



Response to the Innovation, Universities, Science and Skills Committee inquiry into Engineering in Government

Campaign for Science & Engineering

September 2008

Introduction

1. The Campaign for Science & Engineering (CaSE) is a pressure group aiming to improve the scientific and engineering health of the UK. Our objective is to communicate to Parliament and the nation as a whole the economic and cultural importance of science and engineering, and the vital need for its funding by government and industry. CaSE is supported by its members, which includes individuals, corporations, universities and learned societies.
2. CaSE has long been an advocate for improving the system of science and technical advice within Government. We strongly believe that government departments need appropriate research and development (R&D) budgets, internal scientific and engineering expertise, and systems to access independent external advice.

The role and effectiveness of the Government Office for Science and the Chief Scientific Advisers in providing engineering advice across government and communicating issues relating to engineering in Government to the public

3. The Government Office of Science (GO Science) and the Government Chief Scientific Adviser (GCSA) have important roles in providing engineering advice across government and for challenging departments to improve their scientific and engineering capabilities. Both GO Science and the GCSA have a cross-department responsibility for scientific and technical advice. However, it is critical that every department has their own internal capacity as well. Greater focus should be given to engineering and technical expertise within the scientific advisory system.

The use of engineering advice in Government policy making

4. Government departments need to have the same 'intelligent customer' function for engineering advice as the need to for scientific advice. For this to happen they need senior civil servants and members of Scientific Advisory Committees with relevant engineering and technical backgrounds. It cannot be expected that each Departmental Chief Scientific Adviser will have expertise in all of the scientific and technical issues relevant to their department. However, consideration should be given to having a balance of scientific and technical expertise within the Committee of Chief Scientific Advisers.
5. The Sainsbury Review recommendation 8.4 was that a "more robust mechanism should be put in place to identify and protect departmental R&D budgets." CaSE supports the development of a "robust mechanism" so that R&D budgets are maintained and strengthened in order to improve departmental capacity to procure the evidence and innovation relevant to their functions.

The status of engineering and engineers within the civil service

6. CaSE supports the science and engineering profession programme co-ordinated within the Government Office of Science. However, it is critical that each government department works to support their engineers. Each department and agency should have a head of profession for scientists and engineers. However, this is not yet the case. For example, even after numerous recommendation by various parliamentary and government reviews, the Department for Culture, Media and Sports still does not have a Departmental Chief Scientific Adviser, Scientific Advisory Committee or Head of Profession. As the lead Department responsible for the London Olympics and good design in the built environment, engineering expertise, as well as other scientific disciplines, should be better integrated into the DCMS by now.
7. As part of their work to improve the standing of engineers, departments need to provide the support, both in terms of finance and time, for membership and participation in professional engineering institutes relevant to their area of expertise.
8. CaSE strongly supports the need for a science and engineering fast stream into the civil service. Increasing the number of people within the civil service with engineering and technical skills should be a government priority. However, we are very concerned that there are very few opportunities available in the science and engineering fast stream. There were only 17 vacancies for the science and engineering fast track position in 2007. 9 out of the 249 successful candidates for the general fast stream, which includes the science and engineering fast stream, had an engineering degree.¹ CaSE recommends that the government recruit more individuals with an engineering background so that there is a better balance of skills within the civil service.
9. Secondments are another important route for improving engineering skills within government. Departments should support and facilitate both inward and outward secondments of engineers to improve the technical skills available.
10. As part of the Government's commitment to improving science and engineering skills, it should record the number of engineering specialists and secondments in each department. Departmental science reviews should examine if there is appropriate engineering and technical expertise within the department.

The role and effectiveness of professional engineers and the engineering community in providing engineering advice to Government and the civil service

11. The Royal Academy of Engineering has an important role in providing engineering advice to Government. Part of the Academy's Grant-in-Aid package from DIUS goes toward policy advice. The Academy produces important topical policy reports. However, it can be difficult to measure the effectiveness of reports and the Royal Academy of Engineering should strengthen its capacity for on-going dialogue and post-report follow-up to ensure the greatest impact on the policy process.
12. Professional engineering institutes also play an important role in facilitating the exchange of information between their respective communities and departments on relevant issues. Individual engineers also volunteer their time and expertise to sit on formal advisory committees, but there are also many contributions made through informal dialogue. Their important contribution to engineering advice to Government and the civil service should be supported, recognised and better facilitated.

International examples of how engineers and engineering advice are imbedded in Government

13. One example is the US Secretary of State's Science and Technology Adviser. Although the current incumbent is a biologist, the post provides both scientific and technical advice. The Foreign and Commonwealth Office should appointment a similar position to imbed scientific and engineering advice within the FCO. Many diplomatic issues have a scientific or technical component. The UK's diplomatic position on these issues would be strengthened by greater internal technical expertise.

ⁱ Cabinet Office (2008) Civil Service Fast Stream Recruitment 2007:
<http://www.cabinetoffice.gov.uk/reports/faststream/>