



4<sup>th</sup> August 2008

## CaSE Response to the DIUS Single Equality Scheme Consultation

1. Campaign for Science & Engineering is pleased to submit this response to the DIUS consultation. CaSE is a voluntary organisation campaigning for the health of science and engineering throughout UK society, and is supported by over 1,500 individual members, and some 70 institutional members, including universities, learned societies, industrial companies, research charities, publishers and other organisations. The views of the membership are represented by an elected Executive Committee.
2. CaSE has recently developed a set of policy recommendations aimed at delivering diversity in science and engineering<sup>1</sup>. In formulating these, it became apparent that while there appears to be much "good practice" in this area, there is often little evidence of its effectiveness and progress can be slow or non-existent. For example, despite an enormous amount of effort in the area of engineering there has been very little increase in the participation of girls and women, exemplified by the fact that just 3% of engineering apprenticeships are taken by girls.<sup>2</sup> We support more radical approaches to speed up progress towards diversity.
3. The DIUS Consultation Document concentrates on the three statutory duties to be met in disability, gender and race. It would be advantageous to give social disadvantage as much consideration as the other three strands, both in developing policy specifically aimed at improving diversity and also when performing impact assessment for more general policies. Addressing social inequalities will also go a long way to help people from those ethnic minorities that are over-represented in socially-disadvantaged groups.

### A Resource Centre for Disabled Scientists and Engineers

4. CaSE offers some comments on specific areas of the consultation below, but would first like to bring up a key suggestion. CaSE urges DIUS to provide a centralised resource centre for disabled scientists and engineers. Currently information and support is available in a piecemeal manner. Much time and energy is wasted as educators and employers work with those with disabilities to find solutions that may have already been developed elsewhere. In fact, when CaSE started looking into this area we were genuinely surprised at how little information there is and at how many different places we had to go to find it. The Government clearly has a firm intention to help disabled people study, continue to work or return to work, and this would facilitate that goal.

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<sup>1</sup>Delivering Diversity: Making Science and Engineering Accessible to All, CaSE, May 2008. Available at [www.sciencecampaign.org.uk/documents/2008/CaSE0608.pdf](http://www.sciencecampaign.org.uk/documents/2008/CaSE0608.pdf)

<sup>2</sup> Women in Science and Engineering, [www.wisecampaign.org.uk](http://www.wisecampaign.org.uk)

5. CaSE also urges the Government to lift the caps on financial support for disabled undergraduate and graduate students to bring it into line with support for employment.

#### DIUS as an Employer

6. It is obviously good that DIUS will be collecting more useful data on the profile of its employees, although it seems to have given itself a very generous timetable in which to do so.
7. Much evidence suggests that people favour those they perceive to be like themselves when it comes to appointments, promotions etc., although they may not be aware of this bias.<sup>3</sup> CaSE encourages DIUS to include a commitment to ensure diversity in the make-up of its important and influential committees, particularly those concerning employment.

#### DIUS as a Policy Making Department

8. It is stated that DIUS will broaden its strategy to tackle age more fully in the future. CaSE would urge a more rapid consideration of the issues around retirement age, particularly in research. Many skilled scientists, engineers and mathematicians move overseas as they approach retirement age in order to continue their work, which they frequently do for a considerable number of years. The UK's loss of expertise and diversity because of this outflow is unfortunate, particularly in these times of skills shortages, it is wholly unnecessary, and it reduces our international competitiveness compared to, for example, the US, Canada and Australia.

#### Further and Higher Education and Skills

9. It would be helpful to extend the analyses and consideration of participation of different groups in different sort of education to consider subject. While women are over-represented in many levels of education, they are typically largely under-represented in science, technology, engineering and mathematics. Subject choice varies greatly across different ethnic groups. Until a greater understanding of these patterns is achieved, it is hard to develop the right policies.
10. CaSE welcomes a system that improves access for students whose predicted grades under-estimated their true performance. In addition, CaSE would like to see overt recognition of the impact of schooling on grades, so that the brightest children with the greatest potential have good access to continuing education, even if their school environment limited their actual achievement. Schemes operate successfully on this basis in several states in America. For instance, The Texas Ten Percent Plan guarantees university places to the highest achieving students within each school (even if their actual grades are low when compared to national performance levels). Given the shortages of STEM graduates, CaSE recommends a scheme of targeted

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<sup>3</sup> For instance, in STEM higher education, 41% of men had been interviewed by all male panels compared with 27% of women Athena Survey of Science Engineering and Technology in Higher Education, 2005

bursaries to students pursuing STEM subjects from schools with a poor history of access to higher education.

11. It is vital that variable tuition fees do not reduce access to STEM subjects. There is already a large impact of social background on STEM education. First, the provision of specialist science and mathematics teachers and secondary science options varies greatly with school type, with independent and grammar school children being far better off. Even when students have gone on to higher education, student choices are often affected by the finances, with many choosing to live at home for this reason. Students from different ethnic groups are differently inclined to live away from home depending on attitudes to and availability of financial support, as well as religious beliefs and family values.<sup>4</sup> This would not be a problem if all universities offered equal access to education, but following departmental closures, there are now swathes of the country that do not have physics or chemistry departments, or only have those of a particular standard, thus restricting the choice of those living at home. Hopefully the planned future provision of more higher education institutions will address this need, but a short-term solution should also be developed.

#### DIUS as a Sponsor

12. It would be appropriate to demand participation from under-represented groups in outreach activities – not just to promote diversity but also to have the greatest potential for impact. CaSE has come across examples of, say, girls being encouraged to participate in a science and engineering outreach activity, but hardly doing so and everything continuing as normal. If funding was contingent on certain levels of participation, it seems likely that somehow or other success would be reached.
13. CaSE welcomes DIUS's ongoing support for the UK Resource Centre for Women in SET. Because of historic under-representation, women miss out on high-level networks and mentoring and UKRC have now established networks and databases to promote this. It would seem sensible to role out this approach to other under-represented groups who all suffer from a lack of high-level representation.

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<sup>4</sup> Connor, H, Tyers, C, Davis, S, & Djan N (2003). Minority Ethnic Students in Higher Education: Interim Report, Institute for Employment Studies.