

Skills for the future: apprenticeships and training – House of Lords Industry and Regulators Committee call for evidence.

About the Institution of Engineering and Technology (IET)

The IET is a trusted adviser of independent, impartial evidence-based engineering and technology expertise. We are a registered charity and one of the world's leading professional societies for the engineering and technology community with over 155,000 members worldwide in 148 countries. Our strength is in working collaboratively with government, industry and academia to engineer solutions for our greatest societal challenges. We believe that professional guidance, especially in highly technological areas, is critical to good policy making. The IET is also an independent assessor for apprenticeships and as such contributes to maintaining a high standard in apprenticeships.

For further details on the evidence submitted, please contact policy@theiet.org

Executive Summary

The UK's apprenticeship scheme and training capabilities are integral to the future of the engineering and technology sectors. Fostering agility, flexibility and allowing employers to upskill and reskill will enable the UK to keep pace with the everchanging technological landscape and better prepare for the skills required for the future.

Recommendations:

- Reform the apprenticeship levy to allow for unused funds to be utilised in establishing an agile skills funding pot, which is accessible for upskilling in areas of technological skill deficit.
- Sustained support and commitment to adoption of emerging technologies.
- Targeted support for small to medium enterprises (SME's), for example, reintroduce a £1,000 financial incentive for SMEs offering placements.
- Better promotion of T-Level and apprenticeship routes in schools and colleges.
- Encourage education and industrial collaboration to enable a more seamless transition from education to industry.
- Reform the school curriculum to incorporate Science, Technology, Engineering and Maths (STEM) lessons from primary education onwards. This includes replacing the English Baccalaureate (EBacc) and Progress 8 measures to improve technical/ vocational subjects in school accountability measures.
- Early and insightful careers advice play a vital role in guiding students towards fulfilling educational and career trajectories.
- Maintain end-point assessments for apprenticeships to ensure a high standard and maintain the reputation of apprenticeships. Alternatively introduce assessments earlier in the apprenticeship to allow for a consistently high standard that also reduces burden on apprentices and employers.

Questions

- 1. What kinds of skills do you think will be needed for the future of the UK economy? Is the UK's skills and training system capable of equipping increasing numbers of people with these skills?**

The UK is facing a skill shortage. It is estimated there is a shortfall of over 173,000 workers in the STEM sector: (source: STEM Learning). We need more engineers, and this can only be achieved by ensuring young people experience a wide range of opportunities and experiences of what a career in engineering could be.

However, organisations also need to be agile enough to adapt to the everchanging engineering and technological landscape by harnessing the potential of new technology to remain innovative and competitive.

There is concern that a digital skills gap may be holding back the UK economy. Among those employers reporting a digital skills gap in their technical workforce, 49% say it harms productivity, 35% say it restricts growth, 35% say it harms innovation and 29% say it reduces their ability to deliver contracts. (Source: [the IET](#)).

We need to bridge the skills gap in emerging technologies, for example, artificial intelligence, extended reality and quantum engineering/computing are just some of the technologies that will be important to remain innovative and competitive in the future. With 31% of employers saying that artificial intelligence/machine learning will be important to sector growth it is concerning that 50% of these employers say they don't have the necessary skills in this area. (Source: [the IET](#)).

Three-quarters of employers say their engineering/technical staff can apply existing skillsets to new situations and would be able to adapt to new technologies. Coinciding with this, data shows that 87% of employers arrange or fund some form of training for their staff. The most common forms of training are on-the job (70%), inhouse programmes (51%), online learning (51%), and formal qualifications (51%). Findings show that 44% of engineering employers give their employees digital skills training. However, large employers (58%) are more than twice as likely as SMEs (27%) to give their employees digital skills training. (Source: [the IET](#)).

To bridge the skills gap, we recommend:

- **Funding for upskilling and reskilling**, for example using the unspent apprenticeship levy. Funding should be more flexible for employers to use where they need it most.
- **Sustained support for skills in emerging tech**, training should not be seen as short term but as an investment in the future. Training takes time and there are key areas identified that companies think they will need skills for in the future.
- **Targeted support for SMEs**, who may find it more challenging to provide training to their employees.
- **Embed engineering into the curriculum** and starting the exposure to future skills education/ careers earlier as opposed to post-16 education.

2. Is it clear to everyone involved in the skills system what the respective roles of the Government, employers, individuals and institutions are within that system?

The apprenticeship system can often be seen as complex, therefore making it as clear as possible for employers to engage will help with take up. Young people considering an apprenticeship also need clear careers guidance and inspiration about opportunities available from an early age.

3. What is the appropriate level of government intervention in the development of skills policies? How can government best add value in this area?

We support the government's focus on investment to ensure the UK remains a world leader in technology and recognise that the science and technology framework provides a strong foundation for growth across 5 key technologies.

Despite this there are small but impactful amendments to current policy that will improve the current strategy. The UK requires a highly skilled workforce – and the apprenticeship scheme is a valuable way of developing engineers and technology professionals. However, restrictions around the use of the Levy, limits the potential of UK businesses. We recommend small but significant changes to the Apprenticeship Levy that makes it more flexible for employers and allows its use for reskilling and upskilling the engineering and technology workforce. This will reduce chronic skills shortages, enhance business international competitiveness, and lead to further UK economic prosperity.

Upskilling and reskilling employees is critical to close the shortage in technical skills, and drive innovation that creates sustained competitive advantage. In recent IET research 58% of employers report that upskilling and reskilling employees would have the biggest impact in addressing their skills shortages. (Source: [the IET](#)). Repurposing unused apprenticeship funds will allow employers to upskill and reskill more flexibly to suit their needs and enhance business international competitiveness.

Unused funds could train up to 280,000 extra workers in cutting edge skills that the UK is currently lacking. It would reduce the current 173,000 shortage of skilled engineers, which is holding back UK growth and prosperity. 45% of engineering employers say there should be more flexibility to re-allocate unspent money. Repurposing funds to upskill and reskill employees in areas of critical skills deficit would have a major beneficial impact for UK businesses. It would boost the UK economy by over £1380m. (Source: [the IET](#)).

As well as reforming the apprenticeship levy, we recommend that the government should also adapt the national curriculum to incorporate the teaching of engineering in primary and secondary levels of education.

IET research shows 70% of parents believe primary and secondary education does not teach children about the real-life application of the subjects they learn about. 69% of parents say it's essential primary school children are exposed to engineering and technology at an early age to spark interest in these fields. Almost half of parents (47%) agree that engineering and technology should be a compulsory core subject at GCSE. This should be combined with early and insightful careers advice play a vital role in guiding children to think about a possible career in engineering and technology to futureproof the next generation of engineers and technologists.

Furthermore, despite a need to reduce the complexity and burden for employers, it is imperative that any changes to apprenticeships do not compromise the quality and standards of the current schemes. It is important to maintain end-point assessments for apprenticeships to ensure a high standard and maintain the reputation of apprenticeships.

4. Are current Government policies on skills, particularly apprenticeships and training, sufficiently clear? Have policies and the institutional set-up been sufficiently consistent over time? If not, what changes or reforms would you recommend?

Apprenticeships could be made clearer to both employers and apprentices. Engineering-related apprenticeship starts in England are still 9% lower than in 2014/15 (Source: [EngineeringUK](#)). There should be better promotion of T-Level and apprenticeship routes in schools and colleges.

5. Are the right institutions in place to ensure an effective skills system for the future? Should co-ordinating institutions be national, regional or sectoral, or a mixture of each?

See answer to question 3.

6. Concerns have been raised over the operation of the Apprenticeship Levy, particularly in relation to the decline in young people taking on apprenticeships. Is there a case for reforming the levy, for example by ring-fencing more levy funding for training for younger apprentices?

See answer to question 3.

7. What should the role of business be in encouraging the development of skills in the UK? Should business be a consumer, funder, trainer or co-designer of skills provision?

It is essential that industry is brought into the skills discussion early on. In our International green skills survey 2023 (Source: [The IET](#)), most countries surveyed feel that their education system prepares young people well to enter the workforce, however the UK was the exception to this. Closer collaboration between academia and industry is seen as key to ensuring more high-quality engineering and technology candidates for industry with the right skills at the right time. There is a well-known shortage of industry placements across the UK due to the current T-Level provisions, this depends on college and school location with local industries. Addressing this shortage requires engaging a significant number of employers, including SMEs, to appreciate the value of these placements to their business and to the wider community.

We recommend that there is an increase in the number of hours that a placement can take place in a simulated work environment and work with relevant partners in the engineering, manufacturing and technology industries to make the most of existing T Level resources and develop templates that can be used across the sector.

8. In a more mobile, flexible labour market, what incentives do employers have to provide training for their employees? Why do you think that employer investment in training has declined in recent decades?

See response to question 7.

9. Should further incentives be put in place to reverse the decline in employer investment in training, and if so, what form should these incentives take?

See response to question 7.

10. What incentives do individuals have to involve themselves in apprenticeships and training? Is the system available and attractive enough to encourage individuals to seek training, and if not, what can be done to improve this?

The government should play a role in increasing diversity throughout engineering careers and the education pipeline.

A survey carried out showed that engineering careers are seen as creative and versatile by most school students and over half young people believe they could become an engineer if they wanted to. However, for those not interested in a STEM career, girls are more likely than boys to say this is because they don't enjoy the subjects (57% vs 41%) and that they don't feel they are good at them (38% vs 20%). Furthermore, only 12% of girls say being an engineer fits well with who they are compared to 38% of boys. Only 16% of girls think a

career in engineering is suitable for someone like them, this is up at 44% of boys. (Source: by the [Royal Society and EngineeringUK, supported by Wellcome](#)).

11. How does the UK's approach to skills and training compare to those of other countries? Are there examples of good practice that the UK should be learning from?

International studies (Source: [The IET](#)) confirm that the UK is falling behind in key areas of education and skills. A key approach employed by many of these countries is embedding clarity in their technical education systems – for students, providers and employers – all clearly communicated, with lines of sight to employment and progression opportunities available throughout. This strong understanding of the expectations of and opportunities for all parties has helped to build the reputations of these systems as leaders in technical education.

But that is only part of the solution. Employers in the UK who need to address skills gaps are more likely to favour upskilling/reskilling than some other nations, including: USA (41%) and Germany (27%). The UK is most likely to offer conventional forms of training, such as: on the job training (66%), in house development (46%) and formal qualifications (42%), however we are least likely to offer training in: new technologies (15%) and manufacturing (9%). (Source: [The IET](#)).

Furthermore, to achieve sustained economic and business growth, it is recognised that the UK needs to increase its business productivity, which currently lags significantly behind other G7 countries such as the US, Germany and France. (Source: [House of commons library](#)). A lack of skills a key factor that has been reported by employers in our Digital Skills Survey as a factor in preventing greater productivity.