

Delivering STEM skills for the economy

Summary

[‘Delivering STEM skills for the economy’](#) is a thorough report by the Public Accounts Committee (PAC), highlighting their concerns around the current and future success of STEM skills delivery. The report concludes that both the Department for Education (DfE) and Business, Energy & Industrial Strategy (BEIS) have insufficient knowledge about which skills are in demand, that the current delivery mechanism isn’t working and that with Brexit on the horizon, they haven’t got their eye on the ball with what the UK labour market really needs.

Importantly for Energy & Utility Skills, the report draws upon key themes identified in our Workforce and Renewal Skills Strategy, such as gender imbalances in STEM, poor apprenticeship provision, the quality of careers advice and last but not least, vocational qualification attractiveness being held back by school funding formulas. In addition, there is the importance of keeping the UK picture in focus, while drawing upon the skills needs of local and regional economies. This is incredibly important for an overwhelmingly transnational sector, who continue to face barriers based on non-unified skills policy. The core findings to note are summarised below:

Key findings

- 1. PAC state BEIS and DfE do not currently have sufficient understanding of what specific skills businesses really need or how Brexit will affect the already difficult task of ensuring the supply of STEM skills in the workforce.**

The report highlights that with no universal definition of a STEM subject or job, Government continues to struggle to understand what skills are needed to support industry and consistently lags behind technological and market advances. The committee criticises the department’s speed and lack of urgency in dealing with these issues, for example, the DfE aren’t releasing their Employer Skills Survey results until the summer and BEIS have policy decisions on hold until the Migration Advisory Committee (MAC) Report comes out.

The committee is also concerned about the ability to deliver major infrastructure projects. While their concerns are particularly around the public sector pay gap and ability to recruit workers from abroad, there is an opportunity for the sector to engage and highlight the importance of skills gaps in our sector contributing towards this growing issue.

PAC recommendation: Following publication of the Migration Advisory Committee report in September 2018, BEIS and DfE should, within six months, set out the further steps they will take to ensure that STEM skills shortages are addressed.

2. PAC remain to be convinced that the proposed Skills Advisory Panels will properly understand UK and global skills issues.

The committee take Energy & Utility Skills' view that a UK picture is crucial to addressing UK labour market needs, as while local approaches have benefits – they miss out on the overall skills scene, particularly for transnational sectors like Energy and Utilities. The report questions the effectiveness of Skills Advisory Panels (SAPs), which were announced in the Industrial Strategy to work with Local Enterprise Partnerships (LEPs) on regional and local skills needs. While PAC has previously shown concerns over the mixed quality of LEPs, they are also concerned that SAPs will not be sufficiently aware of national and global skills supply issues to carry out their responsibilities effectively.

PAC recommendation: DfE should set out what specific steps it will take to ensure that SAPs are sufficiently aware of national and global skills supply issues to be fully effective.

3. PAC are concerned that government STEM boards and working groups do not include enough practical industry or commercial experience to spot key problems and deliver effective solutions

The report recognises that the UK Government are taking some proactive steps in addressing the long-standing lack of coordination on STEM, such as by setting up the cross-government STEM group and internal STEM board. However, these are generally staffed by 'policy experts' and DfE is unaware of who on the group has any practical experience of industry. These gaps in knowledge stop these groups and boards being responsible to the changing needs of employers. There is an opportunity here for Energy & Utility Skills to provide insights and solutions from internal experts, as well as employer experts through the Energy & Utility Skills Partnership on the critical skills challenges in the sectors.

PAC recommendation: By summer 2018, the departments should review the membership of all STEM boards and working groups, and address any shortfalls in expertise – for example, in industry knowledge or experience in STEM learning and work.

4. PAC conclude that DfE does not know whether people given financial incentives to undertake teacher training are remaining in the profession.

The committee have previously raised concerns about the success of financial incentives to encourage individuals to teach STEM in 2016. DfE as a result examined and reported in April this year on its impact on the number of applications for teacher training omitting, however the number of applicants completing training and qualifying – raising concerns about the true success of incentives.

PAC recommendation: DfE must identify as soon as possible whether financial incentives for teacher training have delivered value for money, and report its findings to the Committee as promised.

5. The DfE are making insufficient progress in addressing the gender imbalance in many areas of STEM learning and work, which is particularly troubling given the Committee's previous concerns.

Flagging gender imbalance to DfE is not new for the committee, who suggested back in 2016 that the department should put in performance measures. While they have put in measures for ethnic minority apprentices and those with learning disabilities, they haven't for women. The DfE defended this move by stating that 50% of apprenticeship starts were by women, however only 8% of these today is in STEM.

PAC recommendation: By the end of 2018, the departments should establish, and start to monitor progress against, specific targets relating to the involvement of girls and women in key STEM learning programmes such as apprenticeships.

6. PAC are concerned about the quality of careers advice in our schools and colleges.

The report acknowledges the disappointing truth that many young people perceive STEM subjects to be too challenging, therefore concluding STEM related careers are simply not for them. No matter how much Government attempt to boost STEM skills in the work place, it won't happen if these perceptions continue. The Careers & Enterprise Company has been assigned a task to focus on producing STEM toolkits for schools. However, it is hard to measure or hold schools to account when Ofsted does not give them an explicit rating in their inspections indicating the quality of careers advice.

PAC recommendation: DfE should make better use of career destinations and salaries to incentivise young people to work towards careers in particular STEM sectors where

there is higher need. As part of its plan to improve the quality of careers advice, DfE should work with Ofsted to consider rating the quality of advice provided in schools.

7. The current education funding model will make it difficult for new types of learning institutions, such as Institutes of Technology (IoT), to establish themselves.

The committee highlights the uncomfortable fact that as schools are funded per pupil, there is a clear financial incentive to retain their existing students, rather than encourage them to pursue vocational qualifications at other institutions such as IoT. This is not helped by the fact that an overwhelming majority of parents and peers tend to see academic learning as inherently superior. Meaning the drive of individuals to study a vocational or STEM subject can be held back. University Technology Colleges (UTCs) are a prime example of this, while they've been in existence since 2010, they've struggled to get off the ground and attract enough students to be financially viable. This is incredibly disappointing and is a real missed opportunity for sectors, such as the Energy and Utility sector, which is experiencing further skills gaps every day.

PAC recommendation: As a matter of urgency, DfE needs to develop a clearer plan for how new types of learning institution, such as the Institutes of Technology, will attract the numbers of students they need to be viable.

8. The Government have allowed poor quality provision – especially in apprenticeships – to continue for too long without being addressed.

Historically, many old-style apprenticeship frameworks have been inadequately delivered and poorly designed, with many complaints that a significant proportion of the programmes of learning did not constitute 'real apprenticeships'. Now DfE is introducing new employer-designed standards in the hope of being more relevant and providing a higher quality of learning for apprentices. It's vital that good monitoring systems are in place to ensure quality. Ofsted will play a key role here but there is still a lack of clarity on how DfE will identify poor quality provision and take action in a timely manner.

PAC recommendation: DfE should ensure it has effective monitoring systems in place to identify poor quality apprenticeship programmes and provision that are not fit-for-purpose, and the action it will take in each case.

Implications & next steps

- Create opportunity to engage in STEM board

- Keep a watchful eye on BEIS and DfE's response to the report on STEM action plans
- Voice support for the recommendations, particularly 1 -3 and 5

Contact [Sophia Haywood](#), Policy & Stakeholder Manger for more information.