



CaSE Briefing

Delivering Diversity: Making Science & Engineering Accessible to All

The desirability of a more diverse science, technology, engineering and maths (STEM) workforce is well-accepted, but progress towards it is slow. More radical steps must be implemented as policy rather than simply as good practice. Not only is it morally right, but achieving diversity will help alleviate skills shortages and increase innovation.

General Recommendations

- Improving diversity should be central to Government science and innovation policy and not treated as a side-issue.

Belonging to a group that is under-represented is a disadvantage in itself, partly because of the shortage of individuals at higher levels to act as role models, mentors, and reviewers, and because these groups may be poorly represented on influential committees.

- All STEM organisations should demonstrate a representative diversity for all their activities. This can be driven by Government policy for organisations receiving Government funds.
- A national database could be funded to help provide role models, mentors, speakers, etc.

More flexible employment practices should be implemented, accommodating career breaks, providing part-time work and improving work life balance for all. Currently, 43% of women, 8% of men¹ and 29% of disabled people work part-time.

- The proposed Research Excellence Framework must support these practices.

Recommendations for specific groups

- The Government should fund a resource centre for **disabled people** in STEM and financial support for disabled students should be uncapped, as it is for employment.
- To reduce the impact of **social disadvantage** on STEM education, the Government needs to direct specialist science teachers into the schools where they are most needed and achieve its target for every student with potential to be offered separate science GCSEs.
- More research needs to be funded to identify the best way to target resources to under-represented **ethnic minority** groups.

Background

- Girls make up only 1% of Modern Apprentices in Construction and only 3% in Engineering².
- In STEM higher education, 41% of men had been interviewed by all male panels compared with 27% of women³.
- The proportion of STEM workers that are female only rose from 18.4% in 2001 to 18.5% in 2006⁴. Only 25% of women, but 40% of men with STEM degrees are employed in STEM⁵.
- Disabled people make up 3.8% of the SET workforce, but 5.9% in other sectors⁶.
- 26% of mainstream schools offer separate science GCSEs and 58% of science specialist schools do so, as compared with 66% of grammar schools and 72% of independent schools⁷.
- Black Caribbean students are not entered into higher tier science and mathematics papers at appropriate rates⁸ and they are disproportionately encouraged onto vocational courses⁹.

See www.sciencecampaign.org.uk/documents/2008/CaSE0608.pdf for more information.

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¹ Equal Opportunities Commission, 2001

² Women in Science and Engineering, www.wisecampaign.org.uk

³ Athena Survey of Science Engineering and Technology in Higher Education, 2005

⁴ Review May2004-April 2008, UKRC for Women in SET

⁵ Maximising Returns to Science, Engineering and Technology Careers (2002), DTI

⁶ Quarterly Labour Force Survey (2006). Office of National Statistics.

⁷ Parliamentary Question written answer, Dr Brian Iddon, 141487, 11 June 2007

⁸ Strand, Steve (2007) Minority Ethnic Pupils in the Longitudinal Study of Young People in England,

⁹ Count me in! Gender and minority ethnic attainment in school science, Frost, S., Reiss, M. & Frost, J., School Science Review, 2005, 86(316)