



British Ecological Society

The British Ecological Society

“advancing ecology and making it count”

www.britishecologicalsociety.org



Biochemical Society
Advancing Molecular Bioscience

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“Advancing molecular bioscience”

www.biochemistry.org

**Response to the Department of Business, Innovation and Skills
“Guidelines for the use of Scientific Analysis in Policy-Making”**

February 2010

Introduction to the British Ecological Society

The British Ecological Society (BES) is the learned society for ecology in the UK. Founded in 1913 and with 4,000 members, the British Ecological Society supports ecologists and promotes ecology; the study of living things and their relationship with the environment in which they live.

Introduction to the Biochemical Society

The Biochemical Society promotes the advancement of the Molecular Biosciences both internationally and in the UK. We have 5,000 members and represent the interests of and provide support to those working in the sector.

Specific Comments

Page 16, paragraph 13: “*The potential networks of organisations such as learned societies should not be underestimated*”. The Guidelines should be far more positive about the potential of learned societies to offer networks of expertise and advice to policy-makers. This statement should be re-drafted to *actively encourage* the use of learned societies, rather than framed in terms which assume that learned societies *will* be underestimated and overlooked – an alternative could be: “Long-standing networks of expertise exist within and between learned societies and both should be accessed when seeking experience and opinion on relevant issues”.

An October 2008 report from the Council for Science and Technology, ‘How academia and Government can work together¹’, specifically recommends that the Government should make greater use of learned societies, whilst the Government’s ten-point plan in response states that engagement with learned societies, as a source of expert advice, will be actively promoted through the revised Guidelines². We encourage the Government to make sure that the Guidelines do in fact reflect this intention.

Page 17, paragraph 18. “*Making the question too narrow may prejudice the result*”. That policy questions are too broad, and therefore unanswerable by a scientist used to focusing on testing a particular hypothesis, is often a criticism from academics engaged with policy-making. It is vital that as well as engaging the public in framing the questions, as mentioned in this paragraph, scientists should also be involved in discussion with policy-makers from the start, helping them to frame questions which are both answerable and have breadth. A scientifically-literate civil-

¹ How academia and government can work together. Council of Science and Technology, October 2008.

² The 10 point Action Plan, Department of Business, Innovation and Skills, July 2009

service, and a civil-service which includes scientifically trained individuals, is also vital to ensure that these questions are designed in a way which can be answered by scientists.

Answers to Consultation Questions

Question 1.

- **Are guidelines still necessary or relevant to the current context of science and engineering advice?**

Yes, the guidelines are still necessary and relevant: procuring and using scientific evidence is something which applies to the majority of civil-servants and policy-makers. Although a recent report from the Government Office of Science (GO Science) stated that ‘all major science-using departments’ now have a Chief Scientific Advisor (DCSA), HM Treasury still lacks a DCSA and most Government departments lack Science Advisory Committees. The role of Science Advisory Committees, and the DCSA, in scrutinising the use of science by departments is vital. These guidelines are vital across Government but most important to those departments lacking these structures.

The dismissal of Prof. David Nutt as Chair of the Advisory Council on the Misuse of Drugs, by the Home Secretary in 2009, has also demonstrated the guidelines to be both necessary and relevant and has highlighted the need for them to be strengthened further. The decision of Prof David Nutt to create the new Independent Scientific Committee on Drugs (ISCD) is likely to confuse the public with regards to where to look for sound evidence on this important issue.

- **In revising these Guidelines, are there additional issues that could be usefully covered?**

The Government is consulting on the ‘Principles on Scientific Advice to Government’, published in December 2009. The Principles should be incorporated into the Guidelines. The BES and Biochemical Society support the recommendations of the House of Commons Science and Technology Committee³ that arrangements covering the dismissal of a member of an SAC for breach of the Principles or of the Code of Practice for Scientific Advisory Committees (CoPSAC) be covered in the Guidelines (p13) and that the Guidelines also include direction on resolving disputes between members of SACs, ministers and departments (p12). It is encouraging that the Government will undertake to discuss issues relating to the function and working of scientific advisory bodies, not reflected in the Principles, in the Guidance when re-drafted, or CoPSAC.⁴

Question 2.

- **Are there other methods for identifying issues that require specialist advice that could usefully be highlighted in this section?**

Learned societies such as the BES and Biochemical Society can help to facilitate dialogue between policy-makers and academics. In June 2008 the BES held a workshop in partnership with Defra, the Woodland Trust and Countryside Council for Wales focused on ‘Predicting the

³ The Government’s review of the principles applying to the treatment of independent scientific advice provided to government. House of Commons Science and Technology Committee, 9 December 2009.

⁴ Principles on scientific advice to Government published for consultation. DBIS Press Release, 15 December 2009.

Impacts of Climate Change on Biodiversity and Ecosystem Services'. The BES is also a founding partner in the Natural Capital Initiative, along with the Society of Biology and Centre for Ecology and Hydrology, which aims to bring together Government, business, academia and the public to identify gaps and opportunities in developing an ecosystem approach in policy-making.⁵ A large symposium to launch the Initiative in April 2008 identified many issues of which it would be useful for policy-makers to be aware. Attending such meetings, workshops and events and also designing these in partnership with learned societies can help Government and academics to better identify emerging opportunities.

- **How and when might advice at the strategic level (for example from Scientific Advisory Committees and Science Advisory Councils) be usefully distinguished from advice at the individual policy level?**

SACs could best be used to identify emerging issues, leading to policy-development and the development of priorities. Individual advice could then be sought for framing the policy, with this advice then passing back to the SAC at a later stage to serve as an 'evidence check'. SACs could also be used at this later stage to resolve controversies around the scientific evidence and aid in reaching consensus.

Question 3.

a) On the evidence base:

- **Is there anything more that can be said about ensuring an appropriate, adequate evidence base and the role of expert advice in identifying gaps and weaknesses?**

Learned societies can prove extremely helpful to policy-makers in providing a network of experts whom one can consult for advice and assistance. A number of learned societies, including the BES and the Biochemical Society, have dedicated policy staff whose role it is to ensure that these connections between policy-makers and the academic community they represent is facilitated and maintained. Whilst the National Academies, such as the Royal Society, undoubtedly provide a useful source of advice to government, individual learned societies are the experts in their specific areas, and are often able to draw upon a broader constituency. Consulting more widely than the National Academies can play an important role in ensuring an adequate and representative research base.

- **What key indicators might policy-makers use as guidance on when it is necessary to commission new research/ expert advice?**

Feedback from expert researchers can provide a key indication of research gaps and weaknesses. Learned societies can assist policy-makers in seeking the view of these researchers, for example by facilitating workshops and events to enable policy-makers and researchers to come together and share information. Organisations such as Foresight and other horizon-scanning bodies (including learned societies) should be used to enable the Government to identify emerging issues and commission new research/expert advice.

b) On expert advisors:

- **When developing policy, how can the Government ensure that a full spectrum of evidence is heard, from across government and externally?**

⁵ www.naturalcapitalinitiative.org.uk. Accessed 8 January 2010.

In order to promote effective engagement with the academic community, to ensure that the views of academia are heard as part of the 'full spectrum' of evidence sought by policy-makers, it would be wise for the Government to consider the principles set out by the Council for Science and Technology in its October 2008 report¹. These include making greater use of learned societies, widely advertising the existence of SACs and opportunities on them to the academic community and working with the academic community, through Research Councils, universities and learned societies to identify a set of exchange mechanisms, such as secondments and internships, leading to the greater sharing of information.

The Biochemical Society is currently developing a Parliamentary Committee shadowing scheme. This scheme will allow Committees to access the expertise and experience held within our membership by pairing one of our members with Committee staff for a period of two - three months, at the expense of the Society. The British Ecological Society runs a Parliamentary Shadowing Scheme, now in its fourth year, which enables members of the Society, selected through a competitive process, to spend two days with a minister, MEP or scientific advisor. Ecologists taking part in the scheme have shadowed, amongst others, three successive Parliamentary Under-Secretaries of State and the Minister for the Environment at the Welsh Assembly Government. Individuals who have taken part in the scheme are well equipped to understand the challenges policy-makers face and to engage with them in the future.

- **What mechanisms should government use to identify other expert advisors? What role should the National Academies and other learned societies play?**

As outlined in our answer to question three, we believe that it is vital for Government to consult more widely than the National Academies and to engage with learned societies as a matter of course, not as a second thought, in ensuring that the opinion of a broader scientific community is heard. The British Ecological Society represents around 4,000 members worldwide, across the full spectrum of research within ecology. The Biochemical Society represents 5,000 members worldwide across the breadth of the molecular biosciences. Both organisations are a member of the Society of Biology, the umbrella body for the biological sciences, which represents over 80,000 biologists – both individual members and through its constituent organisations. By engaging with learned societies the Government is therefore able to access a much broader constituency, and far higher numbers of potential experts, than through engagement with National Academies alone.

- **The independence of science and engineering advisors, and of advice to government, is critical. How might independence be defined? Can we ensure “independence” is delivered in practice?**

We support and endorse the principles which were published on 15 December 2009 which state in relation to independence that:

- Scientific advisers to the Government are free to communicate in a professional capacity within their field of expertise, subject to normal confidentiality restrictions.
- Scientific advisers to the Government are free to communicate relevant evidence and analysis, including when it is at odds with Government policy.
- Scientific advisers to the Government must be free from political interference with their work.
- Scientific Advisory Committees and Councils have the right to engage with the media and public independently of the Government and are free to seek independent media advice.

- Scientific advisers to the Government should make clear in what capacity they are communicating, for example at conferences or in published papers.⁶

In addition to these points, we share the view of the Science and Technology Committee that: ‘It is important to safeguard the independence of the advisory system. In situations where the independence of a SAC chairman or member is or might be threatened for political reasons, support should be offered by the DCSA and/or the GCSA.’⁷

c) On government advisory structures

- **How might individual advisory structures determine whether a lay member/ consumer representative/ ethicist would add value to its working?**

We believe that the opinion of lay members in advisory structures is very important. In the recent report ‘Putting science and engineering at the heart of Government policy’ Dame Deidre Hutton, Chair of the Food Standards Agency, explained that the FSA has lay people on the board, on advisory councils and throughout the agency. She regarded them as “extraordinarily important” because they could highlight “what the real issues are for the public in terms of their acceptance of risk”.⁸ We believe that the involvement of lay members as a matter of course could prove useful in identifying issues which may be of broad public concern at an earlier stage and would add value to the output of advisory bodies.

- **How might government better draw upon established sources of expert advice (Science Advisory Councils and Scientific Advisory Committees, for example)?**

Government could better draw upon established sources of expert advice by ensuring that in the first instance, more departments have their own Science Advisory Councils and Scientific Advisory Committees; as a priority the Department of Health and Department of Energy and Climate Change.

d) On external opinion and public dialogue

- **How should policy-makers manage a situation where public opinion ran contrary to expert evidence-based advice?**

Where public opinion runs contrary to expert evidence-based advice, it suggests a lack of trust in science or a conflict of values. The recent ‘Hype, hope and hybrids’ publication produced by the Academy of Medical Sciences, Medical Research Council, Science Media Centre and Wellcome Trust provides an excellent example of how scientists and policy-makers can engage with the public on a contentious issue, as stated in the preface; ‘It is a story of success in ensuring the facts were sufficiently clear and accessible, so that the decisions were properly based on underlying societal values and interests, and not distorted by ignorance, misunderstanding or misrepresentation.’⁹

⁶ Principles on scientific advice to Government published for consultation. DBIS Press Release, 15 December 2009.

⁷ Putting Science and Engineering at the Heart of Government Policy, Innovation, Universities, Science and Skills Committee - Eighth Report 8 July 2009

⁸ Putting Science and Engineering at the Heart of Government Policy, Innovation, Universities, Science and Skills Committee - Eighth Report 8 July 2009

⁹ ‘Hype, hope and hybrids’, Science Media Centre, June 2009

As discussed above, the presence of a lay member on advisory committees may facilitate the identification of issues at an earlier stage.

- **What, if any additional items on public dialogue should be included in the Guidelines?**

We believe that one of the fundamental conflicts within public dialogue, astutely put by Prof. Nick Pidgeon, University of Cardiff, is that ‘a key issue in any dialogue between science and the public rests on an understanding of the nature of risk and of the types and levels of uncertainty that scientific knowledge entails. It is perhaps because politicians perceive a need to present absolute certainties and stark choices to the electorate that they have on occasion made such poor communicators of scientific issues.’¹⁰

We are encouraged by recent efforts to improve the relationship between scientists and the public, such as the Sciencewise Expert Resource Centre for Public Dialogue in Science and Innovation. In comparison to our European counterparts, public dialogue on issues relating to science and technology is relatively new. We urge the Government to seek to learn from experience both in Europe and other countries. The recommendation from the 2005 Council for Science and Technology report, ‘Policy through dialogue: informing policies based on science and technology’, that ‘Government at the highest level should adopt an explicit framework for the use of public dialogue to inform science and technology related policies’ remains pertinent and we strongly support the development of such a framework.

Question 4.

- **Academics and other external sources of research-based evidence can provide input at different times in the process of policy development, including policy formation and evaluation. How can the Government identify at what stages input would be most effective?**

In answering this, we have used the policy process model in which the stages are:

- Identification
- Agenda-setting
- Formulation of policy proposals
- Selection
- Implementation
- Evaluation

We believe the stage that would benefit the most from input such as that from academics and other external sources and research-based evidence is the ‘formulation of policy proposals’, ensuring that all proposals are based on sound evidence.

- **When in the policy-making process should the Government publish the evidence base for a given policy decision?**

If there is to be an ‘evidence check’ as outlined in the Guidelines, it is surely appropriate that the evidence base for a given policy-decision should be published at as early stage as possible, to allow assessment of whether the policy is truly to be developed on accurate evidence. In

¹⁰ Eurohealth Vol.8 No.1 Winter 2001/2002

reference to the policy process model above, this would be between the ‘formulation’ and ‘selection’ stages.

- **On what occasions, if any, might it be appropriate for the Government or advisors to withhold advice provided or the evidence base for a policy?**

We support the statement in the 2005 Guidelines that there is a ‘presumption at every stage towards transparency and openness’ (p20) and it is desirable that this goal persists in the re-drafted document. For the system to be as transparent as possible it is desirable that the Government withhold advice provided or the evidence base for a policy only in exceptional circumstances. The ‘Principles on scientific advice to Government’ state that ‘scientific advice to Government will be published unless there are over-riding reasons (such as national security) for doing so’. National security is a legitimate reason for not publishing advice and evidence – but it must be made clear in the Guidelines that ‘over-riding reasons’ are truly exceptional circumstances and cannot be perceived as an attempt to avoid accountability.

- **Should further distinction, if there is one to make, be made between advice in a crisis and advice delivery where the timescales are longer?**

An excellent and wide-reaching network of contacts, for example through learned societies, will help Government to reach out to expert advisers rapidly; even in a crisis. Policy made in a crisis should surely include caveats, with the policy re-visited and refined once the crisis has eased.

Question 5.

- **How might departments identify when peer-review of the evidence-base is warranted?**

We believe that there should be a broad representation in expert opinion during policy development and peer-review and if possible, a systematic review of the evidence should take place before any policy is developed or amended.

- **What kind of quality assurance processes might usefully be highlighted in the updated Guidelines?**

Question 6.

- **How should policy-makers deal with a situation where experts disagree on the interpretation of a body of evidence?**

One way to resolve controversies would be to commission a systematic review of the evidence base. The British Ecological Society, for example, has a small fund available – the Ecology into Policy grant – to support the production of systematic reviews by its members.

Another mechanism could be to convene a Committee of experts to assess the evidence and then draw conclusions. This is one function of the SACs. Convening greater numbers of SACs and ensuring that these are in operation across Government departments should assist policy-makers.

- **How should policy-makers respond to changes in the balance of evidence?**

Policy-makers should review the effectiveness of policy regularly, following implementation. Changes in the balance of evidence may necessitate that the policy is amended, or at least revisited.

- **How might public opinion be taken into account in a context of rapid evidential change?**

As discussed above, the presence of a lay member on advisory committees may facilitate the identification of issues at an earlier stage.

- **How do we ensure the ability or competence of policy advisers and decision makers to interpret advice and reach sound decisions, particularly when given conflicting advice?**

The key here must be a scientifically literate civil-service. One route to achieve this is by making sure that all civil-servants and policy-makers have access to training; for example through the National School of Government. Scientists must be encouraged to enter the civil service and valued once in post. There is estimated to be approximately 18,000 scientifically-trained individuals currently working within Government. The GCSA is to be congratulated for his efforts, as Head of the Science and Engineering Profession in Government, to bring these people together through Government Science and Engineering (GSE). The skills which these individuals can bring to policy and decision-making; dealing with uncertainty, balances of probability and assessing the rigour of evidence, should be valued and promoted.

While we support the intention of the Conservative Party to introduce mandatory training for new Members of Parliament, following the next General Election, we believe that the time allocated to this, which we understand to be 90-minutes, will be insufficient. We urge this and any new Government to make appropriate training available to all members of Parliament throughout the year.

Openness

We are happy for this response to be made publicly available and will be publishing it on our websites: www.britishecologicalsociety.org and www.biochemistry.org.

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