

UK Deans of Science

Response to Innovation, Universities, Science and Skills Committee Inquiry – Putting Science and Engineering at the Heart of Government Policy

1. The UK Deans of Science welcome this particular inquiry by the Innovation, Universities, Science and Skills Committee and wish to make some brief comments on some of the issues it raises.
2. The UK Deans of Science (UKDS) has members in around 70 HE institutions that have significant science portfolios. Our primary aim is to ensure the health of the science base of the UK through the promotion and support of science and scientists and of science research and science teaching in the UK's HEIs.
3. In summary we would wish to make the following points, which are further developed and explained in later paragraphs. We urge the Committee to take particular note of those bullet points that are presented bold.
 - We wish to record our thanks for the very significant financial and other support for science given by the Government over the past ten years. We are delighted that the Science Minister now has a seat in the Cabinet (paragraph 4 below)
 - **For a number of reasons the time has come for the creation of a separate Department for Science within the Government**(paragraphs 5 and 6)
 - New ways need to be found for obtaining the views of the science and engineering community that reach a wider group than has frequently been the case in the past (paragraph 7)
 - We would advise against increasing the powers of RDAs to develop regional science policies. While there may be strong arguments in favour of further support for regional science activities any funding should not come from current national science budgets (paragraph 8)
 - National discussion of the Haldane Principle should be initiated (paragraph 9)
 - There needs to be further recognition of the contribution that the scientific process, 'way of thinking' and method of approach, can make to society (paragraph 10)
 - **A Committee similar to the previous Science and Technology Select Committee should be re-formed to ensure full and proper Parliamentary scrutiny of science issues** (paragraph 11)
 - Steps need to be taken to ensure substantial increases in the number of members of the House of Commons and the House of Lords who have science or engineering qualifications (paragraph 12)
 - **The number of scientists and engineers in the civil service in each Government Department should be reviewed and strategies adopted to ensure significant increases in all Departments through appropriate changes to recruitment policies** (paragraph 12)

4. Firstly, we should point out that our comments should be seen in the light of our view of the Government's track record in supporting the science base over the past ten or so years. We would wish to record that we recognise the priority that the Government has given to science, engineering, technology and mathematics – in bringing them into the mainstream of Government, prioritising them in several public spending rounds, and ensuring that all Government Departments give consideration to science when developing their individual strategies. The major real term increases in capital and revenue funding for science in higher education has transformed the potential of the UK's science base. This has, of course, helped to indicate just how far the UK could progress in science and innovation if the right policies, structures and parliamentary processes are followed in the future. In this respect the decision that the Science Minister attends the Cabinet is particularly welcome.
5. The Cabinet Sub-Committee on Science and Innovation and the Council for Science and Technology have the potential to bring science and engineering further into the centre of Government thinking. However, the requirement to consider matters relating to science and *innovation* (our emphasis) and to report to the Committee on Economic Development suggests that there may now be an over emphasis on science in terms of its potential for economic impact. We find it very odd that, as we understand it, the Chief Scientific Advisor is not a permanent member of the Cabinet Sub-Committee but may attend only by invitation. Our members consider that our universities' science research and development must deliver solutions to the many local and global challenges and give the UK a major economic competitive edge. However, there is much more to scientific innovation than that which can be instantly measured by economic return (for example, inventions that may take considerable time to turn into products, outputs from curiosity-driven research that may not have an instant application, various improvements in treatment of disease, etc). It is for this reason that UKDS would wish to see the current combination of (economic) innovation, with universities, science and skills changed by the creation of a separate Department for Science within which there could be further consideration of the appropriate balance between applied and curiosity-driven research.
6. There are further arguments for the creation of a separate Department for Science. The open-minded way that the Government has continually considered, developed and refined its science strategies and policies has begun to illustrate just how far science can offer solutions to the challenges facing almost every Department of State. This means that each Department needs to consider how it uses and supports the science base so that science and engineering policy is in danger of being developed in an ad hoc way across the whole of Government with no central focus and coordination. It also means that there is no single place where the more fundamental and holistic issues relating to UK science and can be fully considered and taken forward.
7. The views of the science and engineering community must be taken into account when science policy is formulated. We offer no magic bullet to show how this can best be achieved. There has often been a tendency to rely on the same "great and good" individuals and organisations that, perhaps, can be relatively conservative in outlook and lacking in more forward thinking. Such reliance on the great and good also tends to ensure that the views of the most radical thinkers, younger scientists and some minority groups are not heard. It is important that a full range of individuals and organisations are offered the opportunity for engagement in the development of policy. Whilst Government calls for comment can be helpful, we believe that rolling programmes of meetings with a wide range of individual scientists and engineers, with relatively open agendas, and where the participants can be confident that the consultation is genuine and

that decisions have not already been made, could offer a way forward. Such an approach would certainly be preferable to commissioning one individual or organisation to produce, by consultation with a handful of others, a document that effectively becomes policy on its publication date. Of course, following the fuller consultative process that we suggest would mean that the Government (not the permanent civil service staff) would have to weigh up the outcomes and make final decisions on the way it wished to move forward.

8. UKDS believe that there would be some merit in a comprehensive review of how Regional Development Agencies approach the science agenda and how their policies support the Government's science agenda. There are already many examples of universities, either individually or in clusters, developing some of their research and teaching (Bachelors and Masters degrees) in ways that support the economic activity of their local area. Substantial Regional Government support in Australia has led to individual HEIs developing quite distinct and different agendas. Closer to home the activities of the Scottish Universities Physics Alliance is also worthy of note. UK Universities have also been instrumental in helping to change the type of industry operating in their locality through their research developments and active support for the creation of science parks. However, where RDAs are concerned we would advise great caution. While some may be successful supporters of economic development and work that is well established, we have no confidence in their ability to see beyond relatively close horizons or to develop forward-looking science policies that will result in real innovation. We would only add that any additional financial support for regional science activities must not be taken from current national science funding and RDAs.
9. RB Haldane's proposal 90 years ago stated that researchers, not politicians should make decisions about what research funds should be spent on. For many years this Principle has been mentioned in national discussions about research funding as though it still pertains to methods of research funding allocation. We do not believe that the Haldane Principle is applied to much of the Government research funding received by the universities, although, as far as we are aware, there has never been any open discussion about abandoning it. We believe that the time has come for a serious discussion about the Haldane Principle, something that could be one of the first inquiries carried out by a re-formed Science and Technology Select Committee (see paragraph 11).
10. Scientists command the respect of Government and the public. It is vital that this respect is maintained and that the Government can be seen to refer to independent and informed expertise. This can instil public confidence in the Government on issues from general day-to-day problems to major crises. It is essential that the discipline of independent, disinterested, scientific enquiry is recognised as a major benefit that the training of scientists has to offer. The contribution that science makes to the economy is beyond dispute. The contribution that the scientific process, 'way of thinking' and method of approach, can make to society is significant and often underestimated. Emphasis should be placed upon this when engaging the public and increasing public confidence in science and engineering policy.
11. Government science and engineering policy needs to be scrutinised in as independent a way as possible. It remains to be seen whether any Government would wish to set up a wholly independent body of people to carry out such a task. To be totally independent such a group would need to be selected by a process that was far removed from Government Ministers or Government appointees, something difficult, but not impossible, to achieve in practice.

However, a properly constituted Committee, with a similar remit to the previous Science and Technology Select Committee would make a very valuable contribution to this. It is very clear from our scrutiny of the new Innovation, Universities, Science and Skills Committee that, despite the efforts of its members, it has too wide a remit and has not been able to give sufficient attention to science issues. When discussing such issues we understand that the number of Committee members able to be present has sometimes been unacceptably low. UKDS therefore wish to press most strongly for the re-forming of a Science and Technology Committee that is given a remit that empowers it to look across Departments and scrutinise all aspects of science policy in **all** Government Departments.

12. UKDS believe that science and engineering will never achieve the position they deserve and the country requires until changes occur in the Lower and Upper Houses. Firstly, there need for far more MPs and members of the House of Lords who have a background in science and engineering. Changing the numbers of MPs will require political parties to be willing to make decisions about their choice of candidates who will stand in elections. We recognize that IUSSC has no control over this. However, the Government might be persuaded to increase the number of members of the Upper House who have scientific backgrounds. Perhaps even more significantly, there is another area where we believe scientists and engineers form a minority group – within the ranks of the civil servants who support the Government. UKDS strongly urge the IUSC Committee to review the numbers of qualified scientists and engineers who work in all Government Departments and to propose a significant increase in the future through appropriate changes to recruitment policies.

13. UKDS would be happy to provide further comments if required.

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