

## **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 – but progress is slow

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).

- From an education perspective, the expectation that universities should engage in Athena Swan and the introduction of Gender Action Plans have had an impact.

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).

- From an education perspective the proposed stronger focus on encouraging girls and young women to engage in STEM is to be welcomed. However this should be in conjunction with on-going work to promote STEM more generally in schools.
- Further work is needed in supporting SMEs

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).

- Strategic oversight at governmental level is crucial and assists in ensuring an integrated approach.

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).

- Consideration could also be given as to how to change perception towards STEM more generally.

## **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.

- The work of EQUATE Scotland<sup>1</sup> (hosted by Edinburgh Napier University) is of interest here. They work closely with industry to tackle gender inequality in STEM. Selected examples include:
  - Support for women returners
  - An employers legal service
  - Career Enhancement Programmes

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?

- The economic argument is especially powerful: STEM is vital to the growth of the Scottish economy and the need to encourage more people in general to work in STEM strengthens the argument for gender equality.
- Political support has a key role to play in reinforcing this economic message as well as the more general social inclusion message.

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?

- Athena Swan has been successful in raising awareness, identifying issues and addressing these in our universities. An important element of this has been the self-assessment team approach.

## 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?

- In addition to encouraging more girls and young women to engage with STEM subjects, further work needs to be undertaken to encourage more pupils in general (males as well as females) to engage in STEM subjects, including maths. This has to start at primary school if not earlier<sup>2</sup>. Engagement with the STEM Education and Training Strategy<sup>3</sup> is vital here. The work of groups such as Making Maths Count<sup>4</sup> can help in this respect. Consideration should thus be given as to how better to support teachers in pre-secondary education in teaching STEM in general and in a way that is inclusive.

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

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<sup>1</sup> <http://www.equatescotland.org.uk/about/the-issue/>

<sup>2</sup> [https://royalsociety.org/~media/Royal\\_Society\\_Content/education/policy/state-of-nation/2010-07-07-SNR3-Basics.pdf](https://royalsociety.org/~media/Royal_Society_Content/education/policy/state-of-nation/2010-07-07-SNR3-Basics.pdf)

<sup>3</sup> <https://beta.gov.scot/publications/science-technology-engineering-mathematics-education-training-strategy-scotland/>

<sup>4</sup> <http://www.gov.scot/Publications/2016/09/3014>

- Gender Action Plans along with Athena Swan have a role to play in setting the expectation that universities and colleges should be addressing this as well as providing a mechanism to share good practice.
- Lessons can be learnt from the work which EQUATE Scotland have undertaken in partnership with City of Glasgow College on offering women-only courses<sup>5</sup>
- Universities have a role to play in developing STEM gender equality thinking in students, male and female. The work done at Edinburgh Napier in partnership with EQUATE Scotland in embedding Confident Diversity workshops in the undergraduate engineering curriculum is one example of good practice.
- The Interconnect Student Network <sup>6</sup> gives students the opportunity to meet like-minded women studying similar subjects. This reduces the isolation they can feel being in a minority on their course. Interconnect also organises events which allow students to network with professional women working in their chosen field

### **Cultural Change**

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

- Organisations have a responsibility to evaluate what is happening internally, addressing area of inequality and sharing with others what they are doing.

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 is a deep-rooted issue which is taking and will take to time to address. One factor has to be recognition of this and a commitment to maintain focus whilst considering how to increase the pace. Work has to be undertaken at different levels – in our schools, colleges and universities, our workplaces. We need to have confidence that it can be done as well as a belief that it should be done: lessons can be learnt from other disciplines, for example medicine and law. An interesting question is why do many women (and indeed men) with qualifications in maths and science choose to study medicine rather than engineering ?
- In addition further consideration needs to be given to how different organisations can work together to change public perceptions of STEM.

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

- This has to include qualitative measures as well as quantitative measures. The obvious one is the move towards gender parity between women and men with respect to studying STEM and entering the STEM workforce. However this has to be complemented by other measures including perceptions /attitudes towards STEM.

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<sup>5</sup> <http://www.equatescotland.org.uk/do-women-only-college-programmes-work/>

<sup>6</sup> <http://www.equatescotland.org.uk/equate-scotland-student-services/network/>