25 Science and Research

The cross-cutting review of science and research considered how to maximise the benefits to the economy and society provided by public spending on science and research, and how to enhance the effectiveness of departments' own research programmes. As a result, the Government has provided the largest sustained growth in spending on science for a decade with some £1¼ billion addition in spending by 2005-06 compared to 2002-03 – including an increase of an average of 10 per cent a year in real terms for the Science Budget.

25.1 Science, engineering and technology are essential to delivery of the Government's central economic objective of high and stable levels of growth and employment. Closing the productivity gap with our major international competitors will be achieved more quickly by strengthening the UK's innovation performance, which is underpinned by public investment in the science base. The Government recognised the important contribution of science to productivity and growth in the Comprehensive Spending Review in 1998, and again in the last Spending Review, when the Science Budget was increased by seven per cent per year above inflation.

OUTCOMES

Building on success

25.2 In this Spending Review, the Government is providing additional resources for science and research to provide for the long term sustainability of the science and engineering base, and to increase the volume of research carried out. The Review increases spending on science by some £1¼ billion in 2005-06 compared to 2002-03, comprising increases in the DTI Science Budget, managed by the Office of Science and Technologies (OST), and increases in Department for Education and Skills (DfES) spending for recurrent research, capital funding for science infrastructure and additional funding to implement the Roberts Review[1]. As a result of these investments, the overall DTI Science Budget will increase by an average rate of 10 per cent a year in real terms between 2002-03 and 2005-06.

25.3 Building on investments from previous Spending Reviews, the Government has identified further areas for priority action so that UK science and research can continue to maintain its world-class position. The £1.75 billion investment in science research infrastructure (in partnership with the Wellcome Trust), which was delivered by the last two Spending Reviews, has resulted in major improvements in facilities. But the cross-cutting review identified a significant backlog in capital investment, which earlier funding had not fully addressed. For this reason, and to ensure the long term sustainability of scientific research, the Government will:

- create a dedicated capital funding stream for university research worth **£500 million per year** by 2005–06, which will provide universities with the certainty and level of funding needed properly to plan investment decisions; and
- contribute to world-leading large scientific facilities, such as the Diamond synchrotron, **more than doubling the OST budget for these facilities to £205 million per year by 2005–06**, over and above 2002-03 allowing UK scientists access to facilities serving a range of disciplines.

[1] This comprises £890 million for the OST Science Budget, the major part of £244 million for DfES recurrent spending on research (of which, based on historic trends, at least 80 per cent could be expected to be spent on sceince), at least £100 million through DfES to implement recommendations of the Roberts Review and £50 million through DfES for science research infrasturcture

25.4 In addition to the measures aimed at improving sustainability, the Government wishes to ensure that the UK can remain in the forefront of scientific research. Therefore, the Government will increase resources for science, engineering and research programmes over 2002-03 levels by **£400 million per year by 2005–06**, an average rise of **5 per cent per year** above inflation.

Working in partnership

25.5 The Government is the major, but not exclusive, funder of the science and engineering base, and is also an important user of it. While UK scientists have been driving up quality across the board, they have naturally sought to maximise their research opportunities. This has resulted in the volume of excellent research increasing at a faster rate than the underpinning funding. It is in the interests of all funders and users of research to work in partnership to redress this balance so that the system does not become unsustainable.

29.6 The Government will, therefore, increase the Research Council contribution to the indirect costs of research in universities significantly, providing an extra **£120 million a year over 2002-03 levels by 2005–06**, in addition to increased provision for institutions through DfES. This demonstrates the Government's commitment to maintaining and developing UK scientific excellence.

Improving management

25.7 In return for greater support for research, universities have a responsibility to manage their research effectively and sustainably. This will mean continued development of their costing and financial management systems to enable them better to understand the contribution of individual research projects to the actual costs, direct and indirect, of the research. The Government will expect universities to manage their budgets in a way which allows them to invest properly in infrastructure renewal and ensures that research is put on a sustainable footing.

Investing in human capital

25.8 The Government is investing new resources to boost skills in this area through implementing the key recommendations of Sir Gareth Roberts' review of the supply of scientists and engineers, which reported in April 2002. Measures being implemented by DTI and the OST focus on improving the attractiveness of postgraduate study and careers in higher education. In particular, the Government will be funding the Research Councils to increase the minimum PhD stipend to £12,000 and making additional funding available to increase the stipend further in areas where recruitment is difficult, thereby enabling the average PhD stipend to rise to over £13,000 by 2005–06. The Government will also be funding an increase in the average annual pay of Research Council postdoctoral researchers by £4,000 by 2005–06; with the increases being targeted in areas with recruitment and retention difficulties. The Government is also providing funding to improve significantly the training available to PhD students and postdoctoral researchers, and to create 1,000 new academic fellowship posts over 5 years for our best postdoctoral researchers, to help them make the transition to being a permanent member of the academic staff. Taken together, these measures will represent a **new investment of £100 million a year** by 2005–06. In addition, the Department for Education and Skills (DfES) settlement includes provision for additional significant improvements and investment in science, technology, engineering and mathematics education at school and at university.

Improving commercial exploitation

25.9 Building on successes of Government stimulation of commercialisation activities, the Government will increase resources for knowledge transfer from the science base from **£64 million in 2002–03 to £114 million in 2005–06 (including £20m per year from DfES)**, with £90 million per year by 2005-06 for a newly enhanced Higher Education Innovation Fund, and additional funding for knowledge transfer from public sector research establishments.

Better management of science in Government

25.10 The Government is also introducing a range of measures to improve the management and co-ordination of science within Government departments, so it can more effectively contribute to policy-making. This will include new procedures for the external review of the quality of Government science.

Science, Engineering and Technology Strategy

25.11 The Government will set out its strategy for science, engineering and technology in a document to be published shortly. This will demonstrate how the additional resources provided by the Spending Review and the reforms outlined above will be used to boost the UK's innovation performance, thereby contributing to productivity growth.

Box 25.1: Key PSA target

Improve the relative international performance of the UK's science and engineering base, exploitation of the science base, and the overall innovation performance of the UK economy.

SPENDING PLANS

25.12 To fund these plans, **DTI spending on science will increase at an average rate of 10 per cent per year above inflation between 2002–03 and 2005–06**. The Government's spending plans for science and research, delivered through the Office of Science and Technology, are summarised in Table 29.1 below. DfES will also receive additional provision enabling a substantial increase in recurrent funding for research, delivered through the Higher Education Funding Council for England over the 2002 Spending Review period.

Table 25.1: Key figures

	£ million			
Science Budget	**2002-03**	**2003–04**	**2004–05**	**2005–06**
Resource Budget	1,988	2,246	2,458	2,791
Capital Budget	104	131	207	205
Total Departmental Expenditure Limit[1]	**2,006**	**2,285**	**2,570**	**2,899**

[1] *Full resource budgeting basis, net of depreciation.*