

**House of Commons Innovation, Universities, Science and Skills Select Committee  
Inquiry into Putting Science and Engineering at the Heart of Government Policy**

**Memorandum from the Science Council**

The Science Council is a membership organisation for learned societies and professional bodies across science and its applications and it works with them to represent this sector to government and others. The Science Council promotes the profession of scientist through the Chartered Scientist designation and the development of codes of practice; it promotes awareness of the contribution of professional scientists to science and society and advances science education and increased understanding of the benefits of science. The Science Council provides a forum for discussion and exchange of views and works to foster collaboration between member organisations and the wider science, technology, engineering, mathematics and medical communities to enable inter-disciplinary contributions to science policy and the application of science.

In preparing this response we have consulted member bodies to identify areas of common interest and the issues they raised form the content of this memorandum. In addition a number of member bodies will be responding individually to the inquiry.

***Consultation***

It is noted that the title of the inquiry is *Putting Science and Engineering into the heart of Government Policy*. We have interpreted this as principally exploring how best government policy across all areas may be influenced by science and that engineering is intended to embrace technology and inform evidence as case studies. If engineering is not a case study, it was not clearly set out in the inquiry as to why this area of science has been identified individually. In addition to covering science policy more generally we have briefly addressed the questions asked by the Inquiry about science funding and support issues.

The Science Council's interests encompass both the core disciplines of science (physics, chemistry, biology and mathematics) and the application of science, including technology, engineering and medicine. The Science Council has recently agreed a definition of science as:

*Science is the pursuit of knowledge and understanding of the natural and social world following a systematic methodology based on evidence.*

**1. Question 1**

***Whether the Cabinet Sub-Committee on Science and Innovation and the Council for Science and Technology put science and engineering at the heart of policy-making and whether there should be a Department for Science***

- 1.1. In the 21<sup>st</sup> Century, science and technology are fundamental activities in all areas of society and in recognition of its importance the Government has made science and innovation a leading priority for the future. The Science Council embraces this view and believes that science as defined above has a place in all areas of government policy and across all government departments and activities, including local and regional government. There is therefore a need to embed high quality independent scientific advice across and within all sectors of government and government agencies.

- 1.2. In the past there has been a tendency to assume that a separate 'scientific advice' function within a single department or committee can effectively carry influence across government departments: evidence suggests this is not the case and that sometimes departmental positions differ or are not fully compatible. There is no adjudication system when such differences of view occur which can lead to presentational and other difficulties. In addition, there is a need also for policy in government agencies and regional and local government to be informed and evidenced by science: for example in the areas of waste management and recycling, power generation, transport, water safety and conservation, and sustainable cities. Innovation is needed to develop ways in which scientific information and advice is shared more widely: using and developing the Government Connect programme might be worth exploring further.
- 1.3. Government employs many scientists and engineers working in a variety of roles, not only as scientists and engineers. The Science Council would like to see the profile raised of scientists within Government, including those working within Government laboratories and suggests that scientists and engineers should be recognised more explicitly as a professional group within Whitehall and local government.

## **2. Question 2**

### ***How Government formulates science and engineering policy***

- 2.1. The Science Council supports the appointment and role of Chief Scientific Advisers in all government departments and sees these as a very positive element within the overall structure of government scientific advice. We believe that there should be innovation and flexibility in the way each CSA functions within their own environment. It is equally as important that CSAs and their teams receive adequate support and have the resources to commission or undertake research necessary to supplement evidence or fill gaps in data to support the development of policy advice.
- 2.2. Science Council members were strongly supportive of the work and role of departmental and agency laboratories whose contribution to the development and implementation of science policy, and to monitoring, was often under-appreciated. There was also agreement that the criteria for assessing the effectiveness of direct government science services should be substantially different from those used to assess curiosity driven research undertaken in HE.
- 2.3. The Science Council welcomes recent improvements in the way CSAs work across government, for example the work of the Sustainable Development Programme Board, the Inter-Departmental Government Group on Water Safety and the DEFRA led Interdepartmental Group on Costs and Benefits.
- 2.4. There is considerable potential for Government scientific advisers to draw more widely on the expertise of learned and professional bodies and the Science Council can provide a central point of contact to facilitate this.

## **3. Question 3**

### ***Whether the views of the science and engineering community are, or should be, central to the formulation of government policy, and how the success of any consultation is assessed***

- 3.1. Many policy areas have wide potential impact and there should therefore be a multi-disciplinary approach to the gathering of scientific and technological evidence. It is important that consultation processes reach out broadly to involve all science areas that may have an interest, including social and behavioural sciences. It is paramount that the science, social science, engineering and technology bodies are also encouraged to act collaboratively in working with Government and that Government led review groups and advisory committees should reflect the breadth of potential scientific interests. Regional, research and education priorities and solutions may vary from sector to sector and from

discipline to discipline and it can be counter-productive for a solution championed in one area to be offered as a blue-print for other environments.

- 3.2. For example, in exploring skills needs there may be significant differences sector by sector with some areas facing shortages at a technical/non-graduate level and others needing to increase the supply of graduates and post graduates with cross disciplinary backgrounds. Policies with regard to schools and higher education, and in skills areas, will need to reflect and respond to these differing priorities within science and technology sectors.
- 3.3. The capacity of learned societies and professional bodies to contribute to the development of science policy varies. Some are well endowed and receive some central support from government and may also have well-established income streams derived from publishing. Others are very small and do not benefit from government support of any kind. All have in common the fact that they interact with, and draw membership from the research environment, academia, industry and other user communities. Professional bodies especially are likely to cover a spectrum of scientific disciplines and specialisms, for example across water, clinical research or environmental sciences. Many include both science and engineering. The majority have excellent international links and networks and are well informed about global issues affecting their sectors. All have enormous potential and an important role to play in capturing scientific evidence and views and supporting the development of policy for agencies across government.
- 3.4. With these strengths, learned societies and professional bodies could play a key role working with government in areas such as horizon scanning and providing networks to advice and evidence. Feedback from member bodies suggests that this is not being utilised by CSAs or by many government agencies. The links with local government that do exist tend to be informal and very few and far between. The Science Council can act as a point of contact for government, and others, in helping to identify organisations with interests in a policy area under consideration and we would welcome opportunities to explore how this could work.
- 3.5. To support public trust and confidence in government scientific advice, both the consultation processes and the preparation of advice should aim to engage all interested stakeholders and provide an opportunity to participate in a timely way. The inputs and outputs must be fully transparent and accountable. Science Council member bodies complained that they often put considerable effort into submitting evidence but that they were not then informed or made aware of the policy output or given other feedback.
- 3.6. Member bodies emphasised that a good consultation process would allow adequate time for them to gather evidence. Few will have existing standing advisory structures on the topic under consultation, and they will want to have time to consult with their members and draw together the appropriate experts and interests. Government has an unfortunate tendency to work to very tight timescales when consulting on key issues and policy areas. While the sector appreciates that this may sometimes be unavoidable, for the most part more satisfactory horizon scanning would enable consultations to be conducted over longer periods which would facilitate a much more considered input from the science community and other stakeholders. Consultations undertaken at speed have a tendency to play to campaigning groups and others whose opinions and views may already be well formed but may not be underpinned by scientific evidence.

#### **4. Question 4**

##### ***The case for a regional science policy (versus national science policy) and whether the Haldane principle needs updating***

- 4.1. There are several different drivers of research, including curiosity, translation and development and policy needs: there may also be different research provider options. The Science Council supports the need for government departments to support their own

high quality research and laboratory facilities that are able to meet the need to address urgent policy related issues or provide current data related to policy implementation.

- 4.2. Our member bodies voiced very different concerns with regard to funding and strategies for curiosity driven science research, research facilities, innovation and development research funding. Some were worried that inter-disciplinary research and translational research needs were not being met. Others expressed concern about the need to protect basic research funding. Generally the recent developments at RCUK to address interdisciplinary research needs and changes in health research funding were welcomed.
- 4.3. We believe that it is important strategically to maintain investment in basic research but at the same time to develop better ways of setting priorities more broadly to embrace both the inter-disciplinarity of issues such as climate change, and the need to invest and develop science across the UK in order to ensure both the workforce and enterprise can develop.

## **5. Question 5**

### ***Engaging the public and increasing public confidence in science and engineering policy***

- 5.1. The Science Council, in its response to the recent DIUS consultation on Science and Society, welcomed the focus of the programme on the role of Government in establishing well informed science policy, securing public support for science, and in establishing the skilled manpower base to enable the UK to address the crucial issues facing society today. In response to our consultation, our member bodies supported strongly the need to engage the public in debate about the way in which science was applied in and for society rather than in debate about scientific evidence and data.
- 5.2. However, an exception to this would be the practice of involving the public directly in the collection of data on specific issues. Examples include RSPB's Bird Watch Survey and the Joint Nature Conservation Committee's Tracking Mammals Partnership where, with guidance, individual members of the public become involved in monitoring and data collection. Such activities provide an opportunity to engage and explain the process of science.

## **6. Question 6**

### ***The role of GO-Science, DIUS and other Government departments, charities, learned societies, Regional Development Agencies, industry and other stakeholders in determining UK science and engineering policy***

- 6.1. The GO-Science Foresight programme is felt to focus more on the opportunities within science and technology rather than wider horizon scanning. We consider that full science policy horizon scanning should aim to pick up on more political or attitudinal issues such as European legislation or the emergence of campaign alliances as well as workforce and skills issues that will have impact on the UK's ability to take develop the science. We would also suggest that policy development processes should look more specifically at the international perspectives, including the way in which the UK contributes to and draws from international science initiatives such as the International Polar Year.
- 6.2. The Science Council welcomes creativity and innovation in the way stakeholders, including learned societies and professional bodies, are engaged in determining science policy and priorities. Members cited innovation within two government departments in particular: the Department of Health and The Defra Science Advisory Council.

## **7. Question 7**

### ***How government science and engineering policy should be scrutinised***

- 7.1. The Science Council was disappointed that the Government decided to change the role of the Science and Technology Select Committee in the House of Commons and replace it with a committee that shadowed the Department of Innovation, Universities and Skills. The extension of the Committee's interests to embrace science are welcomed but there remains concern about whether the committee is able, or inclined, to undertake inquiries that overlap the interests of other government departments such as Business Enterprise and Regulatory Reform, Children Schools and Families, Defra, Department of Health, Communities and Local Government, DCMS, DFID, FCO, Home Office, Cabinet Office and HM Treasury.
- 7.2. There is a concern that the Select Committee's priorities will remain the science issues that are within the remit of DIUS, principally science research funding and science and society, rather than the use of science within Government as a whole. In the past the House of Commons Science and Technology Select Committee was able to address issues from across science and publish reports from a broad perspective, across issues where narrow operational interest might be within one department: these reports have required a joined-up cross-governmental response. The Science Council believes that cross-governmental science focused inquiries should remain a high priority for the Select Committee.
- 7.3. In our consultation with member bodies the question was asked as to how Government centrally was held politically accountable for the quality of the science that it relied upon to develop policy. Although we acknowledge the central role of the Chief Scientific Adviser, and that the Minister of State for Science and Innovation attends Cabinet, it is not clear how the quality of scientific advice is made accountable at this level. There is no Minister responsible for the overall science agenda, as with women and equality and there is no ministerial inter-departmental working group, as for example on human trafficking. Similarly, there is no single point of contact in the House of Commons.

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