



House of Commons  
Science and Technology  
Committee

---

# The Government Office for Science Annual Review 2010–11

---

Oral and written evidence

*7 September 2011*

***Professor Sir John Beddington,***  
*Government Chief Scientific Adviser*

*Ordered by The House of Commons  
to be printed 7 September 2011*

## **The Science and Technology Committee**

The Science and Technology Committee is appointed by the House of Commons to examine the expenditure, administration and policy of the Government Office for Science and associated public bodies.

### **Current membership**

Andrew Miller (*Labour, Ellesmere Port and Neston*) (*Chair*)  
Gavin Barwell (*Conservative, Croydon Central*)  
Gregg McClymont (*Labour, Cumbernauld, Kilsyth and Kirkintilloch East*)  
Stephen Metcalfe (*Conservative, South Basildon and East Thurrock*)  
David Morris (*Conservative, Morecambe and Lunesdale*)  
Stephen Mosley (*Conservative, City of Chester*)  
Pamela Nash (*Labour, Airdrie and Shotts*)  
Jonathan Reynolds (*Labour/Co-operative, Stalybridge and Hyde*)  
Alok Sharma (*Conservative, Reading West*)  
Graham Stringer (*Labour, Blackley and Broughton*)  
Roger Williams (*Liberal Democrat, Brecon and Radnorshire*)

### **Powers**

The Committee is one of the departmental Select Committees, the powers of which are set out in House of Commons Standing Orders, principally in SO No.152. These are available on the Internet via [www.parliament.uk](http://www.parliament.uk).

### **Publications**

The Reports and evidence of the Committee are published by The Stationery Office by Order of the House. All publications of the Committee (including press notices) are on the Internet at <http://www.parliament.uk/science>.

The Reports of the Committee, the formal minutes relating to that report, oral evidence taken and some or all written evidence are available in printed volume(s).

Additional written evidence may be published on the internet only.

### **Committee staff**

The current staff of the Committee are: Mrs Elizabeth Flood (Clerk); Dr Stephen McGinness (Second Clerk); Dr Farrah Bhatti (Committee Specialist); Xameerah Malik (Committee Specialist); Andy Boyd (Senior Committee Assistant); Julie Storey (Committee Assistant); and Becky Jones (Media Officer).

### **Contacts**

All correspondence should be addressed to the Clerk of the Science and Technology Committee, Committee Office, 7 Millbank, London SW1P 3JA. The telephone number for general inquiries is: 020 7219 2793; the Committee's e-mail address is: [scitechcom@parliament.uk](mailto:scitechcom@parliament.uk).

# List of witness

---

**Wednesday 7 September 2011**

*Page*

**Professor Sir John Beddington, Government Chief Scientific Adviser**

**Ev 1**

# List of printed written evidence

---

1 Responses to Follow-up Questions from the Government Chief Scientific Adviser, Professor Sir John Beddington

**Ev 9**



# Oral evidence

---

## Taken before the Science and Technology Committee on Wednesday 7 September 2011

Members present:

Andrew Miller (Chair)

Gavin Barwell  
Stephen Metcalfe  
David Morris

Stephen Mosley  
Graham Stringer  
Roger Williams

---

### Examination of Witness

*Witness:* **Professor Sir John Beddington**, Government Chief Scientific Adviser, gave evidence.

**Q1 Chair:** Welcome, Sir John. Thank you for coming this morning. As you know, we are splitting this session into two halves—first, with yourself and then, secondly, with yourself and your new colleague from the Treasury, whom we look forward to meeting. If we can start by inviting you to reflect on your successes or otherwise as Government Chief Scientific Adviser, what would you like to really achieve before you retire? I am not inviting you to retire, by the way.

**Professor Sir John Beddington:** The plans are in place, Chairman. The intention is that I will retire at the end of 2012, so you will have at least one more go at me. The first thing to say is that there have been quite regular improvements on some of the issues that I know this Committee has interests in. One I would focus on is the way that my office and I engage with the civil contingencies issues and the security issue. That has improved quite significantly. The input from this Committee was very helpful. As you know, from when I was in front of the Committee a few months ago, most of the recommendations have been pretty much accepted.

As to the way we have handled emergencies, through the operation of SAGE, we are learning all the time. The main one this year was to do with the Japanese tsunami disaster and how we handled that. I think that worked well. It is also indicative that we had another volcanic ash incident, but it was not at a level where we needed to convene COBRA and SAGE. There was an advisory group, which would have formed the core of SAGE, whereby we were able to provide advice on that disaster into the Department for Transport, so it did not need the full mechanism. That has to be good. On the civil contingencies side, there has been a definite improvement. The level of involvement of me and my office has increased and all that has to be good. The impression—I am sure you got that when I was before this Committee previously—is that the door is open. I don't have to push it very hard. They welcome this involvement. Clearly, the civil contingencies issues are out there. The Olympics is going to be quite a challenge. Hopefully, there will be no disasters or emergencies during the Olympics, but, obviously, there is a preparatory phase to be thinking about some of the "What if?" scenarios. My office, the Olympic authorities, the Civil Contingencies Secretariat and appropriate agencies are in fairly detailed discussion about the scientific issues there.

The other thing I would emphasise that has been going rather well is the Foresight team, and I would hope that that continues. In terms of what has actually been achieved this year, the publication of the report on the Future of Food and Farming has got substantial international recognition and has been accepted as being a real game changer. That is attractive.

**Q2 Chair:** On that, you tied a few issues together in a fairly powerful way in linking energy, food and water and the issues around climate change with this concept of a "perfect storm". Do you think you have got the message through to Governments that that is, potentially, an issue every Government should take seriously?

**Professor Sir John Beddington:** I cannot say for every Government, but this Government certainly. Internationally, it is recognised. For example, one of the things I am doing is chairing an international 'Commission on sustainable agriculture and climate change', which is funded by the Consultative Group on International Agricultural Research (CGIAR) Programme and the Global Donor Platform for Rural Development. In fact, next week I am going to be talking to Agricultural Ministers from the African Union about the interactions of climate change and agriculture and the way we could address it. The message that is becoming rather important is that, obviously, there are massive problems with climate change to address the issues of how agriculture adapts to climate change, but that there are big opportunities. The jargon these days is "climate-smart agriculture"—using agricultural activity as a way of mitigating climate change, so not just being more efficient, but, for example, having agricultural practices that sequester carbon dioxide. That is the agenda being taken on, and it is one thing I would very much like to see taken up next year. Of course, there is an opportunity in the wider environmental context in that, next June, there is the Rio+20 meeting, and I would hope to be inputting there.

On Foresight there are two ongoing projects and a new one; I am happy to talk to you about that. We have one on the issue of international migration and the role of the environment in that. That is going to be reporting in the autumn, probably late October or early November. As I have given evidence to this Committee before, there is an ongoing Foresight study

7 September 2011 Professor Sir John Beddington

on computer trading in financial markets. This week we will be publishing some evidence on the GO-Science website on some of the technical aspects of how high-speed trading can address issues of increasing liquidity and how we can look at the way in which regulation can either enhance or undermine resilience. That will be published on our website on the 8th of this month.

We are in the very early stages of developing a new Foresight project, which is on the future of manufacturing. I am in correspondence with the Secretary of State for BIS on that; we are hoping that BIS will sponsor it. It is early-days discussions, but it will be looking to what manufacturing is going to be out there in one, two or three decades ahead. That is the next one. That one will be slightly odd for me because I will start it but I will not finish it.

Looking into the future—you are going to be having a discussion with James shortly—we now have a CSA network that is pretty complete and plays into the advice at all stages, and we actually co-operate across the CSA network, which is working really well. That is important.

There are vacancies in BIS and Transport, in particular, and DCMS, which I hope will be filled by Christmas. We are in discussion as to how that will be done. I think, in general, that is healthier, if you like, than when I came in.

**Q3 Chair:** One of the things you identified a year ago was the weakness in social science support in parts of GO-Science. In particular, you and I have discussed problems of insufficient behavioural scientists to help public understanding of some of the complex issues. What have you done to mitigate that?

**Professor Sir John Beddington:** I have been in discussions about that. There is a real terminology issue, which we need to be a bit careful about, because economics is a social science and we have quite a lot of economists. In terms of social research, which is probably a better way of describing it, we do not have a chief scientific adviser who is a social researcher, but we have several who are economists with social research backgrounds. There are two aspects to it. One is in terms of the head of profession, where we have two members from the social research community who are joint Heads of the Government Social Research Profession and who are part of, and meet with, the Heads of Analysis Group regularly. I have been meeting regularly with them. I have also been having meetings with the ESRC and, indeed, with a number of social researchers in academia to say, “Look, we really want to engage you.” There have been several meetings I have done on that.

There is a recommendation from the other place in a report to Government, to which Government is in the process of responding, that there should be, as it were, a chief social researcher in Government, although they phrased it as “a Chief Social Scientist in Government”, who should be in my office and reporting to me. I cannot pre-empt Government discussion, but there will be a response to that recommendation relatively shortly.

The other area that I would like to highlight where I think continued work is important is the GSE—the

Government Science and Engineering community—where the membership has gone up by about 10% over the last year, which I am pleased about. We are about 25% of what we feel are the numbers of scientists and engineers in Government, who are now working there. We are developing plans for making that work rather better. We have a website and a newsletter and we have organised a variety of meetings for that community. This is something I would like to be part of my legacy, as it were.

**Q4 Chair:** Finally, let me take you back to the beginning when you first crossed the threshold in 2008. Did you have a different set of priorities then from those that you have now, and what has changed your opinion?

**Professor Sir John Beddington:** The first thing I felt was that we needed to be much more able to respond on all aspects. I have said this in speeches. The job description of the Government Chief Scientific Adviser is arduous, to say the least—responsible for all science and engineering across Government. When I came into the job, the way I had to make that work was to persuade Government to have chief scientific advisers for all aspects of science in different Departments. For example, we had a breakfast meeting this morning at which three doctors, who are chief scientific advisers, were present. We also have engineers, economists and natural scientists, both biological and physical. That was very much on my agenda because I thought this job would be impossible otherwise.

The second point on my agenda when I came into the job was that I was really concerned that, in a sense, science and engineering within Government had lost its way. There was no real leadership of that. I was the head of profession. I remember your predecessor Committee saying that, and I was delighted, because it is a really important role. However, I found that we had no record whatsoever of who were scientists and engineers in Government. That is not the case now. As you know, evidence we have presented to this Committee indicates that has now been identified, but it was a fairly high priority.

The third point was that I felt the important linkages that were out there in terms of the world environment—the drivers of demography, increasing wealth, globalisation and the dangers that that posed, given the burdens of poverty out in the world, or as nations came out of poverty—were burdens posed for our natural resource balance. Hence, the discussions of food, water, energy and climate change. That was in my mind’s eye. In a sense, I was given a chance to bring that to the forefront because the first three months of my tenure involved this massive increase in food prices, which was the first that we had seen for three decades.

I suppose the fourth point was surviving. It is a formidable agenda to do. I confess that I still worry a little bit more about surviving, but I worry slightly less than I did in January or February 2008.

**Q5 Stephen Mosley:** I understand that the Government Office for Science does not publish its annual expenditure figures in its annual report and

7 September 2011 Professor Sir John Beddington

they are not contained in the BIS annual report, or I don't see them. Does GO-Science publish their annual expenditure figures?

**Professor Sir John Beddington:** Yes. As I have testified to this Committee before, we are a part of BIS. I am sure it will be possible to give some idea of the rough expenditure. It is an accounting practice. Our budget, if you include Foresight, is about £5 million<sup>1</sup>. The changes in that budget that have occurred, which I was asked about by this Committee at a previous meeting, have been pretty much proportional to what one would have expected. We have not had unreasonable cuts in our expenditure, so the change has not been bad.

In terms of publishing the basic budget of the Office, I would not see any particular problems with it. There will be intricacies because there are some partial people and so on, but the basic budget is fairly transparent and it should be possible.

**Q6 Stephen Mosley:** I know that we have discussed this matter at previous meetings and we got a similar response then. Could we ask that it is published so that, when we come to this meeting next year, we get a firm answer rather than, "It could be possible."?

**Professor Sir John Beddington:** Okay. That is a reasonable request. Of course, I will be arriving here with only three months to go in the job. I hope I will not use that as a way out. The basic budget I am pretty content with. In terms of some of the details that I could give you, we have about 70 full-time equivalent staff. That is down around 10% from the pre-Spending Review figure. The exact spending figure is slightly complicated by the fact that the Foresight team is funded out of a different line of budget where there was, effectively, some flat funding for Foresight in line with the flat funding that the overall science budget got. But, within that, it gives you a feeling of the size we are and so on.

**Q7 Stephen Mosley:** Are there any items in the budget that are particularly large or small that we should be aware of?

**Professor Sir John Beddington:** I would not say so. Foresight dominates it. The overall total I have figures for, although we have not published it. To give you a feeling, I think our total spend, including Foresight, in 2009–10 was about £8.3 million, in 2010–11 it was £6.6 million and in 2011–12 is expected to be about £7.3 million<sup>2</sup>. That is divided up in the figures that I have in terms of my own private office, the Foresight team and the remainder, which we classify under "Science in Government". I think the figures are available. We did not choose to publish them in a report, but, in a sense, I have read them to this Committee now, so that meets some of that obligation.

**Q8 Stephen Mosley:** You briefly mentioned the spending review period for the next three or four years. Are you expecting any reductions? You

mentioned it is in line with other Government expenditure.

**Professor Sir John Beddington:** The obvious issue is going to be how the science base operates. We have flat funding for the spending review period. Therefore, I would expect Foresight to be in line with that. In terms of Government spending, we would go in line with other Government Departments and would expect it to be proportional. That would seem to me to be reasonable. When I spoke to this Committee before about the budget issues, the point I made was that I really did not see that we had to give up anything, but that it would take a little longer. In fact, that has proved to be the case, because the Science and Engineering Assurance Operation, which we planned to finish in March of this year, will not now finish until, probably, March of next year.

**Q9 David Morris:** Good morning, Sir John. How have the Spending Review 2010 and reductions to Government Departments affected the GSE community?

**Professor Sir John Beddington:** Yes, proportionally, obviously, but it depends which Department you are talking about. Three Departments seem to have done relatively well. The Department for International Development has had its science and research budget increased. The Department of Health has had a modest increase and the Ministry of Defence has essentially flat funding. Some Departments, such as DEFRA and Transport, had quite substantial cuts. Of course, those are being dealt with at the moment as to how to work round that. I do not think there is a one-size-fits-all answer to that question.

The issue is that there is a decision by the Government to cut spending. Science at the research level has been, in a sense, quite significantly protected. We have given indications to this Committee of what the expectation is Department by Department, although that is not a complete list because some have not decided as to what we expect with the effect on financial expenditure but also the effect on FTEs. That has gone into a fairly comprehensive report to you and to the other House. It is not complete because some Departments have not made final decisions into the future. We will continue to be monitoring that. Nick Macpherson, who is the Permanent Secretary at the Treasury and heads the Heads of Analysis Group, and I are continuing to monitor that.

**Q10 David Morris:** How many scientists and engineers have left, would you say, because of the projected spending?

**Professor Sir John Beddington:** Do you mean since the spending review to date?

**David Morris:** Yes.

**Professor Sir John Beddington:** I don't have those figures, but we can explore whether that is readily available. I do not have them, I am afraid, at the moment, Mr Morris.

**Q11 Chair:** You know all the figures because you have done the work.

**Professor Sir John Beddington:** We can do it. I can do the mental arithmetic, but I do not have any figures.

<sup>1</sup> Note by witness: This figure refers to the Government Office for Science Admin budget.

<sup>2</sup> Note by witness: These figures include both GO-Science Admin and the Programme spend on the Foresight Programme.

7 September 2011 Professor Sir John Beddington

**Q12 Chair:** Also, it would be helpful to get some feeling, when you have looked at those figures, as to whether you would be concerned that, disproportionately in some services, you are going to be losing some of the best people who will not only leave the service, but leave the country, possibly.

**Professor Sir John Beddington:** Yes.

**Q13 Chair:** You know that we have undertaken an inquiry. We are still waiting for the Government's now delayed report on the Forensic Science Service. The indications appear to be that the best people are leaving the country.

**Professor Sir John Beddington:** I cannot answer that on a general basis at the moment—

**Chair:** Please have a look.

**Professor Sir John Beddington:** I am happy to look at it. It is a perfectly reasonable question. The point here is that this would be a snapshot. Perhaps the better way of doing it would be to give you an idea of a snapshot by letter, but try to do something more comprehensive by the end of the financial year. It may mean coming to this Committee or writing to this Committee, realistically, in May or June, or something like that, with the figures that we have to date with a Department-by-Department breakdown.

**Q14 David Morris:** Do you feel that it has been equal all across the board of science, in your Department? How many people have actually left different Departments? Would you say that there are some leaving from certain areas of science rather than others?

**Professor Sir John Beddington:** I do not think we have that in real detail in the sense that I could give you a comprehensive answer, but I suppose one can say there are certain areas of science that are being discontinued as activities in particular Departments, as they address their spending. Others will go up. There will be a reorientation by engineers, biochemists and so on. I do not think we have that degree of detail, but we could, arguably, give you some sort of picture of that.

**Q15 Graham Stringer:** You mentioned the Olympics and climate change. Were you consulted about the decision of the Olympic Organising Committee not to offset their carbon footprint?

**Professor Sir John Beddington:** I am sorry. I don't quite understand the question, Mr Stringer. Could you pose it in a slightly different way?

**Q16 Graham Stringer:** When London bid for the Olympics, they said that they would, as I understand it, plant trees for the carbon they produced. According to reports in the papers over the last 10 days they have resiled from that decision. Were you consulted about it?

**Professor Sir John Beddington:** No, I have not discussed it at all. I was not aware of that, but I can look at it. I suppose the carbon footprint of Government Departments is very much at the forefront of ways to address the carbon budget. There is a sign in the lift in 1 Victoria Street that says, "Please use the stairs", which is a slightly trivial way

of dealing with it. But this is fair. In terms of the Olympics, I just don't know, I am afraid. I will look into it.

**Q17 Graham Stringer:** Will you send the Committee a note?

**Professor Sir John Beddington:** Yes. I will find out about it.

**Q18 Graham Stringer:** I would be grateful for that. The Chairman referred to our report on the FSS. We were concerned that the Chief Scientific Adviser in the Home Office wasn't involved in that decision and did not see it as his responsibility to pass comment on it once a decision had been made. What is your view on that and have you had discussions with Professor Silverman?

**Professor Sir John Beddington:** First, I can sketch out my own involvement. I got a letter from the Home Office indicating there was a Cabinet write round for permission to close that, which had been taken almost entirely on financial grounds. I responded to that letter a couple of days later saying we have to be very careful that we not only preserve capability in the forensic science area, but that we need to be also thinking about the future, not just the status quo, and how the research is done. I copied that to appropriate people, including the CSA in the Home Office and in the Ministry of Justice. I would prefer not to respond to your comments, as I understand a Government response on Professor Silverman is coming. I do not think it is appropriate for me to pre-empt that.

I believe there is an issue in terms of finance, which, arguably, was taken without consultation with Professor Silverman and me. I was told, as he was. That is not something I would be happy with if it was a generality. The key is whether, following that decision, an assessment is made of whether one can preserve capability. His review, hopefully, will deal with details on that. I would prefer at the moment to wait for a formal Government response from the Home Office to your comments.

**Q19 Graham Stringer:** I understand that. It is a fair response to wait and see what the Government say. Have you had discussions with Professor Silverman and has there been any change in the mode of operation within the Home Office since that announcement?

**Professor Sir John Beddington:** No. If I look at the way in which things have been operating in the Home Office, I am extremely pleased in many ways. The appointment of Professor Silverman, who is an extremely eminent statistician and scientist—I was on the panel that appointed him—is a full-time appointment. It reports directly to the Permanent Secretary. There have been changes in the responsibility within the Home Office so that now Professor Silverman controls the vast majority of the budget, and the bit that he doesn't he is very much involved in, which is the budget for the Office for Security and Counter Terrorism.

The inputs between my own office and the Home Office are pretty good. He is part of the network. He has done some useful things, particularly with what

---

7 September 2011 Professor Sir John Beddington

---

was a rather fraught area of discussion, which is the Advisory Council on the Misuse of Drugs. The changes that he has made there and the way in which he has thought about the composition of committees have been rather good.

Professor Silverman has taken on the responsibilities of the budget, which was not his predecessor's activity. He has access at the highest level, reporting to the Permanent Secretary, and, by and large, this is working pretty well. My feeling is that I don't feel, "Oh, heavens! I'm really worried about the Home Office." He links in with us. For example, there were some issues where we were concerned about, for example, the Border Agency operations in which eminent scientists were being stopped at borders, not under current rules, and he facilitated a meeting between the chief scientific advisers and the Border Agency, which moved things forward extremely well. As I say, I would prefer to wait for a response to your comments on that, because I do not think it is appropriate for me to comment otherwise. From my own perspective, he is doing a pretty good job.

**Q20 Roger Williams:** There have been great changes in terms of the number of quangos that have existed and when you came to see us last year you said you would be in a better position to comment on how those changes have gone ahead. Perhaps you could share with us whether you have any concerns about the impact of the abolition of some of these scientific quangos, including the scientific advisory committees.

**Professor Sir John Beddington:** Yes. There are, quite properly, real concerns. You had what appeared to be independent bodies, which were suddenly being brought into Departments and they stopped having NDPB status and so on. There were, obviously, concerns about the preservation of independence and so on.

This week, on Monday, I met with the chairs of all the scientific advisory committees, and I particularly said, "Given the changes, are there things that you would like to draw to my attention, either to do with independence, publication policies and so on?" We will be reporting on that. By and large, given the number of bodies out there, there was relatively little concern being expressed by the science advisory committee chairs. To an extent, I feel reassured by that.

As you are aware, following the ACMD problems with Professor Nutt and the then Home Secretary, we developed the Principles of Scientific Advice to Government. The current Government have included them in the Ministerial Code. I remain in contact with the SAC chairs and will continue to be so. It was quite a reassuring meeting. There were 30 or 40 of them there and they all had opportunities to raise what they wanted. We had a big agenda item saying, "Please raise concerns". Some issues were raised, but there were no game-stoppers and most of the discussion of the afternoon was on the concerns of a number of scientists, not just advisory committee chairs, on the way that risk and hazard were being addressed in the public, the media and Government as a whole.

In terms of the Code of Practice for Scientific Advisory Committees, as you know, we had our

consultation to update that. It is awaiting Cabinet approval, and I expect it to be published some time in the fairly near future. My expectation is that it will be published fairly early in the autumn. The revisions of the COPSAC incorporate the Principles of Scientific Advice to Government, as well as, obviously, feedback from the public consultations.

The area in which I feel we need to be a bit imaginative—I discussed it with the science advisory committee chairs—is whether there is some degree of resource saving or synergies that could be generated by saying that some of these committees and councils have relatively similar, I suppose, fundamentally scientific issues, and whether small groupings of those might actually enable things to be taken forward.

The other area where concern was raised by them was to do with secretariat resources. The way I left that with the chairs was that if there was a particular issue of secretariat support for the chair, their first role would be to contact the Chief Scientific Adviser in their department and they should copy me in on that. Hopefully, one could then resolve that if there was a serious problem. There have been cutbacks and one has to be realistic, but if there seems to be some emasculating of a committee by, essentially, removing secretariat support, or disproportionately removing it, I would hope to be able to address that. I would then take it up appropriately if the CSA couldn't handle it with the Perm Sec.

**Q21 Roger Williams:** One of the issues you did raise with us was, if something occurred quite suddenly and there was a concern that it was going wrong, whether you had the capacity to address that in a truly independent way without some of these bodies.

**Professor Sir John Beddington:** I think so. Part of it is that I have really got to get the Science Advisory Committee chairs to know they can come to me. The first line is that they should be going to the CSA and their Department, but I should be there to do it. I have resolved a couple of issues where there was concern by independent chairs when they came to me directly, because at the time there was no CSA in the Department. We were able to resolve that very quickly by posing the question and then engaging with the Department. They need to know that I am a court of appeal, as it were, and I will act on their behalf if there are problems. There has only been one in the last year and that was resolved very quickly.

**Q22 Roger Williams:** How many of these scientific advisory committees have been abolished? Do you know?

**Professor Sir John Beddington:** I will give you the figures on that. I have tables showing them, and there is always ambiguity. Some of them were combined. We can easily provide that, if we can do it as a letter to this Committee, if that would be satisfactory.

**Q23 Roger Williams:** You would not like to give us a little preview of the change to the Code?

**Professor Sir John Beddington:** The principles of the Code of Practice are useful things, but I do not think you are going to see anything major. The key major one is the Principles of Scientific Advice to

7 September 2011 Professor Sir John Beddington

Government and, in a sense, recognising that this is a two-way process and that Ministers have responsibilities as well as science advisory committees. There should be the ability, if there are problems, for the science Minister and me to be consulted if they could not be resolved at the CSA level. There were issues at the time, but what I am comforted by is that, since those principles were announced and they have become part of a ministerial code, I have had no instance of anybody coming to me saying, "I have got a major problem with Minister." That is not to say that, when I walk out this door, there will not be an email waiting for me, but so far, so good.

**Q24 Graham Stringer:** The last time we discussed this topic you said you would take a particular look at the Human Fertilisation and Embryology Authority and the proposals to abolish it. Have you done that and what are your conclusions?

**Professor Sir John Beddington:** No. I have not looked at that since we last spoke, Mr Stringer. I am not briefed on it. I will check it out. I am sorry. Dame Sally Davies is now the CMO, as well as the Chief Scientific Adviser at the Department of Health. It is very much in her area. I have not discussed it with her recently, so I would need to check it out.

**Q25 Graham Stringer:** You did say that you would take a look at it and come back to us.

**Professor Sir John Beddington:** Yes. Did I not? I thought I had. We can check.

**Graham Stringer:** If you have, I have missed it. I would be grateful if you could tell us.

**Professor Sir John Beddington:** Fine. I will check that. If we have promised to do it and we have not, I will apologise. I thought that had been done. Anyway, we can check it out.

**Chair:** I thought you had. We will double check that, anyway.

**Q26 Stephen Metcalfe:** Good morning, Sir John. One of your other roles is that you are Joint Chairman of the Council for Science and Technology.

**Professor Sir John Beddington:** Yes.

**Q27 Stephen Metcalfe:** I understand it appointed 11 new members earlier this year.

**Professor Sir John Beddington:** Yes.

**Q28 Stephen Metcalfe:** Is that an indication that its role or its method of operation has changed, or is it just part of the natural churn of that committee?

**Professor Sir John Beddington:** No. Let me step back on it. The first thing is that there was the natural cycle of a churn. I discussed this with the Prime Minister, because it is the Prime Minister's main council for science and technology, advising him, and we made some proposals to him, which he accepted. The first was that we thought there should be ex officio positions for the four major academies: the Royal Society, the Royal Academy of Engineering, the Academy of Medical Sciences and the British Academy. That was agreed.

We also felt that, for continuity, there were a number of people who should usefully remain, but we needed to churn, and the Prime Minister indicated that he was very interested in widening, in particular, the business involvement from hi-tech businesses in this Council for Science and Technology, as well as a significant refresh. This was quite a task because we then started to engage. We advertised the position and we had an enormous response. We had over 80 well-qualified people who indicated that they wanted to become part of the Council.

Following on from that, we had a series of—in the civil service jargon for it—"conversations with a purpose". The antithesis of that is a curious idea. So, we had "conversations with a purpose" with, I think, 22 individuals from which we gave a list to the Prime Minister with recommendations. From that, he chose 11 new members. You will have seen who they are. The membership is published.

When we met with the Prime Minister in February as a rump of the old Council, which was a slightly smaller group, he indicated a number of areas he would like us, as a council, to study. The one that he asked us to look at immediately was the role of the National Health Service as a potential engine of growth in the economy. That was done by the rump of the old Council for Science and Technology, but when the new members came on they were fully involved in it. The report that went to the Prime Minister a little while ago was very much that of the whole Council and we expect it to be published quite soon. So, he has had that report and it focuses on just that issue.

At the meeting of the Council where we discussed this, the general issue was that we felt we had very good potential to comment in more detail, with suggestions of a way forward in terms of procurement more generally in Government. That is going to be the subject of the next study.

The composition has changed quite a lot. I would not say it is a change for the better or the worse, but the 22 "conversations with a purpose", which I was dreading, were probably the best conversations I have had in Government. We have a fabulous set of people who have joined. We have Mike Lynch, for example, who has just sold a large portion of his company to Hewlett-Packard for a very large sum. He has enormous expertise in the computer field. We have Paul Golby, who is chief executive of E.ON. We have the chief engineer from Rolls-Royce.

**Q29 Stephen Metcalfe:** How often does the Council meet with the Prime Minister?

**Professor Sir John Beddington:** With the Prime Minister, it is a movable feast, and Prime Ministers change. We have met with this Prime Minister once, but we have not met as a whole Council with him. That will be planned, I suspect, for the autumn or early in the next calendar year. There is no hard and fast rule. We would try to engage and, in a sense, we would be keen to do it and to discuss particular reports. In relation to the report we put in on the growth of the National Health Service, there is no indication that he has any ambiguities he wants to

---

7 September 2011 Professor Sir John Beddington

---

probe more. I think, effectively, he is going to ask to see how this is taken forward.

**Q30 Stephen Metcalfe:** It is not a regular programme, if you like, of meetings.

**Professor Sir John Beddington:** No, it is not, but the feeling I have is that this will probably be more regular in the future.

**Q31 Stephen Metcalfe:** Now that you have the new Council in place?

**Professor Sir John Beddington:** Yes, now we have the new Council in place. The current Prime Minister has not met with the whole new Council. He has appointed them. That would be appropriate. My officials are engaging with his private office to explore. We have nothing in the diary at the moment, but I would expect it to occur. The Council meets about four times a year.

**Chair:** Just to remind the Prime Minister's officials, he is on public record as saying that he needs to spend more time with his scientific advisers and we are going to be measuring that.

**Q32 Stephen Metcalfe:** That was going to be my follow-up question, whether the once a year is enough. Now you have the new Council, how are you going to evaluate its impact on changing policy across Government? What are the measures of how successful you are?

**Professor Sir John Beddington:** The impact we could measure on the previous Council because, in a sense, we have a track record, which has been pretty good. The one that I would highlight is the Council's report on infrastructure in the United Kingdom, which was very much taken up by the previous Government and has been followed through by the current Government, in which the Treasury is leading. There are whole areas of work in looking at both the technical and general issues of how we change infrastructure. That report was very much taken on board.

In terms of the report that the Council produced on the link between Government and academia, there is a 10-point plan, some of which is ongoing. I have recently allocated some resources to generate more follow-up from that. The proof would probably be—for example, as to this report on using the National Health Service as an engine of growth, which will be a public document fairly soon—to examine whether that has actually had some effect. It is too early to tell, obviously, but what we would be hoping to see is that the role of the Council is, first, to advise the Prime Minister on anything he wants them to do and to suggest areas where they feel that something could usefully be done. We have only had one meeting of the full new Council. Another is planned for next month and I think we will be setting our agenda.

One interim matter is that we will be advertising and seeking a replacement joint chair. I co-chair it currently with Dame Janet Finch. With the reorganisation of the Council, it was decided that Dame Janet would stay as co-chair until the end of this year and that we would recruit someone. That recruitment process is in hand. It has to go through

the appropriate public ways, but we would expect that potential co-chairs with me would be either from previous Councils, the current Council or, indeed, somebody completely independent. We have no prejudice. I think some more "conversations with a purpose" are likely to happen.

The other point is that I will be leaving as Chief Scientific Adviser at the end of 2012, so there will be an overlap of a year with a co-chair, who would therefore be in a position to overlap with my successor.

**Q33 Stephen Metcalfe:** Finally, and hopefully briefly, you said you were working on a report about the NHS as an engine for growth. We are awaiting publication of your report on procurement. Can you tell us, briefly, one or two other examples of streams of work that you are looking at at the moment?

**Professor Sir John Beddington:** From the Council?

**Stephen Metcalfe:** Yes.

**Professor Sir John Beddington:** First, the CST has reported and the document has gone to the Prime Minister. The publication is awaiting his permission, I suppose. I do not think that is anything more than a bureaucratic process, and I expect it to be published soon.

In terms of procurement, the work is ongoing. As I said, the first meeting we had was only fairly recently and we are going to be looking at ideas from the Council for new agenda items. The one that is definite is procurement. We are collating ideas from individual Council members. I wanted them to feel that they were, in a sense, engaged with that process, so we are not pre-empting it. We are, of course, going back to the Prime Minister and saying, "We have done this. This is our next one. Are there any particular issues that you or Cabinet would like to be addressed?" Not all questions or study areas come only from the Prime Minister. For example, the one on the relationship between Government and academia came from the Secretary of the State for the then DIUS Department, John Denham. We did it at his request. It is there for a request. It is very open now. I do not have any top five runners, as it were, but after the meeting we would be happy to say, "This is what the next ones will be."

**Q34 Gavin Barwell:** Good morning, Sir John. I want to ask you a few questions about Foresight. You have touched on a couple of the issues in response both to the Chairman's questions and Stephen's questions earlier, but, in the annual review, it says: "Foresight's strength lies in its ability to influence and inform policy." Could you give us some examples of where you think there has been an influence on Government policy? You touched on one earlier in relation to food and farming futures. Could you give us a few other examples over recent years where you think there has been an impact on Government policy?

**Professor Sir John Beddington:** Yes, but I claim no credit for them in that some of them were done under Sir David King. The one that was, obviously, very influential was the report on obesity, which brought to the fore the really startling problems generated by the obesity epidemic. That is ongoing. The Department of

7 September 2011 Professor Sir John Beddington

Health took leadership of it. This is an ongoing activity. This was, clearly, an issue across Government, which had to be addressed. Government bought into that and they have taken things forward. The second one that I would say has been quite successful—this one was in my tenure, but the idea was developed when Sir David King was Chief Scientific Adviser—was on mental capital and well-being. The point of that one was that interventions to address the mental capital and well-being of the population need, in a sense, to be done by one Department, but ultimately benefit another. For example, interventions on tackling dyslexia or dyscalculia needed to be done by the Department for Education, but the benefits would come subsequently. There would be a very high probability of offending or unemployment otherwise, for example, but the Department for Education needed to do it. A lot of the background documents have fed into the whole agenda that the Government is taking forward on well-being. I would not say they caused them. The Government came in with ideas on it. That is one. The other one, which predates it by a little while, is the report on flooding. Again, this was done when Sir David King was there. The vulnerability of the United Kingdom's infrastructure to flooding was well documented. It then followed on with the Pitt Review and there was a significant increase in Government spending on flooding. Those would be three off the top of my head.

In terms of the current projects, I believe the project on posing scientific and engineering questions about financial markets is really important. This is a realm where it would be unwise just to let economists rule, and we have engineers and physicists on the Lead Expert Group. As I said, this week we are going to be publishing some early evidence on our website because discussions are ongoing in the European Commission and the European Union for looking at what they call MiFID, Level 2, which is a succession regulation in respect of financial markets. The focus of this project was on high-speed trading—vast amounts of trades being done in tiny amounts of time—and whether this is destabilising the financial systems. We had the Flash Crash in May 2010, and, within 20 minutes, 30 trillion was wiped off. I think my figures are right; I think it was 20 minutes and 30 trillion. It was a very large number. Beware spurious accuracy<sup>3</sup>. That seems to have been based on, essentially, algorithms trading with each other. We need to be thinking of ways in which we can address that. These are questions of engineering and, arguably, of ecology. We are working on that. I think that will have influence.

It posed a question for the style of the Foresight operation because, typically, Foresight will work for a year and a half or two years and then publish a wonderfully comprehensive document with several hundred contributors and a proper launch. It would be hard to defend, as Chief Scientific Adviser, saying, "We had some ideas about why financial markets might suddenly collapse and we waited two years to

publish it." It would be a little tough to do that. This is why we are publishing interim analyses. That is a bit of a difference.

We have one coming up, which is looking at global environmental migration and the causes of it: whether climate and environment change is going to be a major driver and to what extent that needs to be addressed in terms of migration. That project will report quite soon. The new one on the future of manufacturing speaks for itself. It is, clearly, going to be relevant to the way the UK develops.

**Q35 Gavin Barwell:** I have a couple of other quick questions. On budgets, you were saying in answer to Stephen earlier that the total budget of the Government Office for Science is £7.3 million in 2010–11. I think that was the figure you gave.

**Professor Sir John Beddington:** Yes.

**Q36 Gavin Barwell:** You implied that Foresight was a significant chunk of that. Do you have the figures to hand?

**Professor Sir John Beddington:** Yes, I have. I can give that to you. I will just shuffle through my extensive pack, which I am afraid I have not memorised. Foresight, in 2009–10, was £2.9; in 2010–11, £2.3; and in 2011–12, £2.8<sup>4</sup>.

**Q37 Gavin Barwell:** That will cover both. The Foresight projects and the Horizon Scanning Centre would be within that.

**Professor Sir John Beddington:** It would, yes. In terms of the Horizon Scanning Centre we have done quite a lot of reorganisation and a little bit of heart searching. There is a need to be thinking about what you might call "mini Foresight projects", rather than the Horizon Scanning Centre being completely separate. Historically, there was a real dearth of horizon scanning expertise in Government and that has been addressed over the previous years. We still have the Horizon Scanning Centre within the Foresight group, but my expectation for the future is that it will probably mean that, instead of having a two-year project, you might have a three-month project or something like that.

**Q38 Gavin Barwell:** This is the final question. How does the Government Office for Science decide on topics for new Foresight projects? You have talked about global environmental migration and the future of manufacturing. What is the process by which those subjects are chosen?

**Professor Sir John Beddington:** The process is that we go out to a very large set of stakeholders and ask for their advice. Then there is an advisory body consisting of some CSAs and some external stakeholders and we seek their advice and recommendations. Essentially, first of all, we produce a long list of, say, 25 topics. Then we get feedback and we say, "Let's have a shortlist of six," on which the team produce much more detailed briefing. It is

<sup>3</sup> Note by witness: The Flash Crash lasted less than 30 minutes and for a brief interval more than \$1 trillion in market capitalisation was lost.

<sup>4</sup> Note by witness: These figures set out Foresight Programme for the three years in question. Including Admin spend, totals for Foresight are: 2009/10 £4.6m, 2010–11 £3.7m, 2011–12 £4.3m.

---

7 September 2011 Professor Sir John Beddington

---

from that that we move to a choice. It is an advisory group that I currently chair. It has been chaired by others in the past, but I am currently chairing it. We get that advice then. We also get suggestions coming in from stakeholders within Government as well as outside Government. For example, we would expect to get indications from different Departments, from No. 10 and from the Cabinet Office, saying, "Have you thought about this?" It is a fairly open process

with quite wide discussion. Ultimately, I suppose, I say, "It is this one now and this one later." We have to keep some degree of pipeline in. It is quite consultative. Indeed, the computer project came as a suggestion from the then director of the Joint Research Centre in Brussels.

**Gavin Barwell:** Thank you very much.

**Chair:** Thank you.

### Responses to Follow-up Questions from the Government Chief Scientific Adviser, Sir John Beddington

1. *How many scientists and engineers have left the civil service as a result of spending reductions following the Spending Review 2010? (with as much detail as currently possible, e.g. by Department and/or scientific discipline) (Q9–14)*

I share the Committee's interest in getting a more detailed picture of what has happened to scientists and engineers in the civil service following the Spending Review 2010. The Government Office for Science will therefore be exploring this question with departments following the end of the current financial year. I will write to the Committee with the outcome of this exercise.

2. *Had Sir John been consulted by the London Organizing Committee of the Olympic and Paralympic Games (LOCOG) in their decision to drop plans to offset the events' carbon emissions? Does Sir John have any additional views on the matter? (Q15–17)*

I was not consulted by the London Organizing Committee of the Olympic and Paralympic Games (LOCOG) in their decision to drop plans to offset the events' carbon emissions but would not necessarily expect to have been consulted. The independent Commission for a Sustainable London 2012 is responsible for monitoring and assuring the sustainability of the London games.

I understand that the view of the Commission for a Sustainable London 2012 is that the decision not to offset is reasonable, provided the best practice adopted by London 2012 can be adopted in a wider sense in the interests of carbon reduction. There is evidence that this is happening. The *Plans for the Legacy from the 2012 Olympic and Paralympic Games* published by the Department for Culture, Olympics, Media and Sport in December 2010, highlighted that the Olympic Delivery Authority has set new standards in sustainable procurement, minimising waste and carbon emissions and ensuring efficient use of natural resources in the construction of the Olympic venues, and that this good practice will in future be applied to procurement across government.

I understand that there will be some offsetting, for example that BP will offset the fuel supply to the Olympic fleet and for temporary generation and many sponsors also plan to offset their guest travel.

3. *How many scientific advisory committees have been abolished since October 2010? (Q21–25)*

Twelve advisory NDPBs have ceased or will cease to exist. Some have concluded their remit. In other cases some functions are being transferred to other bodies.

#### *Department for Education*

- Research Liaison Group for Children's Social Care Research

#### *DECC*

- Advisory Committee on Carbon Abatement Technology

#### *Defra*

- Spongiform Encephalopathy Advisory Committee
- Animal Welfare Advisory Committee
- Royal Commission on Environmental Pollution
- Advisory Committee on Organic Standards

#### *Department for Transport*

- Commission for Integrated Transport
- Disabled Persons Transport Advisory Committee

#### *Department of Health*

- Genetics and Insurance Committee
- HFEA

- Human Tissue Authority
- Gene Therapy Advisory Committee

In addition 30 Advisory Committees will be reconstituted as Expert Scientific Committees (rather than as advisory NDPBs).

Some of these changes have not yet taken place and are dependent on the Public Bodies Bill receiving Royal Assent.

*4. What are Sir John's views on the proposal to abolish the HFEA and what discussions has he had with the Department of Health on the matter since October 2010? (Q21–25)*

The HFEA plays an important role in the regulation of a sensitive scientific area. While the authority as it stands is being “abolished”, I understand its functions are to be maintained under the Care Quality Commission, and the Health Research Authority to be created by Department of Health. My officials and I have spoken informally to Dept of Health officials to indicate we support their intention that HFEA functions should be maintained, and I await the formal proposals, which I understand will be subject to public consultation later this year.

*September 2011*

---



Distributed by TSO (The Stationery Office) and available from:

**Online**

[www.tsoshop.co.uk](http://www.tsoshop.co.uk)

**Mail, Telephone, Fax & E-mail**

TSO

PO Box 29, Norwich NR3 1GN

General enquiries 0870 600 5522

Order through the Parliamentary Hotline *Lo-call* 0845 7 023474

Fax orders: 0870 600 5533

Email: [customer.services@tso.co.uk](mailto:customer.services@tso.co.uk)

Textphone: 0870 240 3701

**The Parliamentary Bookshop**

12 Bridge Street, Parliament Square

London SW1A 2JX

Telephone orders: 020 7219 3890

General enquiries: 020 7219 3890

Fax orders: 020 7219 3866

Email: [bookshop@parliament.co.uk](mailto:bookshop@parliament.co.uk)

Internet: <http://www.bookshop.parliament.uk>

**TSO@Blackwell and other Accredited Agents**

© *Parliamentary Copyright House of Commons 2011*

*This publication may be reproduced under the terms of the Open Parliament Licence, which is published at [www.parliament.uk/site-information/copyright/](http://www.parliament.uk/site-information/copyright/)*



ISBN 978-0-215-56220-3

