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Campaign for  
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## SCIENCE SCORECARD FOR THE LAST FOUR YEARS

CaSE 05/09

CaSE has assessed the scientific performance of some of the main Departments of State over the last four years, since the General Election of 2001.

For each of the ministries, we have scored the overall attitude to science and the level of research funding, as well as the scientific high points and low points of policies over the course of the Parliament. Attitude, Funding and High Points are scored out of a total of 10 marks, and Low Points attract negative marks up to a total of -10. As well as the individual departments, we have also scored the overall government policy relating to science.

April 2005

	Overall attitude	Funding <sup>1</sup>	High Points	Low Points	Overall Verdict
<b>Dept for Education &amp; Skills</b>	<p>Science is never high on the Department's agenda, partly because it has so much else on its plate. It has taken the shortage of mathematics teachers seriously, commissioning an excellent report on the subject<sup>2</sup>. And the numeracy strategy in schools has made a difference to young children's mathematics skills<sup>3</sup>. But while the rest of the world went ballistic because university science departments were closing, many within the DfES said it was nothing to do with them<sup>4</sup>. Since becoming Secretary of State in 2004, Ruth Kelly, has used the word science only twice in public speeches, and one of those was to point out that some kinds of parenting skills are not 'rocket science', something she appears to care little about<sup>5</sup>.</p>	<p>According to official figures, in 2004 the DfES invested 5% less in research and development to inform its policy than it did in 2001, but funding had already fallen steeply the previous year, and is a third lower now than it was in 2000. The Higher Education Funding Council has seen its budget for university research rise by more than 10% since 2001, which must score the department some points. But although that looks impressive, funding has not kept pace with the Office of Science &amp; Technology, which has seen a whopping 43% rise over the same period.</p>	<p>Hard to think of many.</p> <p>Former Secretary of State Charles Clark did write to the Higher Education Funding Council making it plain he wanted something done about the immediate closure of science departments, but it doesn't seem to have generated much in the way of specific action.</p>	<p>When a schoolchild was told by a teacher that "nine divided by zero" was "zero," the Departmental Statistician claimed this was the right answer<sup>6</sup>, even though it is utter nonsense.</p> <p>The Higher Education Funding Council reduced the ratio of funding for science students in universities compared with other subjects, hastening the demise of science and engineering departments<sup>7</sup>.</p> <p>Five years after the Council for Science &amp; Technology recommended that more scientists should be seconded into government departments, the DfES reported that "no people with a specific science or technology background" had been brought in<sup>8</sup>.</p>	<p>The Department of State responsible for the entire educational system and for the universities which carry out a great deal of publicly-funded research really should be taking science and engineering a great deal more seriously</p>
	3/10	5/10	1/10	-8/10	<b>TOTAL SCORE: 1 point</b>

<p><b>Dept for Environment, Food &amp; Rural Affairs</b></p>	<p>DEFRA was among the first departments to appoint an external Chief Scientific Adviser, Prof Howard Dalton. He is clearly making a robust attempt to turn round the failures of the old Ministry of Agriculture, which let the nation down over mad cow disease, foot-and-mouth and a host of other agricultural and environmental problems.</p> <p>DEFRA has created an expert board to advise the CSA, which seems to be independent.</p>	<p>Hard to measure because DEFRA did not exist until after the last election, and the reorganisation meant that budgets had to be moved around among departments like deckchairs on the Titanic.</p> <p>DEFRA's budget for research is lower than that at the old Ministry of Agriculture in the mid 1980s, which is hardly encouraging. But the Department's overall science budget (which includes activities other than research) has risen by around 11% since 2001-2.</p>	<p>When asked about the secondment of scientists into the Department, DEFRA was among the few that could rapidly report accurate figures, showing that more people with a scientific background had been seconded into DEFRA than into any other Department<sup>9</sup>.</p>	<p>Apparently embarrassed by its involvement in the well-publicised mix up of cows brains and sheep brains in an experiment on BSE, DEFRA appears to have been panicked into bringing in a new system of grading the 'research process' within laboratories, so that even groups with a decades-long track record of excellent research will be burdened with extra bureaucracy; this has gone down badly with the scientific community<sup>10</sup>.</p>	<p>DEFRA's science suffers from two big problems – it inherited a mess from its predecessor, and it has to deal with everything from global climate change to obscure forms of swine fever.</p> <p>On some issues, it will always manage to offend someone (if it kills the badgers, the animal rights people will be up in arms, if it doesn't the dairy farmers will probably lynch the minister). But some good people are doing their best, and with a bit more serious interest from ministers, it could be the scientific front-runner by the end of the Parliament of 2005.</p>
	9/10	5/10	8/10	-2/10	<b>TOTAL SCORE: 20 points</b>

<p><b>Dept for Inter-national Development</b></p>	<p>The House of Commons Science and Technology Committee, after a lengthy inquiry, found that the Department had 'a fundamental lack of scientific culture'.</p> <p>Although the Department is respected for the quality of much of what it does around the world, the Committee found almost nothing to praise about the DfID's science programmes<sup>11</sup>.</p>	<p>Science at DfID had a boost in the Parliament of 1997, with a 47% increase in research funding. But in the 2001 Parliament, things have slipped back; the research and development budget fell by over a fifth between 2000-1 and 2004-5</p>	<p>The damning report from the Parliamentary scrutiny of the MPs Science Committee makes it hard to remember any success stories.</p> <p>But when DfID finally appointed a Chief Scientific Adviser, Professor Gordon Conway, he said all the right things, including a strong statement about the need for the natural and social sciences to be integrated. His enthusiasm, which was praised by the Chairman of the Commons' Science Committee wins the Department a few points<sup>12</sup>.</p>	<p>DfID dragged its feet over the appointment of a Chief Scientific Adviser, even though it has been official Government policy since 2002 that all Departments with an appreciable amount of science should have one<sup>13</sup>.</p>	<p>DfID has performed badly in terms of science over most of the 2001 Parliament, but towards the end, showed some signs of waking up to the importance of science. One to watch in the coming Parliament.</p>
	1/10	2/10	5/10	-2/10	<b>TOTAL SCORE: 6 points</b>

<p><b>Dept of Trade and Industry</b></p>	<p>You can't fault the DTI for banging on about science and innovation. The Secretary of State never stops mentioning the tax credits that have been introduced to support research and development.</p> <p>There was a reorganization that created a post of Director General of Innovation, which was one signal that science-based industry was seen a serious part of the economy.</p>	<p>The DTI's internal research budget has fallen by around 16% since 2001. But even this figure masks the true extent of its failure to invest, because the DTI takes a stake in some of the research it supports so actually makes a profit out of science. It estimated it would make about £44 million this year, but official figures suggest it would opt to keep the cash rather than reinvesting.</p> <p>But things are not as bad as they used to be; in 1997, the DTI was keeping £131 million a year in profit generated from research.</p>	<p>The DTI's grants for R&amp;D scheme proved hugely popular. So popular, in fact, that the Department spent more money than it should have in 2003, and had to cut back on the scheme (which upset just about everyone)<sup>14</sup>.</p>	<p>The Prime Minister said in advance how the Research Councils would spend more money on research into energy issues, partly because the DTI seems to have missed a trick.</p> <p>Someone in the world is going to make a lot of money out of new energy technologies in the coming decades, and the DTI should be aiming to make sure it's the UK that succeeds.</p>	<p>The DTI has not done too badly on science issues since 2001. But it has overall responsibility for science policy, so it should be keeping ahead of the game, and will need to sharpen up its act in the next few years.</p> <p>Some politicians already think the department should be abolished; its responsibility for science is one of the things that guarantees its importance, so it should be working harder in this area.</p>
	7/10	4/10	5/10	-5/10	<b>TOTAL SCORE: 11 points</b>

<p><b>Office of Science &amp; Technology</b></p>	<p>The Research Councils, which spend about 80% of the OST's budget, are populated largely by scientists and engineers, who have a fairly good idea of what's what, and as a taxpayer, you can be certain you're getting good value for the billions of pounds of your money that they distribute.</p> <p>But the OST can't score full marks because there have been too many strings attached to the money in recent years, with ring-fenced pots and politically-driven themes.</p>	<p>Nobody can fault the OST, which has played a brilliant strategy in the funding race several times in a row.</p> <p>The 'science vote' (the official name for the OST's budget) has risen by 43% since the last election, and on current plans, is set to double in cash terms.</p> <p>There will never be enough money to satisfy the scientists (they're trying to understand an infinite universe after all) but the OST has delivered about as much as any of us could have expected.</p>	<p>While the Higher Education Funding Council has floundered with difficult funding problems, the OST has knuckled under and worked out how to implement a scheme called Full Economic Costs, which promises both to squeeze more money out of the Treasury and to make finances more sustainable in the long term.</p> <p>In any case, the Research Councils fund so much good science, in such a broad array of subjects, that there are endless high points of discovery, and so the OST scores maximum points.</p>	<p>The House of Commons Science Committee has been scrutinising each of the OST's Research Councils in turn, and has come up with some searing criticism as well as strong praise. The MPs felt 'significant disquiet' with the Medical Research Council, which they said was poor at financial management and at planning<sup>15</sup>.</p> <p>In 2003, an internal committee called Research Councils UK produced ridiculous documents that contained an incomprehensible graph that looked like a Christmas tree<sup>16</sup> and a list of questions that the Research Councils will answer in the next few years, including 'what is gravitation?'<sup>17</sup> Where Einstein and Newton reached the barrier of their ignorance, the OST thinks it will solve the mystery by the end of the next Parliament.</p> <p>MPs said they were surprised that RCUK had no 'clear mission' and 'lacked a sense of direction and leadership'<sup>18</sup>.</p>	<p>In some ways a bizarre organisation, like the ancient God Janus, the OST has to look both ways at the same time.</p> <p>It must keep the academic community happy, and uses thousands of active researchers on its committees and reviewing panels. But it must also keep ministers happy and give the impression of implementing Government policy enthusiastically. As long as both sides are complaining that its leaning too far in the other direction, it's probably doing a good job.</p>
	7/10	10/10	10/10	-5/10	<b>TOTAL SCORE: 22 points</b>

<p><b>Dept of Culture, Media &amp; Sport</b></p>	<p>The DCMS is by far worst department in terms of its attitude to science. In one publication highlighting Government science, the department chose to focus on the Horserace Betting Levy Board, but barely mentioned the British Library (which, like the Science Museum, has seen real terms cuts in its budget)<sup>19</sup>. You'd have thought that in the 'knowledge economy', the nation's repository of knowledge would have been in favour with its parent department.</p> <p>An official report into the state of science at the DCMS found that it 'has no systematic approach to horizon scanning' for future needs, and that it is not calling on the 'the widest base of relevant expertise'<sup>20</sup>.</p>	<p>The Department's overall budget for research has held constant during the last Parliament, but its commitment to funding science is severely open to question.</p>	<p>The associated non-departmental public bodies (Museums, Libraries) are brilliant parts of the country's scientific landscape.</p> <p>But they seem to achieve what they do despite their parent body rather than because of it, so the DCMS scores nothing here.</p>	<p>Too many to list, so here are two corkers.</p> <p>One draft of a report on creative education excluded science because it was not it did not involve creativity<sup>21</sup>.</p> <p>The worst gaffe has to be when the Culture Secretary openly showed her contempt for science by speaking disparagingly of 'fat chemistry teachers' having spare time to teach other subjects<sup>22</sup>.</p>	<p>It's only because our scoring system doesn't allow negative marks in the first three columns that the DCMS hasn't scored -40.</p> <p>It's all very well having a party for the England Rugby team or the Olympic Gold Medal winners, but science is part of our culture too. Why hasn't the department organised a celebration for the various British researchers who have won Nobel Prizes in recent years?</p>
	0/10	0/10	0/10	-10/10	<b>TOTAL SCORE: -10 points</b>

<p><b>Overall Government performance</b></p>	<p>Although Gordon Brown and Tony Blair disagree about most things, they do agree that science and engineering are important, and they score full marks for setting a tone in Government about making the UK 'the best place in the world for science'.</p> <p>The Government keeps producing science strategies that at least show how much effort the civil service is putting into science policies. And Lord Sainsbury is one of the few people in history who has ever really wanted to be science minister.</p>	<p>Investment in research is almost as high as it has ever been, standing at around £8 billion a year.</p> <p>But it's not just the amount of money that counts, it's what you do with it, and here the Government has not been as wise as it should have.</p> <p>As well as attaching too many strings to the funding available for research, it has made some barmy decisions, like the decision to change the relative funding of science students and arts students at university - science lost out.</p>	<p>One high point has to be the day the first sod was cut to build the first new laboratory funded under the Science Research Investment Fund. One thing that is really happening is a serious rejuvenation of the research infrastructure that was starved of investment for decades.</p> <p>Practically every university is getting some of what it needs, and even though we now know that just to put this one problem right is going to take half a billion a pounds a year for several more years, the Treasury appears to have promised the money will be there. It's a shame universities still have to raise matching funds, which might distort their priorities in some cases.</p>	<p>The absolute low point must be the attempt by Paul Boateng, Chief Secretary to the Treasury, to defend the fact that the Government lowered its target for overall investment in science (from public and private sources) from 3% of GDP to 2.5%, a difference of about £5 billion year<sup>23</sup>.</p> <p>He claimed that the 3% target was a European average, so the UK can fail to meet it if the rest of Europe makes up the difference. Not only did this rely on the ridiculous belief that poorer countries like Poland would suddenly find the cash to fund more science than we do, it meant it was official Government policy to allow France and Germany to overtake us.</p>	<p>Few in the scientific community doubt that things have got much better in recent years, with new money coming on stream, new buildings going up all over the place, and a renewed sense of optimism in many parts of the scientific community.</p> <p>But there is long way to go before the UK really is the 'best place in the world for science'</p>
	9/10	7/10	8/10	-9/10	<b>TOTAL SCORE: 15 points</b>

Notes and references

<sup>1</sup> All figures are taken from *Forward Look 2003: Government-funded science, engineering and technology*, OST, 2003, and percentage increases/decreases are given in real terms.

<sup>2</sup> *Making Mathematics Count*, Stationery Office, 2004.

<sup>3</sup> [www.standards.dfes.gov.uk](http://www.standards.dfes.gov.uk)

<sup>4</sup> *Minutes of Evidence before the Science & Technology Committee of the House of Commons*, 9 March 2005.

<sup>5</sup> Online texts of ministerial speeches at [www.dfes.gov.uk](http://www.dfes.gov.uk)

<sup>6</sup> Reported in full in SBS Newsletter No. 38 (2003).

<sup>7</sup> *Funding Method for Teaching from 2004-2005*, HEFCE, 2004.

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- <sup>8</sup> *Hansard*, 20 November 2003 and associated letter in the House of Commons Library.
- <sup>9</sup> *Hansard*, 20 November 2003.
- <sup>10</sup> *Times Higher Education Supplement*, 16 May 2003.
- <sup>11</sup> *The use of science in UK International Development Policy*. (13<sup>th</sup> Report of the House of Commons Science & Technology Committee, Session 2003-04).
- <sup>12</sup> *Minutes of Evidence before the Science & Technology Committee of the House of Commons*, 23 March 2005.
- <sup>13</sup> *Investing in Innovation*, H M Treasury/DfES/DTI (2002).
- <sup>14</sup> *Research Fortnight*, 26 May 2004.
- <sup>15</sup> *The Work of the Medical Research Council*, (3<sup>rd</sup> Report of the House of Commons Science & Technology Committee, Session 2002-03).
- <sup>16</sup> *Synthesis of Strategies*, RCUK, 2003.
- <sup>17</sup> *Vision for Research*, RCUK, 2003.
- <sup>18</sup> *The Work of Research Councils UK*, (6<sup>th</sup> Report of the House of Commons Science & Technology Committee, Session 2004-05).
- <sup>19</sup> *Forward Look 2001: Government-funded science, engineering and technology*, DTI, 2001.
- <sup>20</sup> *Science Review of the Department of Culture, Media and Sport*, OST, 2004.
- <sup>21</sup> *Draft Report of the National Advisory Committee of Cultural and Creative Education*, DCMS.
- <sup>22</sup> *The Guardian*, September 24, 2002.
- <sup>23</sup> *Minutes of Evidence before the House of Commons Science & Technology Committee*, 1 November 2004.