

The UK Green Innovation Research Landscape



Catherine Coates,

Engineering and Physical Sciences Research Council

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- 1. The UK research and innovation landscape**
- 2. Recent policy on green innovation**
- 3. Research themes and programmes**
- 4. Future plans?**



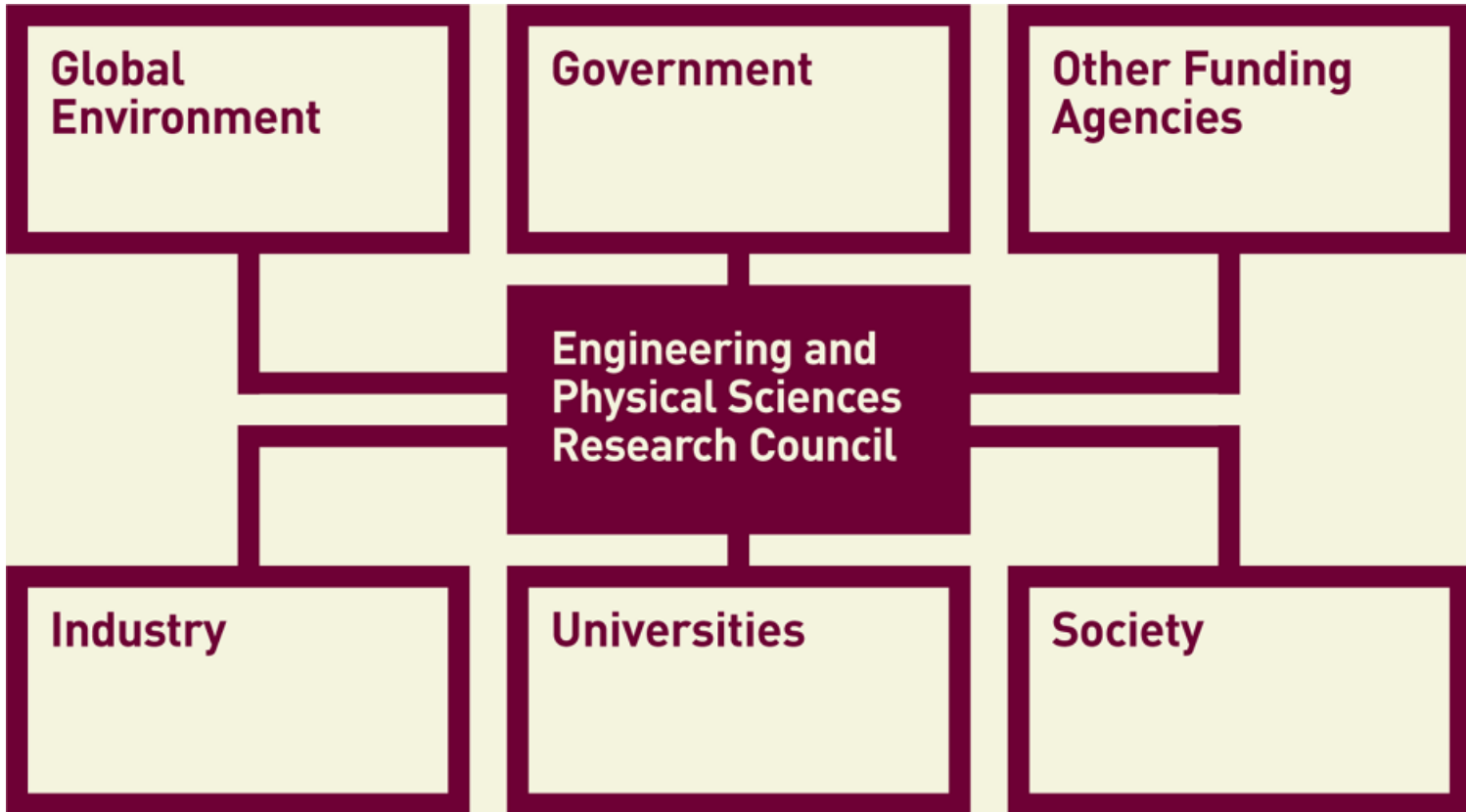
The Engineering and Physical Sciences Research Council

- We are the main UK government agency for funding research and training in engineering and the physical sciences
- We invest around \$1200 million a year so the UK will be prepared for the next generation of technological change

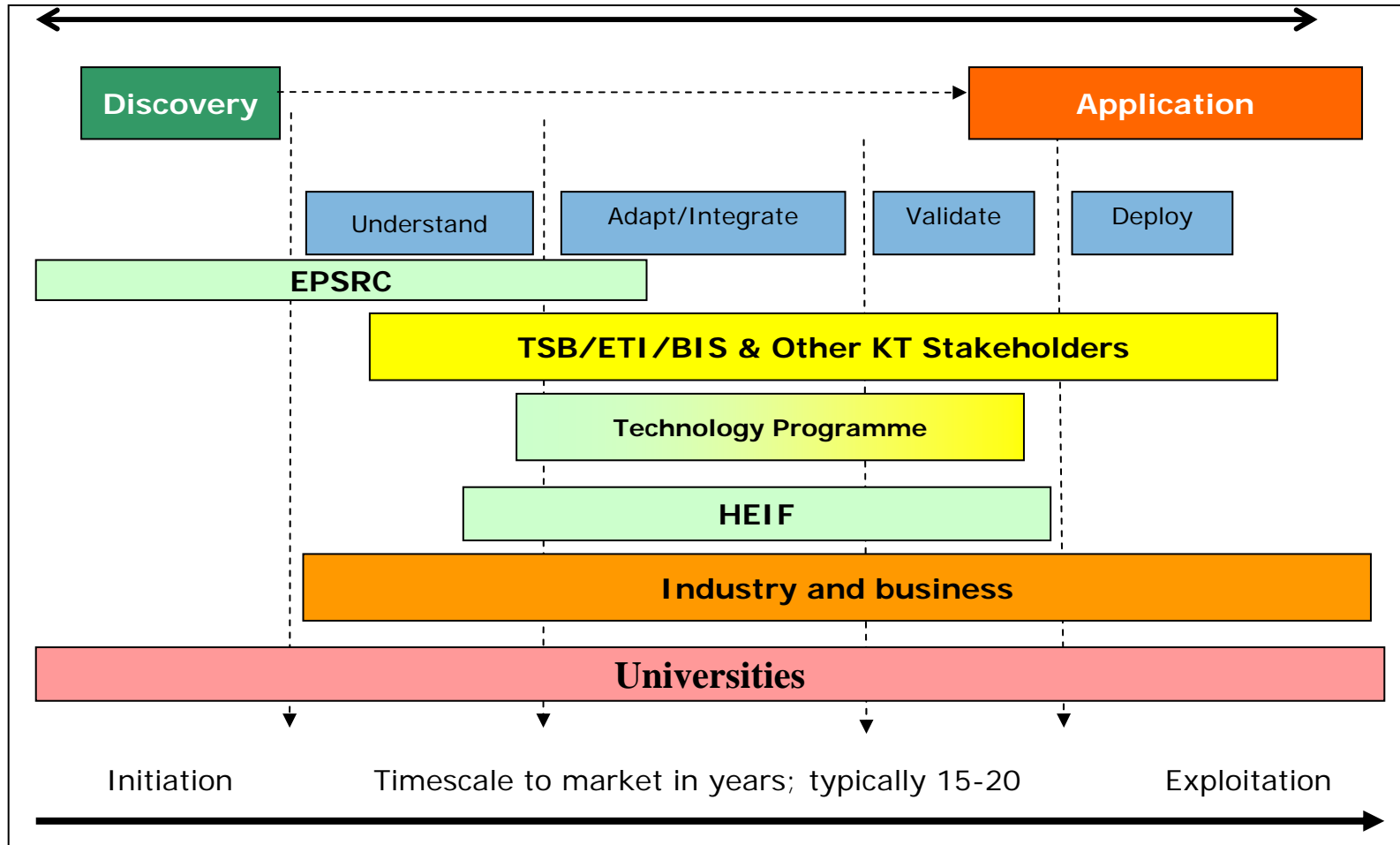
Research Councils UK

- Is the strategic partnership of the UK's seven Research Councils

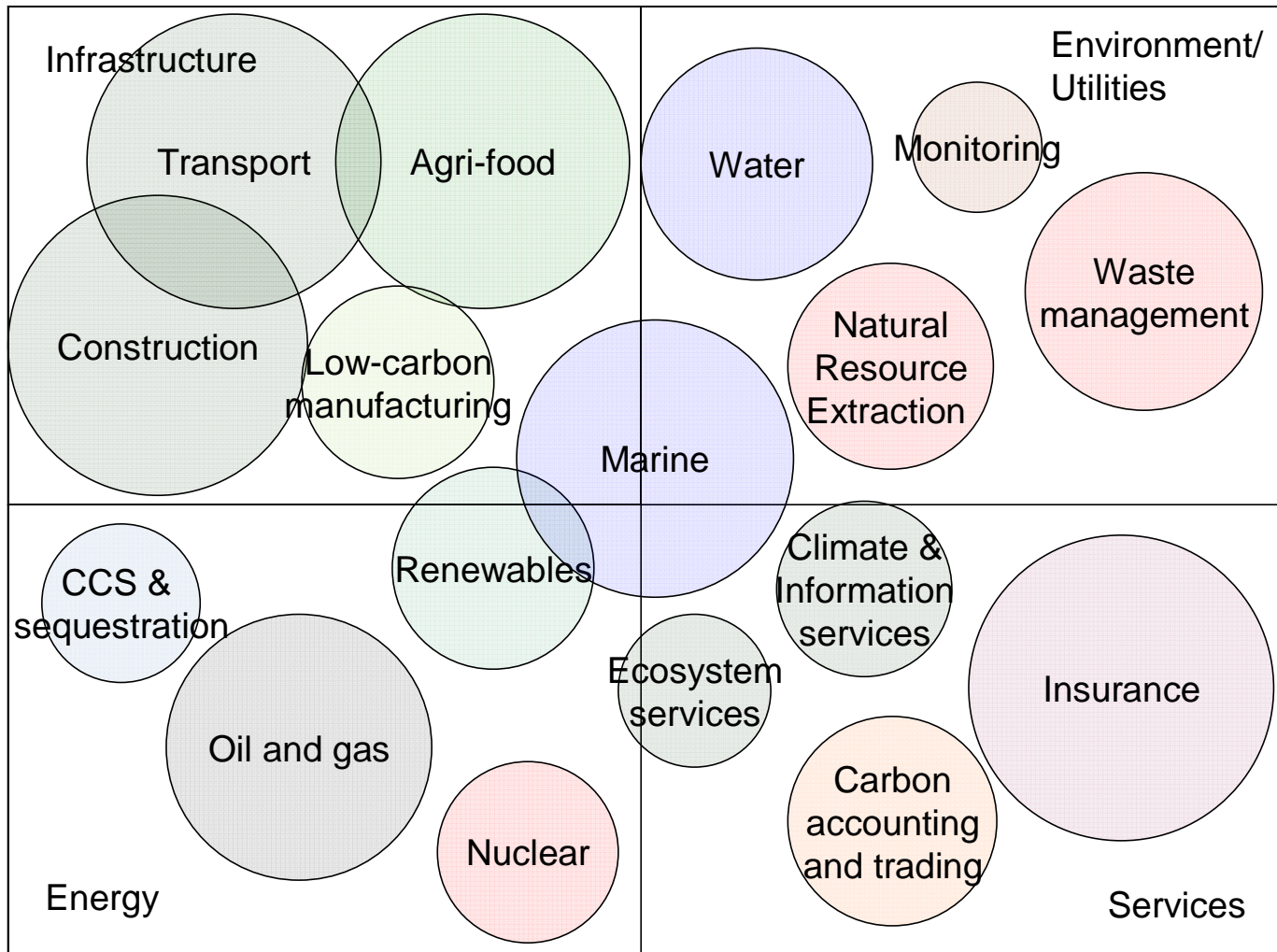
EPSRC's Operating Environment



Towards Better Exploitation



Growing the green economy





Recent policy on Green Innovation

“Tackling climate change is about more than just averting environmental disaster. It can create a better kind of society and a stronger more sustainable economy”

“The world is engaged in a race to low carbon. The global market for low carbon goods and services is already worth around \$4.5 trillion and will probably grow by half that again by 2015”

The UK Low Carbon Industrial Strategy July 2009



Recent Policy on Green Innovation

Recent announcements of Government investment have been to stimulate business in:

- Offshore wind
- Wave and tidal power
- Ultra-low carbon vehicles
- Renewable construction materials
- Renewable chemicals
- Low carbon manufacturing

All of these have built on underpinning research in UK universities and will require the PhD level skills, also products of those universities.



Current Research Themes and Programmes

1. Living with Environmental Change
2. Energy
3. Level of EPSRC support for associated technologies
4. Low carbon vehicle platform
5. Green Technology

The LWEC Vision

To provide government, business and society with the foresight, knowledge and tools in mitigating, adapting to and capitalising on environmental change



LWEC is a \$1.5bn programme which brings together 20 UK organisations funding, undertaking and using environmental research to accelerate the delivery of research on environmental change into policy, business and society

Common objectives

- A. To predict the impacts of **climate change** and to promote sustainable solutions through mitigation and adaptation.
- B. To manage **ecosystem services** for human well-being and to protect the natural environment in a changing world.
- C. To promote human well-being, alleviate poverty and minimise waste by ensuring a **sustainable supply of food and water**.
- D. To protect human, plant and animal **health** from diseases, pests and environmental hazards in a changing environment.
- E. To make **infrastructure, the built environment and transport** systems resilient to environmental change, less carbon intensive and more socially acceptable.
- F. To understand how **people** respond to a changing environment and develop thriving, cohesive and informed communities.

The UK Energy Research Programme

Mission

To position the UK to meet its energy and environmental targets and policy goals through high quality research and postgraduate training.

Key Targets:

- 80% reduction in greenhouse gas emissions by 2050.
- 15% of energy from renewable sources by 2020.
- Increases in energy efficiency.



Drivers:

- Tackling climate change by reducing carbon dioxide emissions both within the UK and abroad.
- Ensuring energy security.
- Ensuring energy affordability.



Size of current programme:

Energy Programme Objectives

To support a **full spectrum of Energy research** to help the UK meet the objectives and targets set out in the 2007 Energy White Paper

To increase the **international visibility** and level of international collaboration within the UK energy research Portfolio.

To **work in partnership** to contribute to the research and postgraduate training needs of energy-related business and other key stakeholders

To expand the **UK research capacity** in energy-related areas.



Emerging Themes (for 2011 onwards)

Reducing Energy Consumption and Demand:

Development of behavioural market and technological advances informed by a whole system understanding

Speculative Research:

To define future energy options, eg through Grand Challenges

Understanding Future Energy Options:

Social, environmental and economic implications

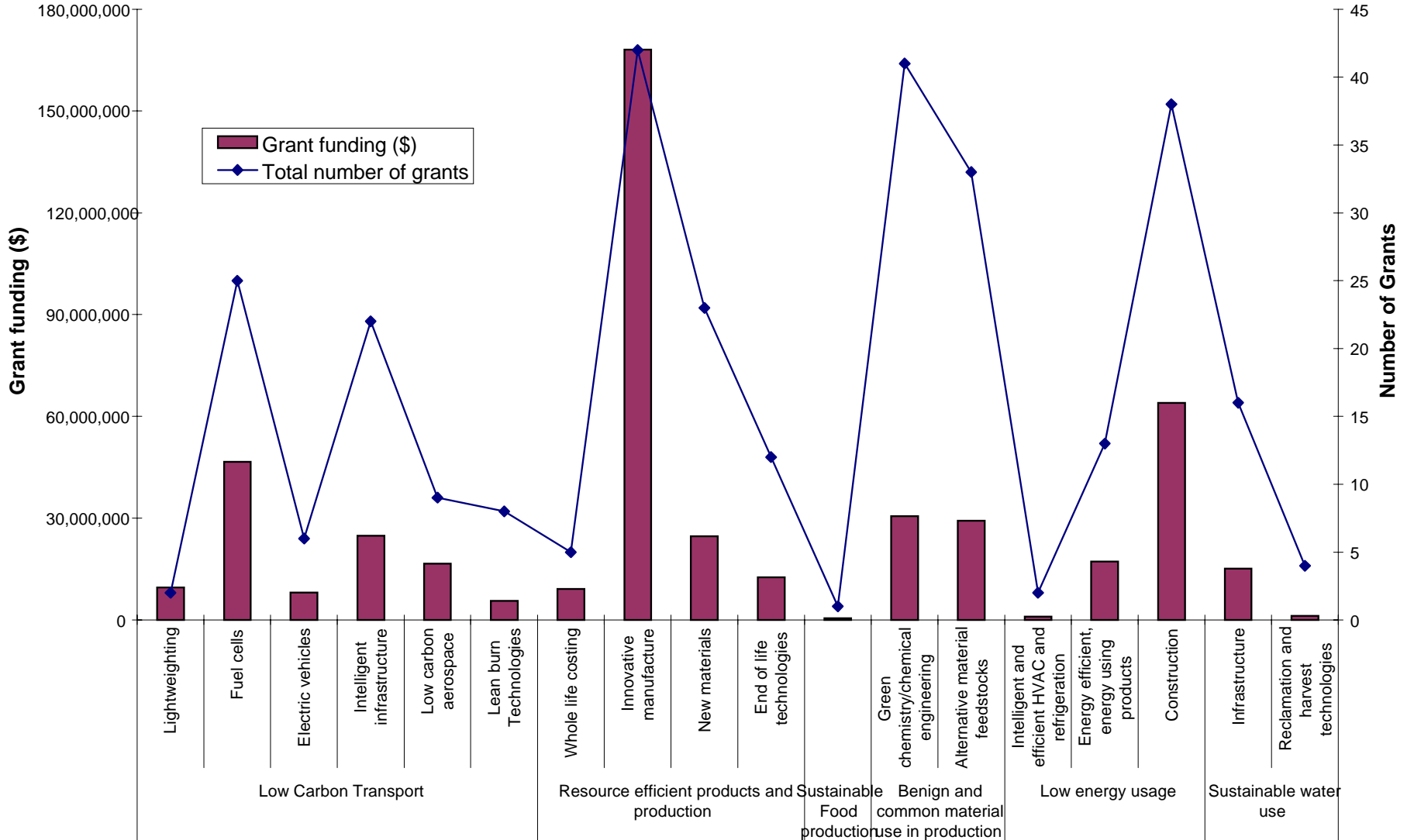
Accelerated Deployment of Alternative Energy Technologies:

Ensuring physical, economic, social and natural sciences research and basic research challenges are addressed

Building Capacity:

Providing the skilled people to deliver new energy futures through the training and development of new researchers, policy makers and business leaders, eg growth in career advancement and leadership fellows

EPSRC support for green technologies





Low Carbon Vehicle Platform

Aims to maximise the benefit to UK-based businesses of the rapidly-developing low carbon vehicles market, and to help accelerate the adoption of low carbon vehicles in the UK

\$400M programme of joint government and industry investment, including EPSRC, 16 consortia over 75 partners

\$38M for an ultra low carbon vehicle demonstrator

Themes: lightweighting, internal combustion engine efficiency, hybrids, energy storage, hydrogen fuel cells, aerodynamics

Collaborative projects between universities and business



Looking forward

A possible major new programme “A More Resilient Economy”

This would include a portfolio of focused thematic interdisciplinary research and development from basic university-led research through to technology demonstrators with a focus on green technologies.

The challenge will be to enable movement towards a resource-efficient supply chain that re-uses, recycles or composts all materials to break the historic link between economic growth and environmental degradation.



Thank you for your attention