

QUINQUENNIAL REVIEW
OF THE
COUNCIL FOR SCIENCE AND TECHNOLOGY
REPORT ON STAGE 1

Elizabeth Hopkins
11 October 2002

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SUMMARY AND RECOMMENDATION

1. The Council for Science and Technology (CST) is an advisory Non-Departmental Public Body (NDPB). Its remit is “to advise the Prime Minister on the strategic policies and framework for science and technology in the UK with the overarching aim of sustaining and developing UK science and technology and maximising their contribution to the nation’s sustainable wealth creation and quality of life”.
2. CST is being reviewed now because it has been in existence for five years in its present form. The review is in two stages. This is the report on the first stage, considering whether the body is still needed. If so, the second stage will consider whether it might perform its functions more effectively.
3. Both in the UK and in other countries, there seems to be a felt need for a independent body to provide high-level advice on science and technology policy. In the UK, CST is the latest in a series of such bodies. If the Government abolished CST, it would appear to be downgrading the importance it attached to science and technology, unless it could point to an alternative source of advice. There is no obvious equivalent source among existing Government-sponsored or external bodies.
4. CST’s work since it was re-established has made some contribution to policy formulation. But its overall impact, like that of its predecessor bodies, has proved disappointing. If the Government continues to want external advice, the best way to obtain it is not to invent yet another body, but to ensure that CST’s advice is properly focussed and properly fed into decision-making mechanisms.
5. Accordingly, this report **recommends** that CST should remain in being – but only if the Government and CST’s members are prepared to take steps to make it more effective. If this recommendation is accepted, the second stage of this review will consider what these steps might be.

REPORT

What is the Council for Science and Technology?

1. The Council for Science and Technology (CST) is an advisory Non-Departmental Public Body (NDPB). Its remit is “to advise the Prime Minister on the strategic policies and framework for Science & Technology (S&T) in the UK with the overarching aim of sustaining and developing UK S&T and maximising their contribution to the nation’s sustainable wealth creation and quality of life”¹.
2. CST’s Chair is the Secretary of State for Trade and Industry, but its meetings have normally been chaired by the Minister for Science on behalf of the Secretary of State. The Deputy Chair is the Government’s Chief Scientific Adviser. The Council currently has 14 independent members². Its secretariat is located within the Office of Science and Technology (OST).
3. Given the degree of distinction of its members and hence the opportunity cost of their input, CST has been remarkably cheap to run. Members are not paid, and few of them claim expenses. The secretariat has consisted of two middle-level civil servants, who have also been involved in other tasks for OST, with varying degrees of input from more senior officials and some secretarial assistance. Over the last four years, the average annual budget for CST has been less than £70,000³.

Why and how is the Council for Science and Technology being reviewed?

4. CST was re-established in its present form in March 1998. Government policy has been to review all NDPBs every five years, so the review of CST is now due. A new round of appointments is also due: the term of all but five of CST’s present members will expire by the end of 2002. So the Government needs to be clear about the purpose and utility of the body before deciding whether to launch the appointment procedure.

¹ Its defined terms of reference and organisation are at Annex A.

² Listed at Annex B.

³ This figure includes part of the cost of a survey of science teachers (the rest of which was funded from elsewhere), and the cost of work on data from the Universities and Colleges Admissions Service (UCAS) in relation to CST’s response to consultation on the Roberts review of scientists and engineers. It does not include the cost of the scoping study being commissioned for the CST’s work on science and the service industries, for which the budget is being supplemented.

5. The consultation letter issued on 19 August 2002⁴ sets out the approach which is being adopted to the review, and invites comments on the basis of a list of questions. The letter explained that the review would consist of two stages:

- The first stage would consider whether CST's function of providing independent strategic advice to Government on science and technology continued to be necessary; and if so whether CST in its present form as an NDPB was the best way for the Government to obtain such advice. A report on these issues would be submitted in mid-October.
- If on the basis of this advice Ministers decided that CST should continue in being, the second stage of the review would consider whether the way in which CST performed its functions could be improved, and a second report would be submitted in mid-December.

6. This is the report on the first stage of the review. It is based on material from interviews conducted and responses received to date⁵, and it has been considered by the Steering Group which is guiding the review. However, responsibility for the conclusions rests solely with the reviewer.

Does the Government need high-level independent advice on the strategic policies and framework for science and technology in the UK?

7. For several decades, successive British Governments have sought independent advice on the strategic policies and framework for science and technology. They have explored different ways of obtaining that advice. The Advisory Council for Applied Research and Development (ACARD) was established in 1976 to improve the interface between Government and outside organisations; it was later given responsibility for co-ordinating all applied R&D and basic research. In 1987, ACARD was replaced by a new Advisory Committee on Science and Technology (ACOST), with a wider remit. Both ACARD and ACOST proceeded by means of detailed studies leading to published reports. In 1993 came the first incarnation of CST, conceived as a "paperless" body in which senior, influential people from industry and academia, bringing their own wisdom and experience and acting as antennae for their respective communities, would give advice directly to Ministers. Since 1998, the second incarnation of CST has adopted a mixture of the former approaches⁶.

8. There seems to be a generally-felt need for an advisory body of this kind. The equivalents in other countries are sometimes very heavy-weight, at least on

⁴ Reproduced at Annex C. This letter was sent directly to some 40 relevant organisations and individuals, and was placed on the OST website.

⁵ Listed at Annex D. Much of the material gathered has not been directly used in this report: it will be relevant only if the review proceeds to its second stage.

⁶ More detail on CST's present way of working is given below.

paper. In Japan, for example, there is a Council for Science and Technology Policy chaired by the Prime Minister, including among its members a number of Cabinet Ministers (notably the Minister of Finance) as well as a few academics and senior industrialists. It meets monthly, and has a secretariat of 100 people from industry, academia and Government. In the US, the President has a Council of Advisers on Science and Technology (PCAST), originally established in 1990 “to enable the President to receive advice from the private sector and academic community on technology, scientific research priorities, and math and science education”. It is currently chaired jointly by the President’s Science Advisor and Director of the Office of Science and Technology and a partner in a high technology venture capital firm, and has 22 other members. All EU Member States have advisory bodies of some kind, though it is noteworthy that many of them seem to have been frequently re-invented. And it is of course hard to know how effective and influential these bodies really are in practice.

9. By definition, “independent” advice to the Government must come from outside the civil service. To say this is not to cast doubt on the validity of the advice on science and technology given by civil servants (especially Scientific Advisers); it is simply to support the view – obviously held by the present Government – that input from outside is also valuable. A body (like CST) of very senior, widely respected people appointed on the basis of personal merit and expertise following wide consultation can feed in “outside” views and challenges on strategic issues to the Government on a regular basis, providing a “reality check”.

10. Yet it seems that none of the successive high-level independent advisory bodies in the UK has been a resounding success. This might be taken to demonstrate that the Government does *not* need independent advice on science and technology policies. Yet the views received so far in this review are in almost unanimous agreement that such advice *is* needed. To quote the response from the Save British Science Society:

“Only an independent body can fully understand the problems and challenges of an independent science base, and offer the uncompromising high-level advice needed to ensure that the UK maintains a world-class presence in the fields of science, engineering and technology”.

11. The Government has committed itself to CST as the jewel in the crown of its advisory structures on science and technology. In evidence in June 1998 to the House of Commons Science and Technology Committee’s inquiry on *The Scientific Advisory System*, OST described CST as “the Government’s premier advisory body”⁷. In its March 2001 Report, the Committee underlined CST’s importance, recommending “that the Government give more prominence to [its]

⁷ House of Commons Science and Technology Committee, Minutes of Evidence Wednesday 17 June 1998, Session 1998-98 HC 796-i.

activities”⁸. In November 2001, less than a year ago, the Government responded by reiterating its support for CST:

“The Government greatly values the work and advice of the Council, which is promulgated widely, both within and outside government ... The Government is therefore pleased to take this further opportunity to acknowledge the Council’s progress and performance following its re-establishment in 1998.”⁹.

12. It must follow that abolishing CST would inevitably be seen as downgrading the importance attached by the Government to the role of science and technology – unless it were replaced by something even more glorious. The fact that CST currently has a low profile most certainly does not mean that its abolition would pass unnoticed.

Could external independent advice be found in a better way, through ...

... another existing Government-sponsored body?

13. The Government has an extensive network of bodies set up to advise on particular issues related to science and technology. More than 80 committees appear in the July 2002 listing of “Code Committees”¹⁰. They range from the very specific (like the Advisory Group on Hepatitis or the Disabled Persons Transport Advisory Committee) to the much more general (like the Human Genetics Commission or the Commission for Integrated Transport). And there are many other groupings (like the Department of Trade and Industry’s own strategy boards) which include external members. But there does not seem to be any other body with the breadth of remit and the seniority of membership of CST from which advice could be sought.

... groups convened on an ad hoc basis?

14. The advantage of *ad hoc* groups is obviously that their membership can be drawn from those with specialist knowledge of the area under consideration. But the purpose of a body like CST is not to give a specialist view¹¹: it should be focussed on the big picture. As a permanent body, CST should be in a position to flag up issues to which it believes that the Government is not giving sufficient attention, where by definition an *ad hoc* group would not have been convened.

⁸ Fourth Report Session 2000-01, HC 257, paragraph 14.

⁹ House of Commons Science and Technology Committee, First Special Report, Session 2001-02, *The Government’s Response to the Science and Technology Committee’s Fourth Report, Session 2000-01, on the Scientific Advisory System*, HC 360, paragraphs 8-9.

¹⁰ Code committees are Government advisory committees following the *Code of Practice for Scientific Advisory Committees* issued by OST in December 2001. Of the committees on the list, 10 are sponsored by the devolved administrations.

¹¹ Though it can if it wishes co-opt experts in specific areas on to its sub-groups.

Moreover, CST members say that over the course of their membership they have gained more insight into how the Government machine works, and they have come to interact more productively with their colleagues. Both these factors should increase the value of their advice.

... a larger body?

15. It has been suggested that to obtain advice from the wider science and technology community the Government needs a wider body, which “would give the opportunity to a greater number and range of individuals and organisations to make their voice heard”¹². The Government may wish to consider whether such a body could be useful to it, but its advice would seem likely to complement that received from CST, not to replace it.

... a less formally-structured permanent body?

16. Even if a permanent body like CST is needed, it could be set up as an informal advisory committee. However, CST’s position as an NDPB has the advantages of putting beyond doubt the fact that, although it has a role in the processes of Government, it operates at arm’s length from Ministers. Being an NDPB also renders CST subject to the various principles and rules which apply to such bodies – like appointment procedures, a requirement for members to declare their interests, and a presumption of openness. These rules have their own disadvantages¹³. But for a body of CST’s potential significance those are outweighed by the need for complete impartiality in appearance as well as in fact.

... a body under the auspices of an external organisation?

17. One of the major advantages of CST’s position is its combination of independent expertise and direct access to Ministers. It is hard to see how this could be replicated in a body within an external organisation – even if any such organisation were prepared to take on the task.

Is the role of CST clear within the overall framework of advice to Government?

18. In the responses received to date, there has been no suggestion of a lack of clarity of CST’s position within the overall advisory framework. If there is a lack of clarity in the role of CST, it stems from CST’s ill-defined relationship with Government decision-making.

¹² The suggestion came in a joint response from the Engineering Employers Federation and the Engineering and Marine Training Authority, which suggested a body like the former ASSET (Association for Schools Science and Technology), previously known as the Standing Conference for Schools Science and Technology.

¹³ For example, the laborious appointment procedures make it difficult in practice to organise the staggering of appointments which might be desirable to safeguard continuity.

19. CST's work inevitably has some overlap with that of other bodies. Because the issues which it considers are important, most of them will also be receiving attention elsewhere (whether within or outside the framework of Government). So long as its composition and approach gives it a distinctive perspective, this does not matter. But it does make it crucial for CST to keep abreast of other work in the science and technology area. There are *de facto* overlaps of membership between CST and many of the other bodies which are active in this area. But more formal consultation could nevertheless be helpful.

Is belonging to CST helpful to its members?

20. It has been suggested that membership of CST may be useful from the point of view of the individual members, by keeping them in touch with Government thinking, and allowing them to feed it into their other work. Some certainly do appreciate this¹⁴, though they point out that (except for confidential information which they could not use elsewhere in any case) they have other ways of finding out what is going on. And they are adamant that they do not see themselves as mouthpieces for Government policy – nor should they be.

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

21. CST's terms of reference specify that its membership shall "represent the entire UK". This looks appropriate, since important elements of research funding are reserved matters, but since CST members are appointed as individuals not as representatives its importance may be more token than real. Conversely, because of its UK-wide membership, it is questionable how far CST should be involved in work relating to English regions.

22. As part of the consultation process for this review, views have been sought from the devolved administrations and the English regions. When these are received, it may be appropriate to return to this difficult area.

What has CST done since it was re-established in 1998?

23. With guidance from Ministers and assistance from its secretariat, CST has chosen to provide advice in a number of different ways¹⁵:

¹⁴ For example, members who are involved separately in advising the devolved administrations have suggested that CST's work has been useful to them in discussing their own science and technology strategies.

¹⁵ See list of reports and papers at Annex E.

(a) CST has produced reports on specific topics, considered Government responses to its reports, and in some cases followed up their implementation. In its first three years of existence in its new incarnation, the CST published four major reports:

- *A review of science and technology activity across Government* (July 1999)
- *Science Teachers: a report on supporting and developing the profession of science teaching in primary and secondary schools* (February 2000)
- *Technology Matters: a report on the exploitation of science and technology in UK business* (February 2000)
- *Imagination and Understanding: a report on the Arts and Humanities in relation to science and technology* (July 2001).

CST discussed the Government's responses to those reports with the relevant Ministers, and it followed up its initial advice on science and technology across Government by reviewing departmental science and innovation strategies (March 2001).

(b) CST has contributed to reviews in progress. During its first three years, it made substantial input into two major reviews, the Quinquennial Review of the Grant-Awarding Research Councils (over the period November 2000 to July 2001) and the Roberts Review of the supply of people with science, engineering, technology and mathematics skills (in September 2001). More recently (in September 2002), it has responded to a Government consultation paper on energy: *Developing Energy Policy: key issues for consultation for the White Paper*.

(c) CST has discussed other relevant topics in meetings. In the presence of the Minister for Science and relevant officials, members have given their views on such matters as expenditure reviews; the EU research policy and Framework Programmes; the UK's international science and technology activities; the 2002 DFES Green Paper on 14-19 education; and the programme for Foresight.

How effective has CST been?

24. The outstanding question must be whether CST's advice has had any real effect. Evidence on this tends to be anecdotal. It is difficult to point to causal links, but it is certainly true that many of the recommendations in CST's reports and responses to consultations have become Government policy. Interviewees have suggested, for example, that the report on science teaching brought the subject up the priority list; that the report on the exploitation of science and technology was useful to Ministers in the spending review; and that the report on

the arts and humanities influenced the creation of a Research Council covering this area. CST's contributions to the Quinquennial Review of Research Councils and to the Roberts Review were reflected in the reports of those reviews.

25. The Government certainly claims that CST has been influential in policy formulation. In its Report on *The Science Advisory System*, the House of Commons Science and Technology Committee commented that:

“The Council appears to be active, yet its public profile remains low ... It has attracted little attention in even the technical/scientific media ... It is also unclear what influence the Council's reports have had on government policy”¹⁶.

In its response (made in November 2001), the Government rejected this, saying:

“The Council has made a distinctive and influential contribution to science, technology and innovation policies, as recognised, for example, in the two White Papers, entitled *Excellence and Opportunity* and *Opportunity for all in a world of change*, which contained references to the Council's reports and work ... The Council's standing and profile will continue to strengthen as its role and work develops, and its interactions with external organisations become more effective”¹⁷.

26. It appears that the Government's confidence about the future may have been misplaced. CST seems to have run out of steam. During the last year it has continued to meet (though in June 2002 the meeting was cancelled because there was no substantive business), and it has produced one public paper, commenting on energy policy. But even those members who believe that CST could have a useful role are beginning to feel that they are wasting their time – and it is difficult to believe that CST is currently having much impact on Government policy.

Should CST continue?

27. One member suggested that CST might as well be kept in being, because it did no harm, and it was cheap to run. That is true, but it is putting it at its lowest: it also seems that CST in its present incarnation may have made some useful contributions to the development of policy. But it has not had enough effect to justify the continuation of a body which demands a lot of time from very busy members, who are becoming disillusioned about their role.

28. It does not automatically follow that CST should be abolished. There is a perceived need for independent advice on the strategic policies and framework

¹⁶ *Loc cit.*

¹⁷ *Loc cit.*

for science and technology in the UK, and there is no immediately apparent alternative source. If the Government is serious about wanting such advice, it makes more sense to work at making CST more effective than to invent yet another body.

29. Making CST more effective may mean making radical changes in what it looks at, how it works, and how it provides its advice. The challenge is to ensure that the advice provided is properly focussed and properly fed into decision-making mechanisms. This may be uncomfortable, because it could involve CST in poking its nose into what looks like other people's business. But provided that it keeps within its terms of reference, a body whose remit is to advise the Prime Minister should not need to be a casualty of turf wars.

30. Accordingly, this report on the first stage of the Quinquennial Review of the Council for Science and Technology **recommends** that CST should remain in being – but only if the Government and CST's members are prepared to take steps to make it more effective. If this recommendation is accepted, the second stage of this review will consider what these steps might be.

Elizabeth Hopkins

11 October 2002

ANNEXES

ANNEX A

Terms of reference and organisation of CST¹⁸

Terms of reference

1. To advise the Prime Minister on the strategic policies and framework for Science & Technology (S&T) in the UK with the overarching aim of sustaining and developing UK S&T and maximising their contribution to the nation's wealth creation and quality of life.
2. The Council will take a medium to longer term, strategic approach to its core tasks of keeping under review and making recommendations on ways of improving:
 - (i) the performance of the UK (public and private sectors) in S&T, in relation to current and future national needs and opportunities;
 - (ii) the overall impact of the funding arrangements for publicly supported S&T including those for research in higher education institutions;
 - (iii) the effective use and exploitation of S&T by business, Government and the public services to create wealth and improve our quality of life; and
 - (iv) the synergy between the UK's domestic and international S&T activities and the scope for the UK to get more benefit from S&T collaboration.
3. The Council will also deal with more specific strategic issues of national importance on which the Government seeks its advice.

Reporting lines

4. The Council is advisory to the Prime Minister and will submit its reports to him through the Cabinet Minister for Science and Technology (the Secretary of State for Trade and Industry) who chairs the Council on behalf of the Prime Minister. The Prime Minister is responsible for appointments to the Council and the Government's Chief Scientific Adviser is the Deputy Chairman.

¹⁸ See CST website (www.CST.gov.uk).

Membership and mode of operation

5. The Council may work through sub groups chaired by one of its members and possibly involving additional non Council members with appropriate expertise who are co-opted to help deal with particular, time limited pieces of work. Members and non members may include appropriate experts from overseas.

6. The independent members will be drawn from very senior, widely respected people active in the worlds of academia, business, the City and from charitable sponsors. They will represent the entire UK and be appointed on the basis of personal merit and expertise following wide consultation.

7. The Council and its sub-groups may commission studies as background to their work, and may invite and consider papers from Government Departments, Research Councils, Funding Councils and other relevant publicly funded bodies. The OST will provide the secretariat.

8. The Council will be selective in its approach, concentrating each year on a small number of matters of strategic significance (say three or four) and dealing with them in depth. One of the first tasks of the Council will be to agree a forward work programme. Examples of strategic matters within the Council's core tasks are provided below.

9. The Council will publish an annual report and information about its work programme. Its advice will normally be published.

Examples of relevant strategic matters

In relation to task (i)

- International benchmarking of inputs and outputs to UK S&T
- Assessment of strengths, weaknesses, opportunities and threats concerning the UK's national S&T portfolio, taking account of national and international trends and developments
- Consideration of the balance within this portfolio (eg between disciplines, between basic and applied, between directed and responsive modes etc) in relation to longer term national needs
- Consideration of industry's needs for highly qualified S&T personnel and the extent to which these are being met

In relation to task (ii)

- Monitoring of trends in public spending plans for S&T and consideration of their implications
- Strategic overview of the national dual support system for university research including consideration of the optimal degree of selectivity and concentration of funds for university research and of the operation of peer review
- review of synergy between public and private sector S&T investment in particular areas, and between S&T investment between Government Departments and Research Councils

In relation to task (iii)

- Review of indicators of exploitation/commercialisation of S&T in UK, with international benchmarking of UK performance
- Review of different models of transferring/diffusing S&T skills and know-how from the research base to industry/other users, and consideration of their policy implications including those for dual use
- Review of international evidence on the role that fiscal instruments can play in stimulating commercial exploitation of S&T

In relation to task (iv)

- Review of trends in patterns of UK's international S&T collaborations
- Review of returns to UK from participation in bilateral and multilateral overseas collaborations
- Consideration of scope for harnessing international S&T activities to the UK's wider export promotion and inward investment objectives
- Consideration of scope for UK to promote national interests by more systematic development and prioritisation of its bilateral S&T links overseas
- Consideration of UK's strategic aims for sixth European Framework Programme
- Consideration of the scope for encouraging international sharing of major scientific facilities and equipment.

ANNEX B

CURRENT MEMBERS OF CST¹⁹

CHAIRPERSON

The Rt Hon Patricia Hewitt MP, Secretary of State for Trade and Industry; Cabinet Minister responsible for Science and Technology

DEPUTY CHAIRPERSON

Professor David King Scd FRS FRSC FInstP, Chief Scientific Adviser to the UK Government and Head of the Office of Science and Technology

INDEPENDENT MEMBERS

Dr Javaid Aziz, Chief Executive, Aspective

Mr Euan Baird, Chairman, Schlumberger Ltd

Professor S Kumar Bhattacharyya CBE FREng, Director, Warwick Manufacturing Group, University of Warwick

Professor Sir Alec Broers FRS FREng, Vice Chancellor, University of Cambridge

Professor Vicki Bruce OBE, Deputy Principal, Research, University of Stirling

Professor Sir Chris Evans OBE, founder and director of twelve biotechnology companies

Dame Julia Higgins CBE FRS FREng, Professor of Polymer Science at Imperial College

Dr Rob Margetts CBE FREng, Chairman, BOC Group PLC and Chairman of Legal & General PLC

Sir Paul Nurse FRS, Chief Executive, Cancer Research UK

Dr David Potter CBE, founder, Chairman and Chief Executive, Psion plc

Professor Peter Schuddeboom, Non-Executive Director, Industrial Research and Technology Unit, Northern Ireland

Sir Richard Sykes DSc FRS, Chairman, Glaxo Wellcome plc

Professor David VandeLinde, Vice Chancellor University of Warwick

¹⁹ For biographies of members see CST website (www.CST.gov.uk).

Mr John Weston CBE ex-Chief Executive, BAE SYSTEMS

ANNEX C

Consultation letter and questionnaire for review

19 August 2002

QUINQUENNIAL REVIEW OF THE COUNCIL FOR SCIENCE AND TECHNOLOGY

The Council for Science and Technology (CST) is due for review this year. I have been engaged to undertake this review, and I am writing to seek views from you – or from your organisation – on the issues which the review will consider.

The role of CST is to advise the Prime Minister about the United Kingdom's strategic policies and framework for supporting science and technology and maximising their key contribution to the nation's sustainable development (the full terms of reference of CST are at Annex A to this letter).

CST was re-established in 1998 as an advisory Non-Departmental Public Body (NDPB). All such bodies are subject to review at least every five years: regular reviews are a key component of the Government's commitment to improving the quality and effectiveness of public services.

The broad issues to be covered in the review now being launched are:

- whether CST's function of providing independent strategic advice to Government on science and technology continues to be necessary; and, if so, whether CST in its present form as an NDPB is the best way for the Government to obtain such advice;
- if CST is to continue, whether the way in which it performs its functions could be improved.

Annex B provides a list of questions designed to help address these issues. You are invited to submit written views on any or all of these questions or on associated issues, focusing on any problems which you perceive and suggesting

practical solutions to them – but also commenting on where you think the present arrangements are satisfactory and should be left alone.

The issues to be covered are obviously sequential. I have been asked to produce an interim report during October on whether or not CST should continue to exist. So if you have strong views on that, I need to know as soon as possible. I may need to approach you again with supplementary questions after the interim report has been considered by Ministers. The final report of the review is due by early December, so if I am to take your input into account I need it by the middle of November. The review will be conducted as openly as possible, so your response will be published unless it is marked "In Confidence".

If you would like to discuss the issues with me as well as submitting written views, do let us know. But in any case please send your written response to me, to arrive **by 15 November at the latest**:

- either by e-mail to cst.consultation@dti.gsi.gov.uk
- or by post, addressed to me c/o Maurice Potts at the address on this letterhead, if possible with a copy on disc in WORD 97.

If you have any queries, please telephone the Secretariat on 0207 215 0395, or send a e-mail to Maurice.Potts@dti.gsi.gov.uk.

I look forward to hearing from you.

Yours sincerely

DR ELIZABETH HOPKINS

Quinquennial Review of the Council for Science and Technology

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?
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?
 - public understanding?
3. Is the role of CST clear, within the overall advisory framework?
4. Does CST's work overlap with that of other bodies?
5. Does CST have a role in relation to the devolved administrations and/or in relation to policy in regions?
6. Does CST provide a useful channel for communicating Government views and policy to the rest of the science and technology community?
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?
8. Is there a continuing need for CST, or should it be abolished?

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

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

10. Does CST provide its advice in the most useful way?
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?
12. Is it helpful that CST is normally chaired by a Minister and has the Government Chief Scientist as a member?
13. Would it be helpful for CST to have a higher public profile? If so, how could this best be achieved?
14. Should CST improve its links with other bodies?
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?
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?
17. Does CST make the best use of new technology? Is its website easy to find and useful?

And finally ...

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

Elizabeth Hopkins

19 August 2002

ANNEX D

List of those from whom views have so far been received

Personal interviews

* indicates current independent member of CST²⁰

** indicates official of Department of Trade and Industry/ Office of Science and Technology

[indicates extra people expected to be interviewed before this report is finalised]

*Dr Javaid Aziz

*Mr Euan Baird

*Professor S Kumar Bhattacharyya CBE FREng

*Professor Vicki Bruce OBE

Professor David Cope, Director, Parliamentary Office of Science and Technology

**Ms Jo Durning, Group Director, Transdepartmental Science and Technology, OST

**Ms Lynne Edwards, Secretary, CST

**Mr Steve Elton, former Secretary, CST

*Professor Sir Chris Evans OBE PhD DSc

Professor Roderick Floud, President, Universities UK

*Dame Julia Higgins CBE FRS FREng

**Dr Alistair Keddie, Acting Director General, Innovation Group, OST

**Professor David King ScD FRS FRSC FInstP, Chief Scientific Adviser to the UK Government and Head of OST

*Dr Rob Margetts CBE FREng

Lord May, President, Royal Society

Sir Robin Nicholson FREng FRS

*Sir Paul Nurse FRS

²⁰ See Annex B.

*Dr David Potter CBE

Ms Emma Rothschild, Director, Centre for History and Economics, University of Cambridge

Dr Keith Root, Royal Society

Lord Sainsbury of Turville, Minister for Science

*Professor Peter Schuddeboom

*Sir Richard Sykes DSc FRS

**Dr John Taylor, Director General Research Councils, OST

*Professor David VandeLinde

*Mr John Weston CBE

Sir Peter Williams, Chair of Engineering and Technology Board, Master of St Catherine's College Oxford

Written submissions

Engineering Employers Federation (EEF) and Engineering and Marine Training Authority (EMTA)

Professor Sir Graham Hills

The Save British Science Society

NOTE: Further responses are expected before the consultation deadline of 15 November 2002.

ANNEX E

CST reports and papers in the public domain

Note: Most of these documents are available on CST's website; the reports shown in bold italics are also published in hard copy.

Annual Report for 1998/1999

Annual Report for 2000-2001

Annual Report for 2001-2002

- **Science and technology across Government**

Review of S&T activity across Government, July 1999

Government initial response, September 1999

Government Implementation Plan in response, July 2000

Review of Departmental Science and Innovation strategies, March 2001

- **Supporting science teaching**

Educating young people in science, engineering and technology, background paper by secretariat, September 1998

School science: fit for the future, initial report by CST sub-group, November 1998

Report for the Council on a survey of science teachers carried out by King's College, London, January 2000

Science Teachers: a report on supporting and developing the profession of science teaching in primary and secondary schools, February 2000

Initial response from the Department for Education and Employment, November 2000

- **Business exploitation of science and technology**

Exploiting the UK's scientific, engineering and technological capacities to competitive advantage, background paper by secretariat, August 1998

Technology Matters: a report on the exploitation of science and technology in UK business, February 2000

Government response to report, March 2001

- **The arts, humanities, science and technology**

Imagination and Understanding: a report on the Arts and Humanities in relation to science and technology, July 2001

Response from the Department of Education and Skills, November 2001

- **Quinquennial Review of the Research Councils**

Response to first stage of review, November 2000

Response to second stage of review, June 2001

Report on visit to Stockholm to study the re-organisation of Sweden's research and innovation agencies, July 2001

- **Review of the supply of people with science, engineering, technology and mathematics skills (Roberts review)**

Response to consultation paper, September 2001

- **Science and the service industries**

Science base-services links, Background paper, July 2001

Invitation to tender for a study into the links between knowledge intensive business services and the science base, draft, June 2002

- **Energy**

Response to Government consultation paper, Developing Energy Policy: key issues for consultation for the White Paper.