

## EngineeringUK response

### Diversity in STEM – Science and Technology Committee

January 2022

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#### About EngineeringUK

[EngineeringUK](#) is a not-for-profit organisation, which works in partnership with the engineering community to inform and inspire young people and grow the number and diversity of tomorrow's engineers. We produce a range of research reports exploring educational pathways into engineering and barriers to participation. Our flagship publication [Engineering UK: The state of engineering](#), is a detailed examination of engineering's economic contribution and the composition of its workforce, as well as the extent to which the supply, through education and training pathways, is likely to meet future demand for engineering skills. We have a strong interest in increasing diversity and inclusion within the engineering sector and seek to use our research to help inform wider policy debate. For example, our publication [social mobility and engineering](#) delves into a range of topics including educational attainment, 'science capital', careers advice and the lack of appropriate monitoring data.

#### Key points

Increasing the diversity of the STEM and specifically engineering workforce is complex and there are many reasons why women, those from lower socio-economic backgrounds, different ethnic backgrounds and disabled people are under-represented in the STEM sector. These range from non-inclusive working and recruitment practices to disparities in for example attitudes to careers in engineering, differing levels of social and science capital and differences in educational attainment.

At EngineeringUK we focus on particular aspects of this journey to the greater diversification of the engineering sector. We take a particular interest in the attitudes to engineering as a profession by young people from groups under-represented in the engineering industry and we look at the educational routes into engineering and what more needs to be done to ensure that they are available to young people from all backgrounds.

In light of this we would like to see the following changes and activities:

1. Additional funding in the region of £40 million annually to support careers activities in schools and colleges.
2. Careers hubs much more rapidly expanded than currently planned to cover all secondary schools in England by mid-2022 and a dedicated STEM leader in each careers hub.
3. Careers embedded into the subject content of the STEM curriculum ensuring that it highlights the diverse range of roles and people in science and engineering.
4. The STEM and in particular engineering community promoting engineering as an industry that requires people with a wide breadth of skills and offers a diverse range of careers and highlight the relevance of engineering in relation to issues that are of importance to young people such as environmental sustainability.
5. More programmes and activities aimed at the groups currently under-represented in the engineering profession.

6. More programmes aimed at providing parents with accurate and detailed careers information through, for example, affordable and accessible STEM activities that parents can participate in with their child.

## Consultation response

Throughout our response our focus is on engineering as a sub-sector of STEM. However, we at times, particularly in relation to education, refer to STEM subjects more widely.

### 1. The nature or extent to which women, ethnic minorities, people with disabilities and those from disadvantaged socioeconomic backgrounds are underrepresented in STEM in academia and industry.

#### Women in STEM

Women are under-represented in STEM at all levels with this disparity starting in school and continuing into employment. Women in higher education remain under-represented in many STEM subjects, most notably in engineering (where they comprise 10% of students studying the subject) and computing (20%) – but also design and technology (39%) and ICT (39%).<sup>1</sup> Women are also grossly under-represented in engineering apprenticeships. While the percentage of engineering and manufacturing apprentices that are female increased from 8.5% to 9.6% of all engineering and manufacturing apprentices between 2018/2019 and 2019/2020, the number of female engineering and manufacturing apprentices has slightly fallen from a very low 4,740 in 2018/2019 to an even lower number of 4,580 in 2019/ 2020.<sup>2</sup> In recent data we see that the number of applications for engineering and technology courses from UK domiciled applicants has risen overall to almost 120,500 in January 2021 (up by 9% in 2019). However, in terms of gender the large majority of these applications continue to be by men. For example, 83% of men, compared to only 17% of women, applied to engineering and technology courses in January 2021.

From our extensive analysis of Labour Force Survey data, we know that as of mid-2021 just 16% of those working in core and related engineering occupations<sup>3</sup> were women compared with 47% of the overall UK workforce. This proportion is even lower when considering only those working in engineering occupations within the engineering sector where it stands at 10%. Furthermore, only 14% of production managers and directors in manufacturing, construction, mining and energy, and IT and telecoms and 2% of those working in engineering occupations within the skilled trades were women. In contrast, 23% of engineers working outside of the sector were women, suggesting that industries not traditionally associated with engineering – such as health, arts, entertainment and recreation – are more successful in attracting female engineers into the workforce.

#### Socio-economic representation in STEM

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<sup>1</sup> <https://www.engineeringuk.com/media/1691/gender-disparity-in-engineering.pdf>

<sup>2</sup> <https://www.gov.uk/government/statistical-data-sets/fe-data-library-apprenticeships>

<sup>3</sup> Figures based on analysis of the Labour Force Survey Q3 2020 – Q2 2021. By ‘engineering occupations’, we mean those within the ‘occupational engineering footprint’ – that is, the occupations from the Standard Occupational Classification (SOC) that meet criteria agreed by EngineeringUK, the Royal Academy of Engineering, and the Engineering Council to constitute engineering. Occupations within the footprint have further been categorised into ‘core’ and ‘related’ engineering. For more information, please visit: [https://www.engineeringuk.com/media/1572/engineering\\_uk\\_2018\\_annex.pdf](https://www.engineeringuk.com/media/1572/engineering_uk_2018_annex.pdf)

EngineeringUK analysis<sup>4</sup> shows that just 24% of those working in engineering come from lower socio-economic backgrounds. It is also apparent that social class plays a part in progression within the engineering workforce, even after controlling for the effect of highest qualifications (that is, all being equal with regard to qualifications). We found that among those working in engineering occupations, people from higher socio-economic backgrounds were almost 4 times more likely to work in an intermediate, managerial or professional role by age 30 to 39 than those from a lower socio-economic background, with differences between these groups being apparent even after accounting for the effects of their highest qualification. This suggests that over and above inequalities in educational attainment, there are other factors at play preventing those from lower-socio-economic backgrounds getting ahead. The effect of social class on engineers' employment outcomes varied with other characteristics, with it being even larger for women and those from a BME (black and minority ethnic) background.

Similarly to women, the under-representation of people from lower socio-economic background studying engineering and technology is stark - just 1 in 10 engineering and technology first year undergraduates come from the most disadvantaged POLAR4 quintile.

### **Ethnicity and STEM**

Overall, students from an ethnic minority background are more likely to study STEM in school and at HE, though this is not necessarily the case for all ethnic minority groups. While Indian, Pakistani and 'other ethnicity' students are more likely to study STEM A levels than students from other ethnicities, Black African and Caribbean students have particularly low levels of uptake.

Nevertheless, people from black and minority ethnic backgrounds remain underrepresented in the engineering workforce, with just 10% of those in engineering occupations being of minority ethnic heritage compared with 13% of the total labour force.

Our analysis of graduate destinations data suggests that some of this may be due to issues at the point of recruitment, with employment outcomes 6 months after graduating markedly better for White graduates than ethnic minority graduates. Among full time UK domiciled engineering and technology leavers who graduated in 2016, nearly two-thirds (65.6%) of White graduates had secured full-time employment 6 months after graduating, compared with less than half (48.6%) of minority ethnic graduates.<sup>5</sup>

People from minority ethnic backgrounds also remain severely underrepresented in engineering-related apprenticeships. In 2020/ 2021 those from minority ethnic backgrounds made up 6% of starts in construction and 10% in engineering and manufacturing, while being over-represented in ICT, on with 22% of starts being from a minority ethnic background.<sup>6</sup>

## **2. The reasons why these groups are underrepresented in the STEM sector.**

There are many reasons why women, people from ethnic minorities, disabled people and those from lower socio-economic backgrounds are under-represented either in the engineering profession altogether or at certain levels of the engineering sector and they vary depending on what group we focus on. These range from non-inclusive working and recruitment practices to disparities in for

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<sup>4</sup> <https://www.engineeringuk.com/media/1762/social-mobility-in-engineering.pdf>

<sup>5</sup> <https://www.engineeringuk.com/media/232298/engineering-uk-report-2020.pdf>

<sup>6</sup> [Create your own tables, Table Tool – Explore education statistics – GOV.UK \(explore-education-statistics.service.gov.uk\)](https://www.gov.uk/guidance/create-your-own-tables-table-tool)

example attitudes to careers in engineering, differing levels of social and science capital and differences in educational attainment.

At EngineeringUK we focus on particular aspects of this journey to the greater diversification of the engineering sector. We take a particular interest in the attitudes to engineering as a profession by certain groups of young people and we look at the educational routes into engineering and what more needs to be done to ensure that they are available to young people across the board. From our research, as well as that of others, we can see that the issues in relation to diversity in STEM often start early in a young person's life with not only differences in educational attainment and science capital, but also differences in attitudes to a career in engineering.

We know that for example, young people from lower socio-economic backgrounds generally perform less well in STEM subjects compared to young people from more affluent backgrounds. Our briefing on social mobility highlighted that 44% of pupils eligible for free school meals (FSM) achieve an A\*-C grade GCSE in maths compared with 71% of non-FSM pupils; the respective figures for physics are 8% compared with 23%. In A level Maths, 54% of those eligible for FSM in school achieve an A\*-B grade, compared with 66% of those who were not eligible. The corresponding figures for physics are 39% and 52%. Furthermore, just 1 in 10 engineering and technology first year undergraduates come from the most disadvantaged POLAR4 quintile<sup>7</sup>.

On the other hand, as highlighted earlier, students from an ethnic minority background are more likely to study STEM in school and at HE, though this is not necessarily the case for all ethnic minority groups. And while the proliferation of students from different ethnic backgrounds entering into the UK HE system is a positive trend, research shows there is a large difference in how they experience HE in terms of retention, outcomes and progression. For example, of those qualifying from first degree engineering and technology courses in 2018 to 2019, 83.5% of White students achieved a first or upper second class degree, compared with 73.7% of students from minority ethnic backgrounds.<sup>8</sup>

In addition to the differences in educational attainment for some groups of young people, which undoubtedly impact on these young people's access to some engineering careers, we also observe very different attitudes to engineering as a career as well as levels of knowledge among different groups of young people. Our forthcoming Engineering Brand Monitor (EBM) Young People and Parent report<sup>9</sup> puts a spotlight on these differences, which have an impact on which young people go into the engineering sector and therefore the diversity of it. Outlined below is an overview of its findings.

## Gender

Our report shows that boys provided consistently more positive responses than girls when asked about their knowledge, image, idea of 'fit', and overall interest in engineering. This is an enduring trend, and previous iterations of the EBM have found similar gender differences in responses.

Boys were more likely to say they know what engineers can do in their jobs, to have a positive overall image of engineering, to say that being an engineer fits with who they are, and that they were interested in a career in engineering.

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<sup>7</sup> <https://www.engineeringuk.com/media/1762/social-mobility-in-engineering.pdf>

<sup>8</sup> <https://www.engineeringuk.com/media/232298/engineering-uk-report-2020.pdf>

<sup>9</sup> Engineering Brand Monitor - forthcoming publication.

- A significantly higher proportion of boys said they knew about the different types of things engineers can do than girls (61% compared to 48%).
- Boys had a more positive image of engineering than girls.
- A much higher proportion of boys said being an engineer fits well with who they are (53%) compared to girls (35%)
- While nearly two-thirds of boys said they were interested in a career in engineering (63%), just two in five girls said the same (39%).

There were also substantial gender differences in enjoyment and perception of ability in science and maths subjects at school, with boys more likely to say they enjoyed and thought they were good at maths and sciences, and girls more likely to say they enjoyed and thought they were good at English.

- 54% of girls said they enjoyed maths and 60% enjoyed science, compared to 68% of boys (for both maths and science). In contrast, 68% of girls said they enjoyed English compared to 59% of boys.
- 61% of girls said they were good at maths and 57% said they were good at science, compared to 71% and 65% of boys. 77% of girls said they were good at English, compared to 65% of boys.

### Ethnicity

Our research found that white young people, on average, had the lowest knowledge of engineering careers, least positive image of engineering, were least likely to say that being an engineer 'fits' with who they are, or were least likely to say they were interested in a career in engineering. On the other side of the scale, Asian young people had the most positive perceptions and aspirations relating to engineering across all outcomes.

- Two-thirds of Asian young people (67%) said they knew about the different types of things engineers can do, compared with just 54% of white young people and less than half of young people from mixed or multiple ethnic groups (49%).
- Young people from all ethnic backgrounds, except white young people, had a more positive image of engineering than average.
- Relatively low proportions of white young people said they think being an engineer fits well with who they are (43%), compared with relatively high proportions of Asian young people (52%). For white young people, there were substantial differences in proportions of girls and boys reporting fit with engineering careers, however, for young people from ethnic minority backgrounds there were no gender differences in perceptions of 'fit.'
- Half, or over half, of young people from all ethnic groups said they were interested in a career in engineering, but this was lowest among white young people and those from mixed or multiple ethnic groups (51% and 50%) and highest among Asian young people (67%).

### Socio-economic background

Our research shows that young people from more affluent backgrounds were more likely to say that they know what engineers can do in their jobs, had a positive image of engineering, said that they 'fit' with being an engineer and that they are interested in a career in engineering than young people

from lower socio-economic backgrounds. Young people whose parents were both highly educated<sup>10</sup> and had a higher income had the most positive responses.

- 69% of young people with parents who have a higher income and are more highly educated said they know what engineers do, compared to 48% of young people whose parents had lower income and education levels.
- Young people whose parents had higher income and education (eg degree) had the most positive image of engineering, and young people whose parents did not have a degree and had low income had the least positive image of engineering. Young people whose parents had higher income and education had a more positive image of engineering than 62% of their peers, and young people whose parents had lower income and level of education had a less positive image of engineering than 58% of their peers.
- Fewer young people from lower socio-economic backgrounds said that being an engineer would fit well with who they are (37%) than those from more advantaged backgrounds (59%).
- 65% of young people from a higher income and level of education family said they were interested in a career in engineering, compared to 43% of young people from a lower income and level of education family.

These insights into who has aspirations to go into an engineering career and the knowledge about what such careers entails, highlight that in addition to educational disparities, attitudes to and knowledge of engineering careers need to be addressed in order to support and enable more young people from groups currently under-represented in the engineering sector to be able to and wanting to become engineers, particularly women and young people from lower socio-economic groups.

### **3. The implications of these groups being underrepresented in STEM roles in academia and industry**

The lack of diversity in STEM and in engineering more specifically not only has financial drawbacks, with research suggesting that bridging the UK gender gap in all areas of work has the potential to add £150bn to GDP forecasts by 2025<sup>11</sup>, it also has implications on the diversity of thought in the STEM and in particular engineering sector, which is so vital for innovation. Furthermore, the UK has a long-standing engineering skills shortage which is unlikely to get less acute in light of the developments around net zero and the demand for engineering skills to help solve the problems of the future.

In 2018, we calculated the annual demand for 124,000 engineers and technicians with core engineering skills across the economy, alongside an additional requirement for 79,000 'related' roles requiring a mixed application of engineering knowledge and skill alongside other skill sets. Since then, there has been a marked push toward digital (fuelled in part by the pandemic) and green transitions (fuelled in part by the government's net zero strategy and recent commitments made at COP26). Our analysis of the latest ONS Business Insights and Conditions survey (Oct 2021) shows that engineering-related industries such as manufacturing, construction, and transportation and storage are more likely than across the economy overall to (a) report a shortage of workers than across the economy overall and (b) perceive vacancies to be more difficult to fill than the year before.

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<sup>10</sup> Parents with a degree or higher qualification and a household income of above £40k/yr.

<sup>11</sup> McKinsey Global Institute (September 2016), The power of parity: advancing women's equality in the United Kingdom

We therefore are likely to need more engineers than ever, and without more young people from a range of backgrounds entering the engineering sector the pressure on the skills pipeline is only likely to increase, leaving the UK with an ongoing talent and skills shortage, which in turn impacts on businesses and government's ability to tackle the issues of our times.

On a more societal level, the reality of certain groups being under-represented in STEM roles in industry and academia has implications on opportunities for social mobility and levelling up across the country and its population. In its report from February 2021, the Women and Equalities Committee for example highlighted the need for tackling gender inequalities in the traditionally male dominated STEM industries, which are currently a focus of government investment, in order to ensure that women do not lose out in the post-Covid recovery.<sup>12</sup>

#### 4. What has been done to address underrepresentation of particular groups in STEM roles?

As our response highlights, there are a number of reasons why certain groups of people are under-represented in the STEM sector and recruitment practices are one of the reasons. While a lot of work has been done in this area, EngineeringUK is best placed to discuss what is being done to inspire a more diverse talent pool through outreach with young people. EngineeringUK runs a range of STEM engagement programmes which reach a high proportion of young people from groups who are under-represented in engineering. We do this by targeting schools with high proportions of young people from eligible for Free School Meals, from ethnic minority backgrounds and with Special Educational Needs and Disabilities – using our [EDI Criteria](#).

We also work with engineering companies and schools to improve the access and quality of outreach activities.

##### Big Bang

The Big Bang programme encompasses a number of different projects including the Big Bang competition, Big Bang at school and the Big Bang fair.

**The Big Bang Competition** recognises and rewards young people's science and engineering project work and identifies the UK Young Engineer(s) and UK Young Scientist(s) of the Year. Recipients may be individuals or small project groups.

**Big Bang at School** supports teachers to bring some Big Bang magic to their school and host an inspiring STEM day filled with amazing new activities.

**The Big Bang Fair** is the UK's biggest STEM event for young people and is normally held at the NEC in Birmingham. Visitors get the opportunity to hear first-hand from exciting scientists and engineers and connect with inspiring career role models. This year the event will be in a hybrid format and will take over 3 days at the NEC in Birmingham, from 22-24 June.

##### Robotics Challenge

The Robotics Challenge is a curriculum-linked, year-long programme that helps improve the perception of engineering among both girls and boys. The Robotics Challenge gets students aged 11 to 14 working together in teams to solve real-world engineering, technology and computing

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<sup>12</sup> <https://committees.parliament.uk/publications/4597/documents/46478/default/>



challenges. Facilitated by their teachers, students learn how to design, build and control robots to complete a series of challenges and develop and present short research projects into a contemporary engineering problem

### Energy Quest

Energy Quest is a curriculum-linked programme for schools which encourages young people to find out all about sustainable energy and learn about associated engineering careers. Energy Quest is targeted at students aged 11 to 14 and is designed to unlock their inner engineer as they explore sustainable energy sources. The programme is designed to be inclusive and to make the workshop content accessible and young people played a key role in developing the content of the workshop.

Funded by Shell, over the last six years EngineeringUK has developed Energy Quest into a well-received programme, reaching 215,000 young people through 3,150 sessions in 1,460 UK schools.

Over the next 3 years EngineeringUK will be working with partners and funders to develop, test and evaluate different content and ways of delivery to maximise the programme's impact on young people, particularly girls and other groups that are under-represented in the engineering profession.

### Neon

Neon brings together the UK's best engineering experiences and inspiring careers resources and stories to help teachers bring STEM to life with real world examples of engineering.

As well as inspiring case studies and Tomorrow's Engineers careers resources, Neon showcases carefully curated experiences from across the engineering and STEM education sectors. It is an opportunity to connect schools, businesses, educational establishments and students.

### Tomorrow's Engineers Code

The Tomorrow's Engineers Code enables those in education, government and industry to work together to foster the critical engineering and technology skills needed for the UK to be a leader in innovation and improve societal and economic resilience, and environmental sustainability.

Signatories to the Code pledge to:

- Ensuring programmes contribute to a sustained and rich STEM journey for all young people
- Ensuring all young people have opportunities to engage in engineering-inspiration activities, so that no one is left behind
- Promoting a positive, compelling and authentic view of engineering, and showcasing the breadth of opportunities
- Improving the monitoring and evaluation of programmes and activities to develop a shared understanding of what works

## **5. What could and should be done by the UK Government, UK Research and Innovation, other funding bodies, industry and academia to address the issues identified.**

We highlight in our answer to question 2 above that there are multiple reasons why certain groups of people are under-represented in the engineering workforce and it is clear that more needs to be done to tackle all of those barriers to improve under-representation in the sector.



However, our recommendations below focus in particular on tackling misperceptions about engineering as well as on raising aspirations and improving knowledge of careers in the sector. We believe that it is vital that all young people are given the opportunity to be inspired by meeting an engineer face-to-face and can hear more about what a career in modern engineering entails. The evidence shows that this is particularly important for girls and those from lower socio-economic groups whose knowledge of what engineers do, and their perception of engineering careers, is lagging behind others.

We believe that one way to address this is through providing young people with good careers provision in schools and colleges that shows them that engineering is for people like them. This is why we recommend the following:

**1. We recommend that government provide additional funding in the region of £40 million annually to support careers activities in schools and colleges.**

Our recent report ‘Securing the future: STEM careers provision in schools and colleges in England’ highlighted that ‘lack of funding for STEM careers provision’ affected schools’ ability to deliver STEM careers provision (46% of respondents to our survey said this was the case).<sup>13</sup>

We therefore recommend an investment of:

- around £30 million annually to ensure that schools are better resourced to support all young people with their careers choices
- £3.5 million annually to pay for STEM leaders in careers hubs (see recommendation 3)
- £10 million annually for a ‘STEM Diversity Fund’

Additional funding would enable schools and colleges to address the financial barriers hindering greater participation by students in STEM careers activities and support efforts to address some of the additional challenges by schools with more young people from groups who are under-represented in the STEM workforce.

**2. We ask that careers hubs are much more rapidly expanded than currently planned to cover all secondary schools in England by mid-2022 and that there is a dedicated STEM leader in each careers hub.**

Our understanding is that current plans see careers hubs expanded to 65% of secondary schools and colleges in England by August 2022. Given the positive impact that we know being part of a careers hub can have young people’s access to STEM employers and work experience<sup>14</sup>, we strongly recommend that this is speeded up. Work experience, if done well and with a focus on diversity, can have a transformative impact on the diversity of young people seeking opportunities with a company. Therefore, ensuring that schools are better supported to provide young people with access to such opportunities is vital. Careers hubs play an important role in this.

- 3. We ask that the government embeds careers into the subject content of the STEM curriculum and ensures that it highlights the diverse range of roles and people in science and engineering.**
- 4. The STEM and in particular engineering community must promote that engineering is an industry that requires people with a wide breadth of skills and offers a diverse range of**

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<sup>13</sup> [https://www.engineeringuk.com/media/274342/euk2535\\_careers\\_provision\\_report\\_lr.pdf](https://www.engineeringuk.com/media/274342/euk2535_careers_provision_report_lr.pdf)

<sup>14</sup> Securing the future: STEM careers provision in schools and colleges in England (2021) – see p.5

**careers and highlight the relevance of engineering in relation to issues that are of importance to young people such as environmental sustainability.**

STEM careers provision is currently delivered in various ways across schools and colleges in England. Some schools appear to offer STEM careers provision mainly as an extracurricular activity, with participation being optional and for a small group of pupils rather than available to all.

Some schools in our recent 'Securing the future: STEM careers provision in schools and colleges in England' report highlighted the potential issues associated with offering 'opt-in' STEM careers activities, which tends to attract those pupils with an existing interest in STEM. This raises questions about whether the approach used by some schools and colleges, taken against the backdrop of a lack of funding and pressures on time highlighted above, may be reinforcing perceptions about the kinds of pupils likely to succeed at STEM and unintentionally exclude those who might benefit the most from STEM careers activities. It also raises questions around equality of access to such initiatives.

All young people should get the opportunity to be inspired by what a career in STEM, including engineering, can offer. This could be achieved by including STEM careers as an explicit 'item' in the STEM curriculum, giving teachers time to bring STEM employers and ambassadors into the classroom, making it a core activity. To support schools to deliver this new requirement in the curriculum we recommend that engineering employers work together to enable more schools and colleges to offer the opportunity to participate in STEM inspiration and careers activities that provide a positive view of engineering and showcase the breadth of jobs available in the sector to their students.

**5. We would like to see the community to develop more programmes and activities aimed at the groups currently under-represented in the engineering profession.**

The wider STEM community and those engaging with young people in careers advice must work to instil confidence in all young people that they have the capability to become an engineer, with particular focus on girls, students from minority ethnic groups, those with disabilities and those from socio-economically disadvantaged backgrounds, promoting the engineering workforce as an inclusive and diverse environment.

**6. We recommend that more work is done to provide parents with accurate and detailed careers information through, for example, affordable and accessible STEM activities that parents can participate in with their child.**

Parents are major influencers of young people and our forthcoming Engineering Brand Monitor shows that there is a clear association between what parents think and say and their children. As such, accurate, clear and detailed careers information must be available to and accessible for parents and carers (as well as teachers) enabling them to understand in more detail the opportunities available for their children in the engineering sector and the pathways into those roles. This should include targeted approaches to parents of lower income and lower socio-economic groups with the view to ensure that they have the knowledge and insights into what a career in engineering has to offer.

In addition to the recommendations outlined above, we would like to see a focus on better understanding the drivers of the differences between groups currently under-represented in the engineering and STEM sector, and more programmes and approaches being developed to address those.

7. We would like government and the STEM community to look in more detail at how gender, ethnicity and social class intersect in relation to aspirations of engineering as a career and use this knowledge to develop programmes and projects that will inspire more young women from all ethnic and social backgrounds to take up a career in STEM.
8. We would like government and the STEM community look to better understand what enables young people to become interested in and enjoy STEM subjects and to develop approaches that will mean that more young people, particularly girls, are enabled to do so.

For completeness our recommendations should be read in conjunction with recommendations made in the NEPC submission to this consultation and recommendations made by others in relation to tackling gaps in educational attainment.

### About EngineeringUK

[EngineeringUK](#) is a not-for-profit organisation, which works in partnership with the engineering community to inform and inspire young people and grow the number and diversity of tomorrow's engineers. We produce a range of research reports exploring educational pathways into engineering and barriers to participation. Our flagship publication [Engineering UK: The state of engineering](#), is a detailed examination of engineering's economic contribution and the composition of its workforce, as well as the extent to which the supply, through education and training pathways, is likely to meet future demand for engineering skills. We have a strong interest in increasing diversity and inclusion within the engineering sector and seek to use our research to help inform wider policy debate. For example, our publication [social mobility and engineering](#) delves into a range of topics including educational attainment, 'science capital', careers advice and the lack of appropriate monitoring data.

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