

DRAFT – Response to RSE Tapping All Our Talents Review Consultation

See [Call for Evidence](#)

Section 1: In brief

Q1 Do you believe progress has been made towards achieving gender equality in the STEM workplace in Scotland since 2012? (Yes/no). Yes.

Q2 If yes, what action(s) do you believe have had the greatest impact on improving gender equality in STEM in Scotland? (List maximum of 3).

1. Scottish Government's Developing the Young Workforce Programme
2. Scottish Funding Council's Gender Action Plan
3. College, School and work place partnerships working effectively together to tackle the gender imbalance

Q3 Where you do not believe progress has been made, or could be improved upon, what do you believe have been the key limiting factors? (List maximum of 3).

1. The [Tapping all our Talents Report](#) published by the RSE in 2012 makes no reference whatsoever to the rich work which Further Education institutions are doing to encourage Women into STEM. FE bodies are not identified as stakeholders in the Co-ordinated Plan for Action which is reproduced below.



Figure 3. Map of stakeholders in the employment, retention and progression of women in STEM.

The Report does not consider the position of women who may wish to pursue vocational careers in STEM or to the articulation of FE students, and the key recommendations do not address any areas which recognize the capability for FE to

positively influence change. We believe that this is a missed opportunity and Tapping Our Talents should include the demonstrable talents of the FE sector.

2. Limited resources to deliver programmes that will effect change.
3. The lack of a national, centralised approach (each individual College and University has designed its own action plans – much of the awareness raising/engagement activities are duplicated and localised – a national media campaign could reach out to more people such as sportscotland’s This Girl Can programme.

Q4 Which of the recommendations made in the 2012 Tapping All Our Talents report do you believe should be prioritised going forward? (List maximum of 3).

1. The Further Education sector should be recognised as stakeholders and recommendations should be articulated to enable the enhancement of partnership working and which recognise the value of vocational STEM careers.
2. Establish an SME taskforce to consider how small businesses can tackle gender equality
3. National Strategy for Scotland to tackle inequalities in the workplace for women in STEM.

Q5 What further recommendations (if any) would you make to policy-makers, educators or employers to tackle gender inequality in STEM in Scotland? (List maximum of 3)

1. STEM businesses and industry should use Equality Audits to report on gender data and which can be used as a baseline for action
2. We should learn more about what influences career choices from an early age, and how early years/primary educators can take a systematic approach to engaging pupils in nontraditional careers
3. We can learn from innovative approaches to flexible entry requirements such as the University College London in attracting girls to take up Civil Engineering degrees, where females without Physics A-levels were accepted on to the course and provided with appropriate support. There may be opportunities for the Further Education sector to develop and provide foundation level STEM courses which could enable articulation into undergraduate courses.

Section 2: In detail - Women in STEM in Scotland 2018

Q6 What lessons do you believe have been learned from initiatives undertaken since 2012 to tackle gender inequality in the STEM workforce across the public, academic and/or industry sectors? Examples of good practice would be useful.

We found this report by the Institution of Mechanical Engineers helpful - [“Big Ideas – The Future of Engineering in Schools”](#) In particular, we are interesting in the promotion of engineering as a people-focused, problem solving, socially beneficial discipline as opposed to the existing technical/scientific focus. We also note the recommendation that apprenticeships and vocational pathways enable individuals to progress to higher levels.

Through our Gender Action Plan, we aim to broaden engagement with females in technical areas and we are currently considering the potential for the use of Design and Technology as a platform for the integration of STEM . We are reviewing how we market courses to ensure that they appeal to both genders.

We have found our work to raise awareness of unconscious bias effective. This included training for all Curriculum and Quality Leaders in how to avoid bias, and all participants reflected on key areas such as Admissions and Achievement, and what action can be taken to tackle barriers for females into STEM.

Q7 In 2018's economic, political and social context, what do you consider to be the key influencers (positive and negative) on gender equality in STEM in Scotland?

Gender equality in general is significantly high profile. Influences on this include the recent gender pay gap reports, which have received much media interest; the #MeToo campaign, which has highlighted the extent of the objectivity of women, and which advocates for changes to practice; and the Scottish Governments proposed 50:50 Board objective has also made gender equality more of a talking point. While these examples are not directly relevant to STEM, they are challenging the status quo, and it is anticipated that they reflect and empower social change which will assist in equitable treatment for women. They should also enable recognition of wider opportunities for women as opposed to the traditional stereotyped career paths.

Q8 To what extent do you believe that the issue of gender inequality in STEM is being recognised as a priority and to what extent do you believe that rhetoric is being met with action?

We are confident that West College Scotland and the FE sector in Scotland has recognised this as a priority and is taking meaningful and effective action to tackle gender inequality in STEM. This is evident from our College's [Gender Action Plan](#), which sets out our ambition to ensure the best use of our resources to address gender imbalance, to influence those involved in the student educational choice, to raise aspirations, encourage applications and support success.

We are also conscious of increased action to address gender inequality from our work with providers of work based apprenticeships, and note Skills Development Scotland's Equalities Action Plan, which obliges industry partners to incorporate priorities and actions within Sector Skills Action Plans where gender imbalance is apparent.

Education

Q9 What do you believe should be done to encourage more girls and young women to engage with STEM subjects in early years, primary and secondary education?

- focus on fostering interests in math and sciences in girls from a young age, and to work to counter negative perceptions they might start developing.

- Effectively tackle the confidence gap, where a disproportionate girls of a young age believe they do not have the innate ability to be good at maths or science
- Ensure children are aware of the value of STEM in a wider range of activities eg in baking, refer to chemistry; gardening, refer to botany etc
- Make sure young people are aware that many STEM fields are high earning
- Develop younger people's resilience skills to assist them when they find STEM challenging or "hard"
- In class, challenge stereotypes which exist such as "I'm no good at maths/science, I'm much better at languages"
- Parents might think "I'm no good at this and won't be able to help my child with their STEM homework". Schools/local authorities could provide more resources for parents so that they can assist their children.

Q10 What innovative or impactful practice do you know of or believe should be taking place in universities and colleges to tackle issues of gender disparities in STEM subjects? What do you think can be done to embed STEM gender equality thinking across universities and colleges?

- Incorporating gender equality objectives into operational planning and reporting systems
- Dedicating resources to CPD for staff to enable them to encourage more women
- Developing relationships within internal and external networks to enhance collaboration
- Influencing parents with awareness raising and support
- Embedding gender equality in the curriculum and awareness raising with students
- Using outreach programmes to influence educational and career choice process
- Use of role models and single sex activities
- Embedding gender equality and counter stereotyping within marketing
- designing courses to attract nontraditional students
- auditing for and tackling environmental and structural barriers and developing gender inclusive environments
- student mentoring, student networks, awareness raising and support for progression into counter stereotypical careers

Cultural Change

Q11 In what ways do you believe industry can lead by example to tackle inequality within workplace culture?

They could take a more systematic approach by publishing data looking at participation, progression and retention and developing action plans to encourage more females. They could examine work place practices and policies to see how they impact on female staff and what

more could be done to enable agile working. They could also have female user groups who meet regularly to review progress and consider additional initiatives to attract, develop and retain female staff.

Q12 What do you believe are the most effective ways to challenge and change deep-rooted attitudes and institutional culture in order to improve gender equality in STEM?

This question is extremely wide and difficult to answer meaningfully in this context. We anticipate that the work we have planned will encourage females into STEM and that this will have a positive impact on challenging deep-rooted attitudes and institutional culture. We are unable to comment on the most effective ways to change deep rooted attitudes as by their very nature we cannot definitively measure them or evaluate change, and there is a dearth of external evidence which shows what has been most effective to date. We will continue to take action and will monitor emerging practice.

Q13 How do you suggest culture change can be measured in a meaningful way?

Measuring culture change is challenging and its success depends on common frameworks, language, measures and indicators. We would suggest a scoping exercise where potential indicators such as employment and social survey data could be identified and used to develop a framework.