

FST Talk: The Scientific Century

Martin Rees
Cambridge University and
Royal Society

16th June, 2010

A chorus of voices

The Royal Society - *The Scientific Century*

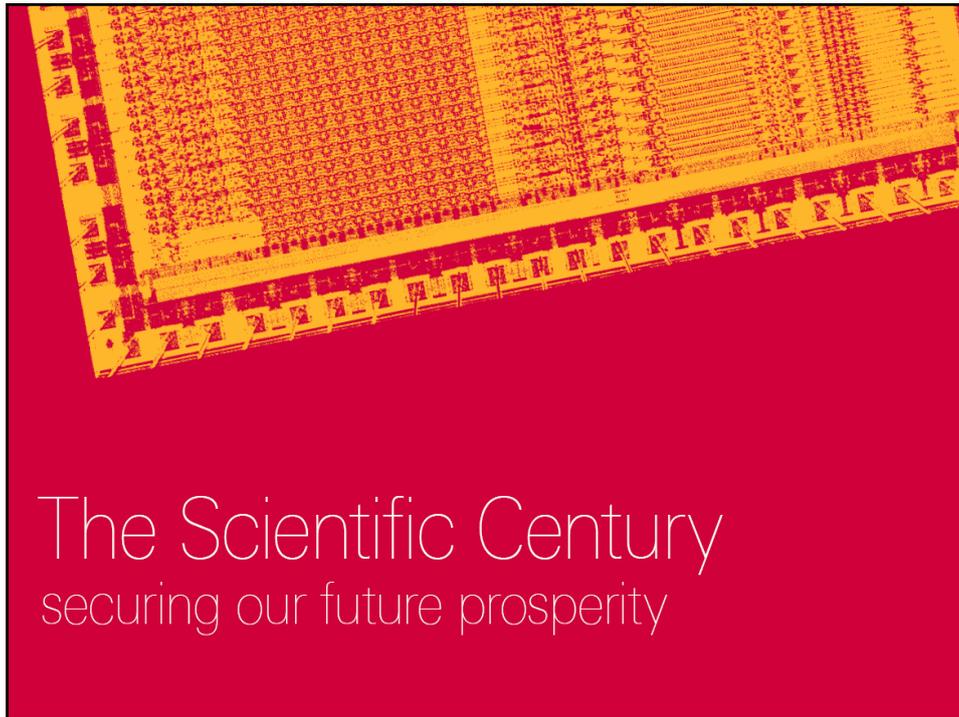
James Dyson – *Ingenious Britain*

Council for Science and Technology – *A Vision for UK Research*

House of Commons/House of Lords S&T Committees

Hermann Hauser – *The Current and Future Role of Technology
Centres in the UK*

NESTA – *Rebalancing Act*



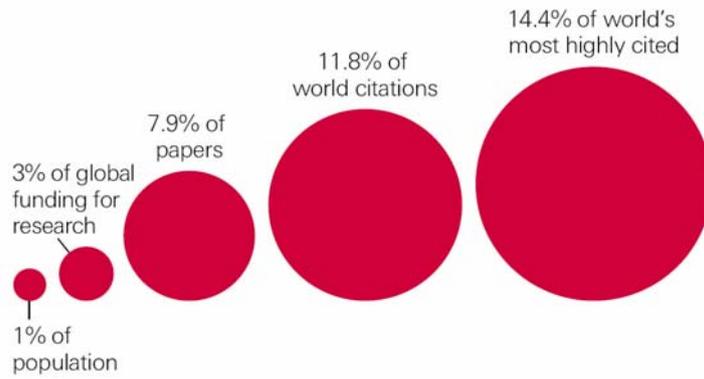
The Scientific Century

securing our future prosperity

Advisory Group

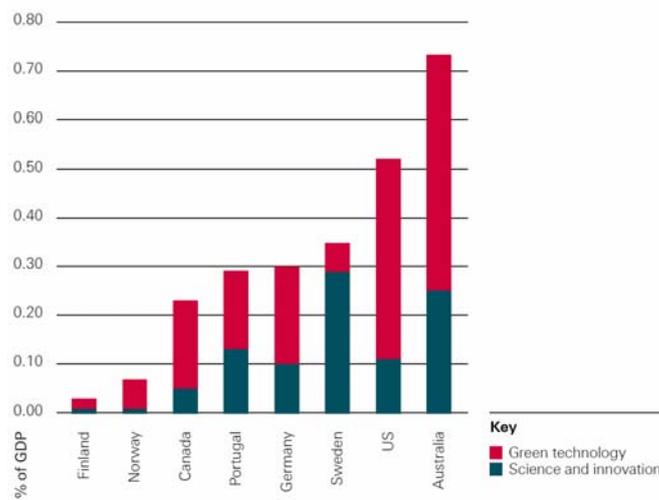
Sir Martin Taylor FRS (Chair), Former Vice-President and Physical Secretary, The Royal Society
Professor Glynis Breakwell, Vice-Chancellor, University of Bath
Professor Ann Dowling DBE CBE FRS FREng, Professor of Engineering, University of Cambridge
Sir Martin Evans FRS, Director, Cardiff School of Biosciences
Sir Richard Friend FRS, Professor of Physics, University of Cambridge
Professor Rachel Griffith FBA, Deputy Research Director, Institute for Fiscal Studies
Professor Wendy Hall DBE FREng FRS, Professor of Computer Science, University of Southampton
Dr Emily Holmes, Department of Psychiatry, University of Oxford
Professor Richard Jones FRS, Professor of Physics, Sheffield University
Professor Ben Martin, Science and Technology Policy Research Unit (SPRU)
Paul Mountford, President, Emerging Markets, Cisco
Professor Helga Nowotny, Vice-President, European Research Council
Sir Paul Nurse FRS, President, Rockefeller University, New York City
Dr David Roblin, Vice-President Global R&D, Pfizer
Lord Sainsbury of Turville FRS, Gatsby Charitable Foundation
Lord Waldegrave of North Hill, Provost, Eton College
Sir Mark Walport, Director of the Wellcome Trust
Sir Alan Wilson FRS FBA, Chairman, Arts and Humanities Research Council

The UK punches above its weight

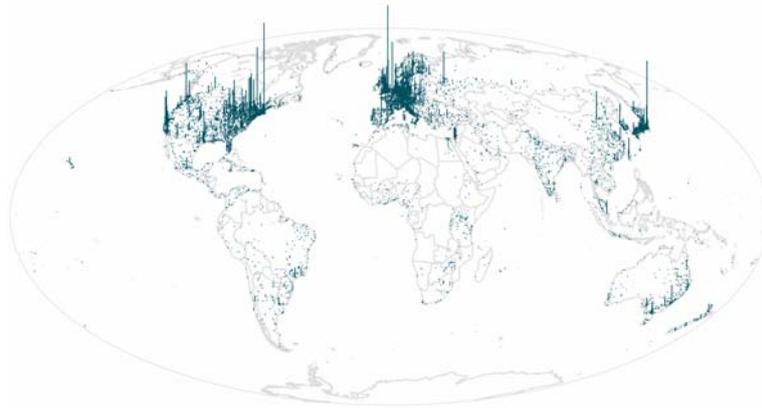


THE ROYAL SOCIETY

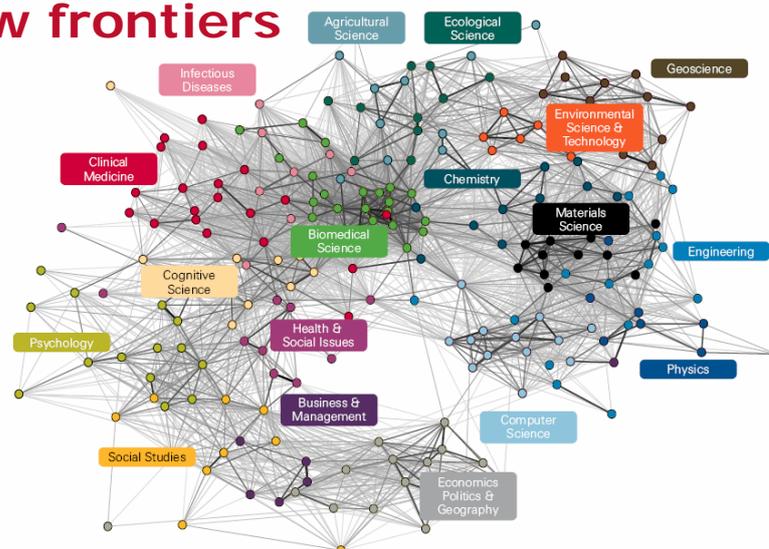
Investing through the downturn



Where research takes place



New frontiers



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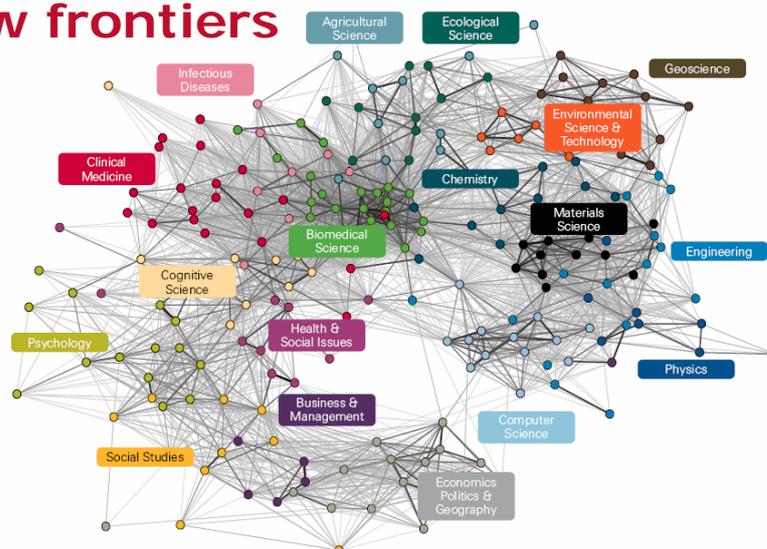
But are they listening?



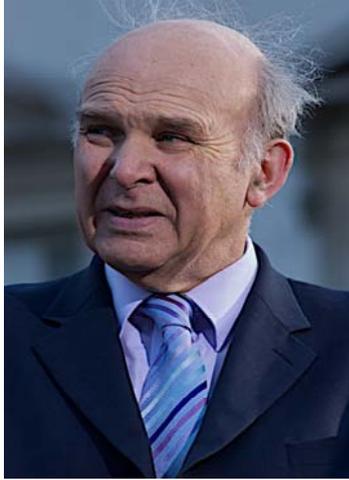
'I'm all in favour of curiosity-driven research whose applications may take time to emerge... It is important that university research has a positive 'impact' on our economy and our society... However, there is a crucial difference between impact and the impact agenda. I have doubts about the impact agenda proposed for the REF. It is at risk of being over-managed and over-driven.'

University of Birmingham, 20 May 2010

New frontiers



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'By bringing together university policy, skills policy, business, regulation and competition policy, science and research policy, it has become in effect, the department for economic growth...It is, in any event, a major economic department, complementary to the Treasury....

BIS is the Ministry for science, and science is a vital public good - one that the market unprompted will not provide at the level needed in a modern knowledge economy.'

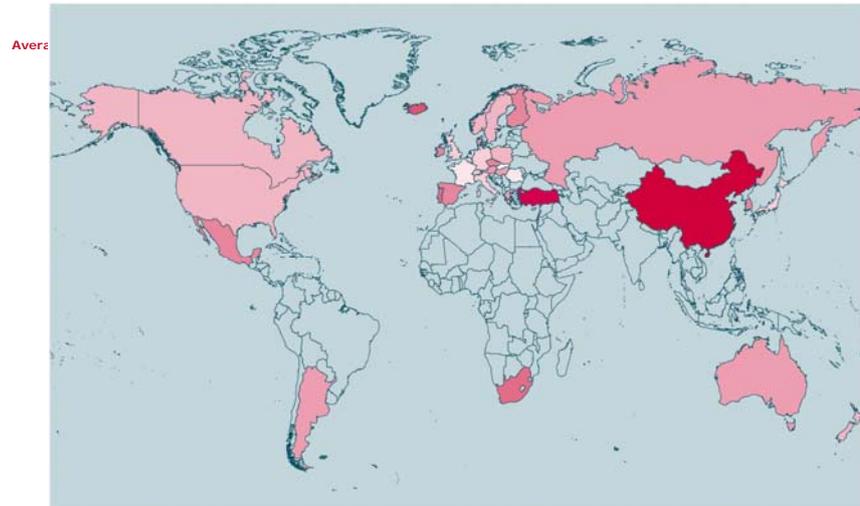
Cass Business School, 3 June 2010

Recommendations

1. **Put science and innovation at the heart of a strategy for long-term economic growth**
2. **Prioritise investment in excellent people**
3. **Strengthen Government's use of science**
4. **Reinforce the UK's position as a hub for global science and innovation**
5. **Better align science and innovation with global challenges**
6. **Revitalise science and mathematics education**



Global competition



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Recommendation 1: Put science and innovation at the heart of a strategy for long-term economic growth

- Create a new long-term framework for science and innovation committing to increased expenditure
- Outline spending plans over a fifteen year period (2011-2026)
- Prioritise investment in scientific capital – including infrastructure and skills
- Expand the R&D tax credit

Recommendation 2: Prioritise investment in excellent people

- Direct a greater proportion of Research Council funding to investigator-led research
- Increase the length and quality of UK PhD training
- Support transferable skills training for researchers
- Increase the number of postdoctoral fellowships

Recommendation 3: Strengthen Government's use of science

- Review strategic science spending by Government departments
- Expand the Small Business Research Initiative to support innovative procurement
- Provide Departmental Chief Scientific Advisers with greater resources
- Appoint a Chief Scientific Adviser to HM Treasury

Recommendation 4: Reinforce the UK's position as a hub for global science and innovation

- Extend the geographic reach of the UK Science and Innovation Network
- Increase support for mechanisms, such as the Science Bridges scheme, which link UK research groups with partners overseas
- Incentivise more of the world's best scientists to remain in, or relocate to, the UK
- Improve visa conditions for visiting scientists and researchers to the UK

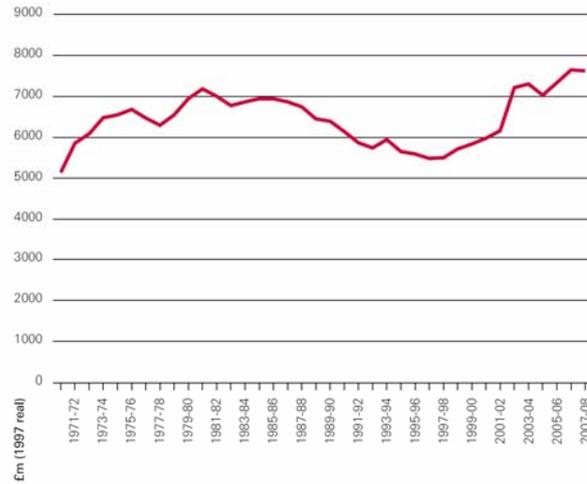
Recommendation 5: Better align science and innovation with global challenges

- Create strong global challenge research programmes, led by RCUK, to align scientific, commercial and public interests
- Reform research funding and assessment to support and reward interdisciplinary research
- Use public and stakeholder dialogue to help identify and shape these challenges
- Ringfence departmental contributions to priority research areas

Recommendation 6: Revitalise science and mathematics education

- Provide incentives to recruit, retain and attract teachers back to science subjects
- Commit to increasing the numbers of primary teachers with science expertise
- Establish new expert groups to advise on the development of science and mathematics curricula and qualifications

Public R&D expenditure, 1970-2007



'I want to set out for the country the big arguments that form the background to the inevitably painful times that lie ahead of us... Why the overall scale of the problem is even worse than we thought... And why in two weeks, we will have an emergency Budget, setting out how we will cut the bulk of our deficit... So yes, it will be tough.'

7 June 2010

Shanghai

Shanghai Synchrotron Radiation Facility

