue.⁴

NFER's latest Teacher Labour Market report shows that teacher recruitment targets are still not being met and that leaving rates amongst working-age teachers are persistently high⁵. NFER's report outlines that trainee recruitment for all except 5 secondary subjects was below the respective target in 2024/25, and NFER's latest forecast for 2025/26 shows only five subjects have a reasonable chance of recruiting at or above target. They also demonstrate that according to the School Workforce Census, in 2022/23 8.8% of the teaching workforce left while they were still of working age. This is the highest rate observed since 2010/11.⁶

Furthermore, government recognises that these teacher recruitment and retention challenges are further exacerbated by rising pupil numbers, particularly in secondary schools⁷. The National Audit Office's 2025 report on the teacher workforce also draws

⁴ DfE, [Initial teacher training applications for courses starting in the 2025 to 2026 academic year](#) (April 2025)

⁵ NFER, [Teacher Labour Market in England Annual Report](#) (Mar 2025)

⁶ DfE, [School Workforce Census 2010/11 - 2023/24](#)

⁷ House of Commons, [Government response to Education Committee May 2024 Teacher recruitment, training and retention report](#) (Jan 2025)



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attention to this concern and states that even if the government achieves its target to recruit 6,500 new teachers, the projected increase in secondary schools' pupil numbers is likely to outpace the Government's recruitment ambitions, leaving vacancies unfilled.⁸

Teacher shortages in STEM subjects remain particularly acute.

Although recruitment and retention issues in schools are not limited to STEM subjects, some of the subjects with the most acute shortages are STEM and STEM teacher vacancies have been rising for the past decade. In 2023/24, there were over 1,600 vacancies, compared to c.1,300 the previous year and 360 in 2010/11⁹.

In feeder subjects for engineering and technology, the most recent Department for Education data shows that only 30% of the physics teacher recruitment target was met in 2024/25, 37% of the computing target and 40% of the D&T target¹⁰. In its response to the Education Committee's May 2024 teacher recruitment, training and retention report, the government itself noted that maths, physics, and D&T recruitment targets have been missed each year for 10 years¹¹.

Looking at the recently published ITT census data on applications for ITT courses in 2025/26, we can see some signs of improvement, with accepted applications to secondary initial teacher training up 12 per cent on last year overall. This includes a 47% increase in applications for physics, a 25% increase for chemistry and 15% increase for maths.¹²

Meanwhile, due to this increase and more favourable forecasts for retention, the targets for how many trainees will be needed to meet schools' future needs are around 20 per cent lower, again with shortage subjects such as maths (down by 25 per cent), computing (down by 33 per cent) and physics (down by 37 per cent).¹³

Despite these green shoots, there is more to be done, and our research corroborates this. In our School Report: The challenge of STEM Teacher Recruitment and Retention, 30% of STEM teachers responding to our survey said that there is a current vacancy in their department.

⁸ NAO, [Teacher Workforce: secondary and further education](#), April 2025

⁹ DfE, [School workforce in England](#) (June 2024)

¹⁰ DfE, [Initial Teacher Training Census](#) (Dec 2024)

¹¹ House of Commons, [Government response to Education Committee May 2024 Teacher recruitment, training and retention report](#) (Jan 2025)

¹² DfE, [Initial teacher training applications for courses starting in the 2025 to 2026 academic year](#), May 2025

¹³ DfE, Postgraduate initial [teacher training targets](#), April 2025



Furthermore, over a third said that they either did not see themselves (19%) or did not know if they saw themselves (19%) still teaching in 5 years' time.¹⁴

Shortages can lead to a reliance on non-specialist teachers to teach STEM subjects.

In our School Report: The challenge of STEM Teacher Recruitment and Retention, the biggest reported impact of secondary school STEM teacher vacancies was students being taught by non-specialist teachers, with 81% of respondents highlighting this.¹⁵ This reliance on non-specialist teachers to teach STEM subjects is also reflected in data from the School Workforce Census in England, which shows that computing (54%), ICT (67%) and physics (72%) have some of the lowest percentage of hours taught by teachers with a relevant post-A level qualification.¹⁶ These are all below the EBacc average of 86%.

This is cause for concern. The 2023 Science Education Tracker, a representative survey of over 7,000 young people, highlights that a shortage of specialist teachers has a wide-ranging impact on young people's learning of STEM subjects. This includes impacting the ability of schools to deliver STEM subject education and, in return, pupils' motivation to learn sciences¹⁷.

Government decision-making on where to invest or intervene to address need

Considering the evidence presented above, EngineeringUK makes the following recommendations for where government should invest and/ or intervene to address need.

- **Retain Initial Teacher Training (ITT) bursaries for STEM subjects**

Research shows that financial incentives targeted at subjects facing the greatest challenges are cost-effective policy tools for improving teacher recruitment and retention alongside pay rises, since they can be targeted where action is most needed. The NFER has recently suggested that the recent secondary recruitment improvements are likely to have been the result of bursary increases in those subjects, with ITT recruitment data for 2023/24 and

¹⁴ EngineeringUK, [School Report: The challenge of STEM Recruitment and Retention](#) (2025 – to be published shortly)

¹⁵ EngineeringUK, [School Report: The challenge of STEM Recruitment and Retention](#) (2025 – to be published shortly)

¹⁶ DfE, [School workforce in England](#) (2024)

¹⁷ Royal Society and EngineeringUK, [Science Education Tracker](#) (Apr 2024)



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2024/25 showing that subjects where bursaries increased by more tended to gain a bigger boost in recruitment, while subjects with no bursary increase or a bursary cut faced little change in recruitment.¹⁸ This is supported by our survey: when asked about the impact of the bursary in becoming a teacher, around three-quarters of respondents who had received one said it had positively impacted their decision.¹⁹ We therefore recommend that government re-invest the savings from the shortfall in not meeting STEM recruitment targets on recruitment and retention – and where necessary, increasing – ITT bursaries for STEM subjects.

- **Implement flexible working practices**

We are pleased that government is committed to supporting schools to implement "the full range of flexible working practices, so that teaching offers a career which flexes as teachers lives change and develop, whilst protecting face-to-face teaching time for pupils".²⁰ It is true that teachers are seeing other professions becoming increasingly flexible and that this is not available for most teachers. Research by the Education Endowment Fund has suggested this would make an impact, but with more robust evidence required. Individual schools and groups trialling 4-day weeks or other similar approaches are seeing positive impacts.²¹

- **Reverse cuts to STEM teacher CPD**

As our survey shows, in feeder subjects for the engineering and technology sectors, like physics and D&T, young people in England are increasingly being taught by teachers without relevant post-A level qualifications.²² The impact of these shortages and specialist knowledge is being felt by pupils, who either are not offered the subjects at all or are taught by teachers unable to convey their knowledge effectively. STEM subject-specific CPD supports teachers, particularly those not teaching their specialist subject, and is a well-evidenced tool to address knowledge gaps. Analysis commissioned by Wellcome found that providing STEM-

¹⁸ NFER, [Teacher Labour Market in England Annual Report](#), (Mar 2025)

¹⁹ EngineeringUK, [School Report: The challenge of STEM Recruitment and Retention](#) (2025 – to be published shortly)

²⁰ [Teacher recruitment, training and retention: Government Response](#) pg. 6 (Jan 2025)

²¹ <https://www.outcomesfirstgroup.co.uk/blog/2024/06/27/outcomes-first-group-recognised-in-uks-best-workplaces-for-wellbeing-2024-list/>

²² EngineeringUK, [School Report: The challenge of STEM Recruitment and Retention](#) (2025 – to be published shortly)



specific CPD increases the odds of STEM teachers staying in the profession the following year by 160%.²³

- **Embed increased support for teachers within the system to improve wellbeing and workload**

Many of our survey respondents said they would be leaving the profession due to stress, lack of support and behaviour issues.²⁴ Considering this, we agree with NFER's recommendation that government should commit to producing a teacher workload reduction strategy that is fully integrated with the wider policy reform agenda.²⁵ This strategy could include pilot-testing, for example, pooled teaching resources across schools. Particular attention should be paid to exploring ways to support women in their 30s, who have been the single biggest group leaving the profession since 2017, as found by research by The New Britain Project.²⁶ The research found that workload remains the most influential reason women in their thirties leave the teaching profession and that those citing mental health concerns as a reason has increased from 2018 to 2024.

The workforce required in secondary and further education

As is widely recognised, the engineering and technology labour market is already exhibiting signs of skills shortages, with this having an impact on productivity and economic growth. It has, for example, been reported that nearly half of manufacturers (49%) cite shortage of labour as a factor likely to limit output.²⁷ In addition, research published by EngineeringUK shows that engineering vacancies account for one in four job adverts (25%) despite comprising one in five overall jobs (19%), with green engineering jobs driving this demand (adverts for green engineering jobs have risen by 55% in the last five years).²⁸ In fact, the Climate Change Committee estimates that the Net Zero transition could create up to an additional 725,000 jobs by 2030 in low-carbon sectors, many of which will be in engineering and tech.²⁹

²³ Wellcome Trust, '[Solving the STEM shortage: CPD improves science teacher retention](#)' (Sep 2017)

²⁴ EngineeringUK, [School Report: The challenge of STEM Recruitment and Retention](#) (2025 – to be published shortly)

²⁵ NFER, [Teacher Labour Market in England Annual Report](#), (Mar 2025)

²⁶ The New Britain Project, [Missing Mothers](#) (Aug 2024)

²⁷ CBI, [Employment Trends Survey](#) (2022)

²⁸ EngineeringUK, [Engineering skills needs – now and into the future](#) (May 2023)

²⁹ Climate Change Committee, [A Net Zero Workforce](#) (2023).



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Given the centrality of engineering and technology skills to the net zero transition and linked to economic growth, ensuring a steady flow of new engineering talent must undoubtedly be a priority for this government. The education system must have a teaching workforce able to deliver an updated curriculum and to encourage and enable young people to enter a sector that is vital to the UK economy alongside those in need of reskilling and upskilling.

- **Sufficient funding to implement the changes recommended by the Curriculum and Assessment Review**

The government is currently undertaking a curriculum review which will be concluded over the coming months. This review is likely to lead to changes in the way young people are being taught at schools. It is not yet clear how far-reaching these changes will be. However, any modifications in teaching hours, materials, assessments, or focus will bring with them some additional costs. It is vital that these changes are fully funded and that there is sufficient funding to cover any additional teaching hours. Moreover, there must be sufficient and good quality continuous professional development is being funded to support teachers with these changes.

Contact:

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Our CEO, Dr Hilary Leever, would be delighted to brief the Committee on our work.