

QUINQUENNIAL REVIEW OF THE COUNCIL FOR SCIENCE AND TECHNOLOGY

Royal Society Submission to the Review 14 November 2002

Some general notes on issues to be considered

1. This section covers a number of issues concerned with future role and constitution of the Council for Science and Technology. It is followed by answers to the “Questions for consultation”, which were attached as annex B to the letter of August 2002 seeking submissions to this quinquennial review.
2. Much modern life and Government policies are crucially underpinned by science and technology (S&T), and it is important for the Government to have access to high-level advice on S&T issues and their long-term implications for the UK. Potentially, a group of independent experts across the whole of S&T, such as the Council for Science and Technology (CST), has an significant role to play in this, but it is essential to be clear on the respective roles of such a group and that of the Chief Scientific Adviser (CSA), with his network of Departmental Chief Scientific Advisers, and other specialist advisory committees. Furthermore, such a high level advisory group is only worthwhile, and a good use of members’ valuable time, if its advice is seen as relevant and carries weight within Government, with Ministers taking note of (and making use) of its advice.
3. Science and technology must increasingly be understood within its cultural, social, economic and political contexts. The public are less prepared than hitherto to accept the opinion of experts, including scientists. The strongly expressed reservations in many fields, such as food safety, animal diseases, environment, electromagnetic radiation (power lines and mobile phones) etc, is partly due to the scientists and engineers disregarding this wider context and, in many cases, not addressing or being unable to address the public’s concerns. This calls for a much greater integration of knowledge not just across the whole of S&T, but also with the social sciences and the humanities. The cultural barriers to this integration are arguably worse in the UK, than elsewhere in Europe.
4. There is a widely held opinion that currently CST does not have a sufficiently high profile either within Government or more generally. The review of the CST should therefore look at the overall structure of top-level S&T input into Government, and in particular that from OST, as the science arm of the Cabinet Office. It should also investigate whether the Council might have more impact if it were more fully integrated into the activities of the Chief Scientific Adviser, in an analogous way to the President’s Council of Advisors on Science and Technology (PCAST) in the USA, where the joint chairs are the President’s science adviser and an independent member. Further details can be found at the PCAST website - <http://www.ostp.gov/PCAST/pcast..>

Relevance of the CST to the responsibilities of the CSA

5. The prime source of advice to the Government on science matters is the Chief Scientific Adviser, whose role is to advise the Prime Minister and the Cabinet on immediate and longer-term scientific issues, usually where they span the responsibilities of more than one Government Department. He is also responsible for monitoring the overall arrangements for scientific advice within Departments.

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A standing committee is not best placed to provide advice on day-to-day scientific issues where an immediate response is required, and it is up to the CSA to decide how best to seek outside advice. On the other hand, a high level committee has much to offer on longer-term strategic advice on S&T issues, and it is therefore important to consider how this can be achieved best as part of the totality of advice to Ministers in the area of S&T.

Role of the CST

6. To be taken seriously, it is important for the CST to have a distinctive position, but one that is fully integrated within other sources of advice to Government on S&T issues, most notably:
 - a. The CSA and his or her network of advisers;
 - b. Various advisory councils, committees and groups within OST;
 - c. Departmental advisory committees;
 - d. Research Councils;
 - e. Independent bodies that provide science advice such as the Royal Society, discipline based learned societies and independent research institutes.

7. Possible areas of activity for the CST that would complement the roles of other advisory committees include:
 - Consideration of high-level issues of long-term strategic importance not covered by other committees.
 - Identifying:
 - i. where Government Departments are not addressing important S&T based issues;
 - ii. key generic issues raised in reports from other bodies within and outside Government, especially where the relevant Department's response/implementation is not totally adequate with respect to S&T issues.
 - Particular issues requested by Government.

With regard to international aspects of S&T, the current terms of reference are rather tightly drawn, concerned with synergies between the UK's domestic and international S&T activities. This needs to be expanded to consider wider policy implications of developments such as the European Research Area, and science policy and organisational developments elsewhere in the world.

8. There are two other important areas that should be taken into account when considering the future role of CST:
 - a. There are similar advisory committees in many other countries, and the Council should take note of, and if necessary build on, the work of such analogous advisory groups, notably elsewhere in the EU, the US and Japan.
 - b. As indicated above, the social, moral and ethical context within which scientific research, technological developments and exploitation are being undertaken is of growing importance to Government. Hence, consideration of this context should be an essential part of the CST's role and this needs to be reflected both in its terms of reference and in its membership.

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Chair of CST

9. Currently the CST is chaired by the Cabinet Minister for Science. This arrangement was introduced in the 1993 White Paper, which stated that the CST would be chaired by the Cabinet Minister for Science on behalf of the Prime Minister. At that time, the Cabinet Minister was the Chancellor of the Duchy of Lancaster, who had a smaller portfolio than the Secretary of State for Trade and Industry. Indeed, the description of the Secretary of State's role on the DTI website, mentions *inter alia* her role as Minister for Women and e-Minister in Cabinet, but not her role as Cabinet Minister for Science. In practice recent meetings have been chaired by Lord Sainsbury or the CSA.
10. While it is usual for advisory committees to be chaired by a senior independent person, at this level there is a danger of the work becoming decoupled from the Government's policy arrangements and it being seen as just another pressure group. This will, of course, depend on the relationship of the Chair to Ministers. It is also important not to end up with, in effect, two Chief Scientific Advisers.
11. In considering this further, it is helpful to distinguish between three functions of a committee chair:
 - a. To chair the meetings;
 - b. To develop the work programme of the committee;
 - c. To represent the committee and to champion the advice that it issues.

With the heavy pressures on Ministerial time, a Ministerial chair can cause problems especially with respect to the second and third of these roles. This is reflected in the difficulties the Secretary of State has had even to attend CST meetings, and so it seems unlikely that Ministers can give sufficient time to considering its future work. While, it could be argued that it is the Civil Service's job to advise the Minister on this, such a solution reduces the independence of the Council and blurs the distinction between it and, for example, the role of the CSA.

12. A possible way forward is to retain Ministerial chairing of the Council, but for there to be a Convener of the independent members, charged with developing proposals for the CST's activities through informal meetings of the independent members and regular contact with the CSA and the Science Minister. This might allow the full meetings of Council with a Ministerial Chair to be reduced to say two a year. Another possibility is for the CSA to chair (or jointly chair (cf PCAST)) the CST, with formal meetings of the Council with Ministers no less than twice a year.

Terms of Reference and membership

13. The terms of reference and, where necessary, the membership needs to be strengthened to take account of the following:
 - a. the social context of S&T and its long-term future exploitation by industry, commerce and the public services. This would require the membership to include more experts in social sciences, consumer affairs and economics. These should be appointed as for other areas on expertise rather than affiliation.
 - b. Developments in science policy and arrangements at the EU level and beyond.
 - c. The work of other scientific advisory committees in the UK and abroad, and for the former, in areas of general concern, reviewing the Government's response to such advice

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Secretariat

14. If the CST is to function satisfactorily it needs a strong independent secretariat within OST, but well linked in with other components of the CSA's office, as much of the background knowledge and statistics will be common to both. The Council should be in a position to commission background papers, and should have a budget for this.

Annex B

Quinquennial Review of the Council for Science and Technology

Questions for consultation

Does the Council for Science and Technology (CST) perform a necessary function? If so, is CST the best way of performing that function?

1. ***Does the Government need high-level independent advice on the strategic policies and framework for science and technology in the UK, in addition to what it can get from its own civil servants?***

It is most important for the Government to have access to high level independent advice on S&T that is complementary to the Government's own scientific experts led by the Chief Scientific Adviser (CSA), with his/her own network of Departmental Chief Scientific Advisers and outside experts, and to other standing and ad hoc advisory committees in particular areas.

Hence the role of the CSA, with respect to the CST needs careful consideration.

2. ***How effectively has CST performed its function of helping in sustaining and developing UK science and technology and maximising their contribution to the nation's sustainable wealth creation and quality of life? For example, has it contributed to improving:***

- ***the health of the UK science and engineering base?***
- ***the use of this base by the Government, business and others?***

It is difficult to determine the contribution uniquely made by the CST, but its profile does not appear to be high.

- ***public understanding?***

While this is not a primary role for the CST, it should contribute to the public's understanding of science and particularly to the understanding of the role of science advice in the Government process. More importantly, one of its key tasks should be to advise the Government on the political and public/societal context of science policy, and the Council itself has to understand the way that S&T issues are likely to be viewed by the public.

3. **Is the role of CST clear, within the overall advisory framework?**

No, please see introductory note.

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4. Does CST's work overlap with that of other bodies?

Yes, potentially it overlaps with a range of other advisory committees and its role *vis-à-vis* the CSA needs to be clarified.

5. Does CST have a role in relation to the devolved administrations and/or in relation to policy in regions?

Yes, there is a clear role for a UK wide body, with the devolved administrations having their own advisory arrangements for more local issues.

6. Does CST provide a useful channel for communicating Government views and policy to the rest of the science and technology community?

No, and this is not a major role that it should play. There is a danger of giving the CST too wide a remit in areas peripheral to its main area of activity. Nevertheless, communicating Government views and policy to the S&T community is an important issue that needs to be addressed by the CSA/OST.

7. If the Government needs advice, are there better ways to get it? For example, should advice be sought through consultations on an ad hoc basis, or from a body led by the private or voluntary sector? Are there lessons to be learnt from the arrangements in other countries?

There will be many instances, particularly where the Government requires detailed advice on a scientific issue, where the best way forward is through a standing or *ad hoc* committee set up by a Department, OST, or in some cases by an outside independent body. Nevertheless, there is a role for a high level advisory council to take an overview of the situation, and to advise on long term issues.

In the US there is the President's Council of Advisors in S&T (PCAST), jointly chaired by the President's chief scientific adviser and an independent expert.

8. Is there a continuing need for CST, or should it be abolished?

There is a continuing need for the independent high-level advice on long-term issues in S&T, but it is not clear that, as currently constituted, the CST is the best vehicle to achieve this.

If CST is to continue, could it perform its functions better?

Yes, please see introductory note.

9. Do CST's terms of reference enable it to play its part effectively?

No, the public and social context of much, if not all, scientific advice needs to be made explicit.

10. Does CST provide its advice in the most useful way?

Probably not, this is crucially dependent on its constitution and its relation to the CSA and to Ministers.

11. What sort of members does CST need? Is there the right mix of skills and experience among the present members? Do the present appointment and induction procedures operate effectively?

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The CST needs to be strengthened with experts in social, economic and consumer issues.

12. *Is it helpful that CST is normally chaired by a Minister and has the Government Chief Scientist as a member?*

There are significant problems with its current constitution – see introductory statement.

13. *Would it be helpful for CST to have a higher public profile? If so, how could this best be achieved?*

Yes, but this is probably secondary to the need to increase its profile within Government and Whitehall. Certainly, its operation needs to be as transparent and open as possible.

14. *Should CST improve its links with other bodies?*

It should certainly be part of an integrated advisory arrangement within Government. It may also well need to improve its links with other bodies depending on the overall role it has to undertake. It should also have at least informal links with other top-level advisory councils in other countries.

15. *How should CST's work programme be developed? Should CST be responsible for determining its own work programme? Should it respond to requests from the Government? Should external views be invited, and if so how?*

It is important for the CST to determine its own work programme within carefully drawn terms of reference, but it should certainly respond to requests from Government for specific advice. External views on its overall programme would be helpful.

16. *Does CST operate in an open and transparent way? Could its annual report be improved? Should it hold open meetings? Are the minutes of its meetings clear and useful?*

The CST website, which provides access to reports and annual reports gives clear information on the Council's activities. These might be developed further to be more attractive to the general public with a view to increasing the information available on the mechanisms for providing scientific advice to Government.

While it would probably not be helpful for the Council to hold its business meetings in public, there may well be circumstances where it would be valuable for it to hold open meetings, to hear views during its consideration of a topic, or possibly to explain how it reached its advice to Government. This would be especially helpful when the CST is considering issues where there is particular public concern.

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17. Does CST make the best use of new technology? Is its website easy to find and useful?

The CST website is reasonably easy to access and informative about its work. It reflects its current low-key method of operation.

And finally ...

18. Are there any other comments you would like to make?

These are included in the opening statement.