

## PUTTING SCIENCE AND ENGINEERING AT THE HEART OF GOVERNMENT POLICY

*Submission to the Innovation, Universities, Science and Skills Committee from the Academy of Social Sciences, January 2009*

1. The Academy of Social Sciences is pleased to be able to make a submission to the IUSS Committee on this topic. The Academy comprises 500 Academicians, who are distinguished social scientists, and 35 Learned Societies and its mission is to be the voice of the social sciences in the UK for public benefit.

### General argument and summary

2. The Academy's main argument is that science policy, and its application, would be strengthened and more effective if it fully incorporated perspectives and knowledge from the social sciences. This is because:

- most important scientific phenomena are in part determined by social processes so social science analysis helps to understand them;
- for many of today's policy challenges the relevant evidence comes from social scientific study of human attitudes and behaviour. The knowledge and insights offered by social science about particular policy areas can therefore improve the effectiveness of these policies;
- the scientific approach adopted by the social sciences provides complementary understanding to that obtained from STEM subjects.

3. Most government departments and agencies now recognise the important contribution that the social sciences can make, as the expansion of social science research staff in Government (GSRU) and budgets demonstrate. Two recent reports from the British Academy<sup>i</sup> and the Council for Science and Technology (CST)<sup>ii</sup> have also endorsed the importance of the social sciences to Government policy. But science policy formulated by DIUS, as evidenced by the recent consultation on A VISION FOR SCIENCE AND SOCIETY does not reflect this. It appears to continue to be concerned, predominantly, with natural science paradigms and priorities.

4. An additional point is that while it is important that science and engineering policy draws on, and is informed by, all scientific perspectives it is even more important that knowledge and understanding based on good scientific research, including social science research, is applied to the implementation of all policies, not simply those concerned with science and engineering.

## The Academy of Social Sciences' responses to the 7 issues raised

### 1. A Department of Science?

5. The CST report argued that 'the engagement between academics and policy makers in the UK is not as strong as it might be' (p 3). If scientific and engineering knowledge is to be put at the heart of policy-making, the relationships between researchers and academics on the one hand and policy makers on the other needs to be strengthened at every level.

6. It would be wrong to see one Department as being the sole repository of scientific expertise, particularly social science expertise. Appropriate scientific knowledge needs to be available in many policy areas within all government departments. Being able to draw on relevant knowledge and understanding is heavily dependent on the context and the particular issue being addressed. Scientific knowledge, particularly social science, needs to be embedded in individual departments and agencies.

### 2. The way Government currently formulates science and engineering policy

7. In its response to the DIUS consultation document 'A Vision for Science and Society' the Academy of Social Sciences argued for much greater recognition of the diversity and heterogeneity of 'science'. The term 'science' is a very abstract concept. Focusing on science *policy* is also a long way away from achieving better use of scientific knowledge and encouraging better understanding of the scientific ideas, which are among the objectives DIUS is seeking to achieve. A more nuanced understanding of the ways in which people think about science and engage with it would help government to develop relevant policies relating to scientific knowledge and would be preferable to one policy on 'science and engineering'.

8. The inclusion of the social sciences as sciences and the incorporation of social science understandings in discussions about science policies would greatly strengthen the policy formulation process. The previous Minister of Science, Ian Pearson, acknowledged that the social sciences are valued and used by government when he spoke at the launch of the British Academy report. However, while 'Social disciplines' were included in the definition of science at the beginning of the recent DIUS consultation document, the text was almost entirely concerned with issues relating to STEM subjects. Science and engineering policy would be much stronger if the wider definition of 'science' was fully accepted.

9. The post 1997 Labour governments have dramatically increased spending on science and engineering, with a particular increase in R&D spending on higher education (up by 38% between 1995 and 2005 from £3.5bn to £5.6bn, SET statistics 2008). This is welcome and must be

continued even in recessionary times. The UK needs to keep pace with spending in countries such as the US, Finland, India and China.

10. A weakness is that there needs to be better integration in policy making between the different components of the science base to: support interdisciplinary research, make sure that adequate attention is paid to the resources needed for teaching UG/PG and PhD students and attracting foreign students and staff to the UK's universities and research institutions<sup>iii</sup>. The lack of a real increase in R&D spending by UK business, especially by SMEs also needs to be addressed.

11. One of the problems is a lack of scientific expertise across Government. Appointing 'robust and independent Advisory Councils and Chief Scientific Advisors' accountable to a Minister would help address this issue<sup>iv</sup> as would further empowering them as recommended in the CST report<sup>v</sup>.

### **3. The centrality of the views of the science and engineering community to the formulation of government policy**

12. It would not be appropriate within a democracy for the views of any one group of people outside Government to hold a central position in policy making. Ministers and civil servants inevitably have to weigh up the best course of action within what is essentially a political process. But up to date knowledge and understanding provided by the scientific and research communities is clearly an important component if the decisions taken are to be well grounded. This would not remove the need for policy makers to make value judgements about what is the correct course of action. 'Science' is not value neutral as it works essentially through controversy and 'contestation'. Scientists often disagree about the interpretation of facts about which they are in agreement. Topics like climate change, GM foods or nanotechnology also raise social and ethical issues as well as scientific ones.

13. The scientific and engineering communities, including social scientists, therefore have a significant contribution to make to policy-making and responding to formal consultation exercises is one way of doing this. But it is important that there are a range of mechanisms for engaging external people in the policy process and a need to balance external perspectives with those of in-house researchers and advisory committee members. Having relevant expertise available at short notice is probably more important to informed policy making than occasional consultations. The CST report makes a number of sensible recommendations for ways of strengthening existing mechanisms.

### **4. A regional (versus national) science policy?**

14. There is a need to develop scientific capacity, and to apply relevant knowledge to the issues being faced, at a sub-national level. This is particularly important for the social sciences as the relevant knowledge may be very specific to the local circumstances. However regional science (technology and innovation) policy requires appropriate expertise at the regional level, for example in the RDAs. We doubt whether this is in place at the moment and suggest a first step would be for the major players to commit to the necessary skills and resources, as well as to the development of effective policy at this level. There are a number of bodies at a regional level that have developed good relations with higher education institutions in their area. This could usefully

be expanded to establish better networks between universities, regional bodies, cities and funding agencies.

15. It is important that scientific research, across all disciplines, allows for the pursuit of some 'blue-skies' thinking and the exploration of ideas that do not have immediate policy relevance. The Haldane principle that decisions about research funds should be made by researchers rather than politicians, or the modification proposed by Rothschild, continues to have validity. However, it is now generally recognised that other stakeholders and the general public have a beneficial role to play in decisions about research priorities and we consider this should continue for the majority of publicly funded research. However, we also agree with Dusic (2008)<sup>vi</sup> that there needs to be greater transparency in the relationship between research councils and DIUS - the extent of the former's independence – and the extent to which government is directing decisions.

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

16. There is already considerable public engagement in scientific issues. The wealth of publications about popular science demonstrates the extent of public interest and surveys of public attitudes to science confirm this. In its response to the DIUS consultation document the Academy of Social Sciences emphasised the importance of two-way engagement and the need to see people as active participants rather than simply consumers of scientific knowledge.<sup>vii</sup> The Government should not expect that 'engagement' means only positive support for individual policies. Public debate about the direction and outcomes of scientific endeavour, and more 'upstream' engagement, are all part of enabling people to develop informed views. There are many fora for public engagement on science issues where natural and social scientists come together with members of the public, for example in the environmental movement. These bodies should be recognised as promoting informed engagement rather than putting forward partisan views which are therefore ignored, as sometimes happens.

17. Being able to make full use of knowledge from existing fora and other forms of public engagement is likely to require some changes within the civil service. The CST report draws attention to what is widely known, that there is a lack of collective memory within Government and poor knowledge management. The Academy supports the recommendation that 'Government should place a greater focus on promoting effective knowledge management within the Civil Service'<sup>viii</sup>.

### **6. Roles of different bodies in determining UK science and engineering policy**

18. In the final analysis a Government policy has to be determined by a Government Department – at the present time the Department for Innovation, Universities and Skills. Other organisations and agencies have important roles to play in contributing views and information when policy is being developed, as has recently happened with 'A Vision for Science and Society', and in putting it into effect. The Academy published a report in June 2008 of a joint project with the ESRC which looked at the role that Learned Societies in the social sciences can play in developing knowledge transfer and public engagement.<sup>ix</sup> A wide range of ways in which learned societies could become more engaged with policy makers and the general public were identified. The Academy is now

exploring how it can best take this work forward and is seeking the resources to do so. The CST report also recognised that much greater use could be made of the Learned Societies, among others. Learned Societies have strong academic links and can provide experts in a given field at short notice, so are an important source of external capacity.

19. The Academy of Social Sciences considers that existing bodies such as the Council for Science and Technology, the Science Council, and Sciencewise all make significant contributions to the development and dissemination of science policy. But the social sciences are not well represented on these bodies and we believe that the remit of these bodies should be seen explicitly to include the social sciences and therefore the social and cultural aspects of science policy.

## 6. The scrutiny of science and engineering policy

20. The IUSS Committee is itself the key body to scrutinise science and engineering policy. This work could be better supported if the recommendations of the CST report are acted upon and mechanisms are put in place for improving engagement between academia and policy makers – and ideally more widely to include public engagement. This would allow for policy makers to get feedback, both positive and negative, on an ongoing basis. Bodies like the Academy of Social Sciences and/or its constituent learned societies would be encouraged to formulate views and obtain feedback if it was confident that its contribution would be heard.

8.1.2009

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<sup>i</sup> *Punching our weight: the humanities and social sciences in public policy making*. A British Academy report, September 2008. [www.britac.ac.uk/reports/wilson/index.cfm](http://www.britac.ac.uk/reports/wilson/index.cfm)

<sup>ii</sup> *How academia and government can work together*. A report by the Council for Science and Technology, October 2008. [www.cst.gov.uk/cst/reports/files/academia-government.pdf](http://www.cst.gov.uk/cst/reports/files/academia-government.pdf)

<sup>iii</sup> *International excellence: Valuing International Scientists and engineers*, report from the Campaign for Science and Engineering in the UK (CaSE)

<sup>iv</sup> Nick Hall, CaSE News no 58 December 2008

<sup>v</sup> As above. A Core recommendation to Government, page 16

<sup>vi</sup> Research Fortnight, 21 May 2008  
[http://www.pacrowther.staff.shef.ac.uk/RF302\\_Haldane.pdf](http://www.pacrowther.staff.shef.ac.uk/RF302_Haldane.pdf)

<sup>vii</sup> A response to the DIUS consultation document from the Academy of Social Sciences. Can be found under Consultations on [www.acss.org.uk](http://www.acss.org.uk)

<sup>viii</sup> As above, Recommendation 3 page 20

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<sup>ix</sup> *Developing Dialogue: Learned Societies in the Social Sciences*. 21<sup>st</sup> Century Society, Vol 3 Supplement December 2008 and [www.acss.org.uk/activities2b.htm](http://www.acss.org.uk/activities2b.htm)