

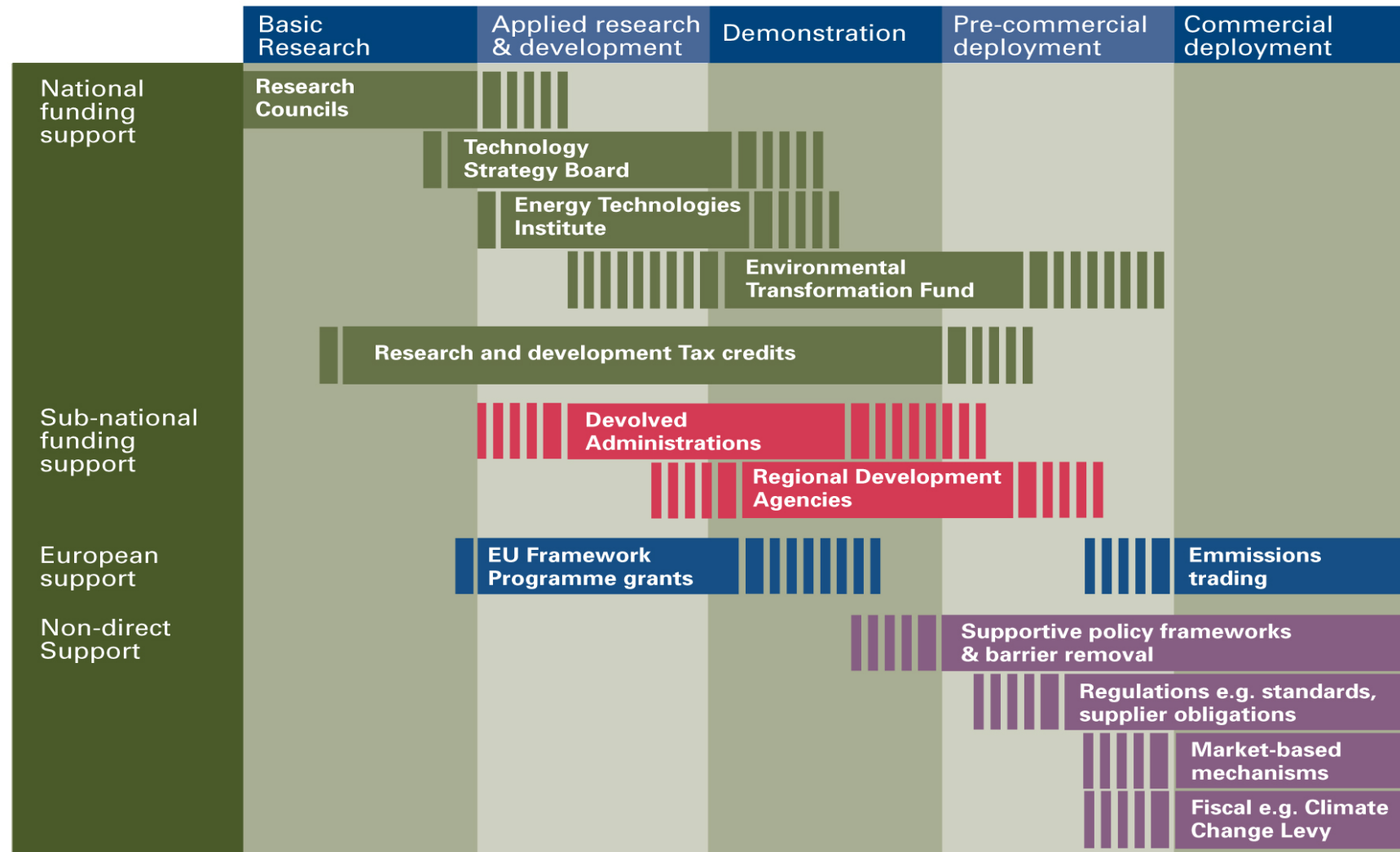
Research Councils' Energy Programme: materials for energy

Dr Alison Wall
Associate Director, Mission Programmes

Jason Green; Claire Wagstaffe

EPSRC

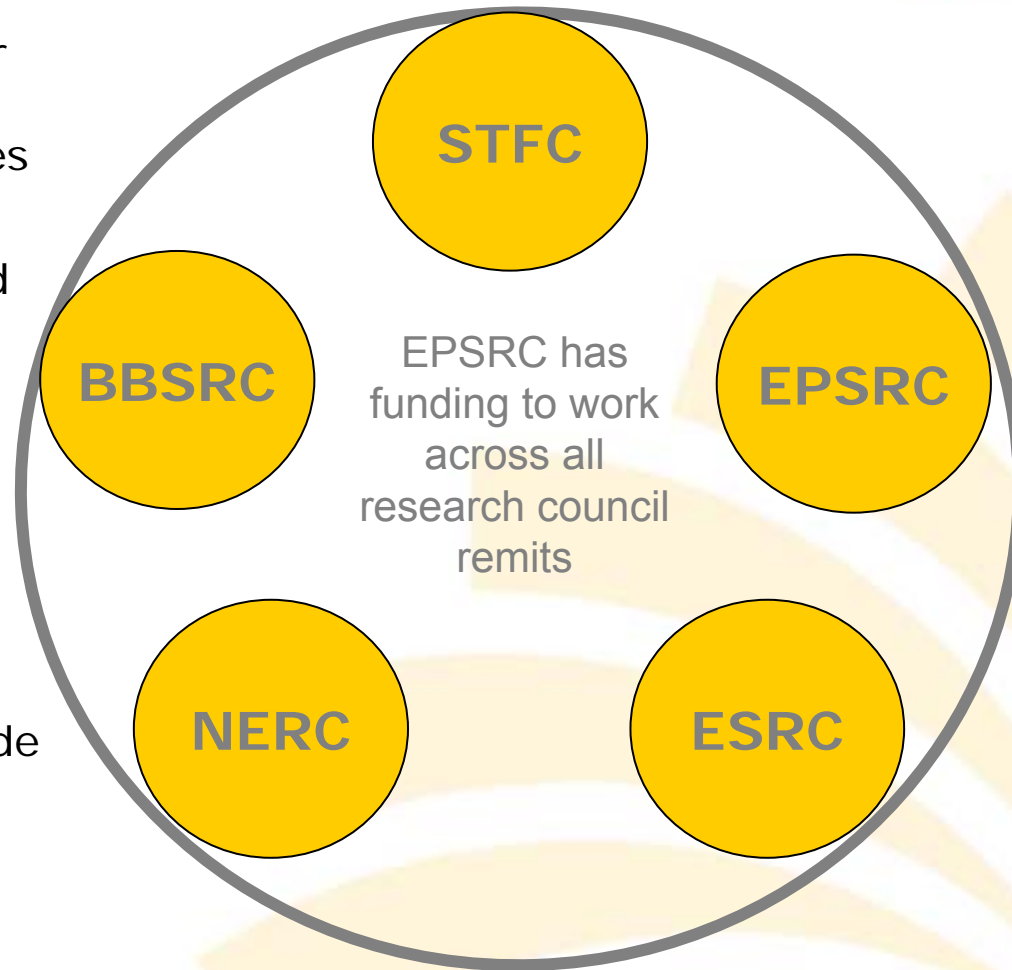
The Energy Landscape: Public Sector funding



Brings together
all our energy-
related activities

Major managed
programmes

Facilities,
institutes,
responsive mode

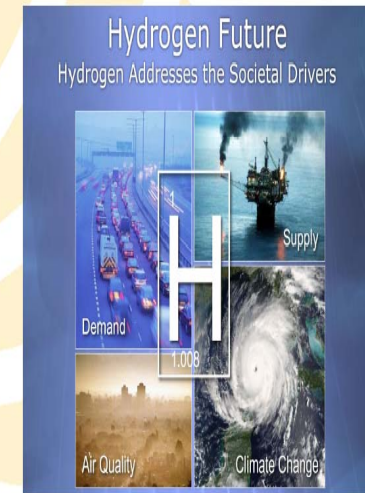


Advice from
a Scientific
Advisory
Committee

Mission

To support world class research and postgraduate training to help meet the UK's energy and environmental targets and policy goals.

- tackling climate change by reducing carbon dioxide emissions both within the UK and abroad;
- ensuring secure, clean and affordable energy supply.



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

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

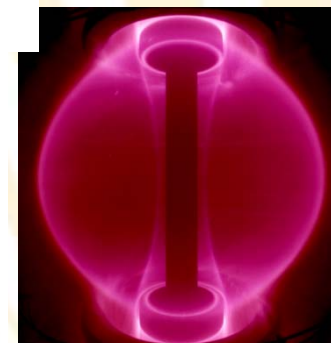
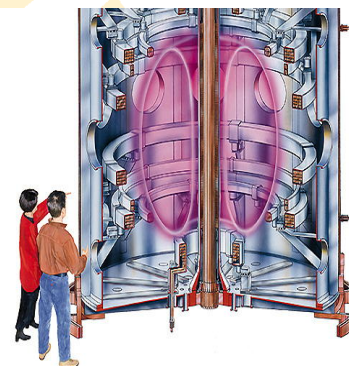
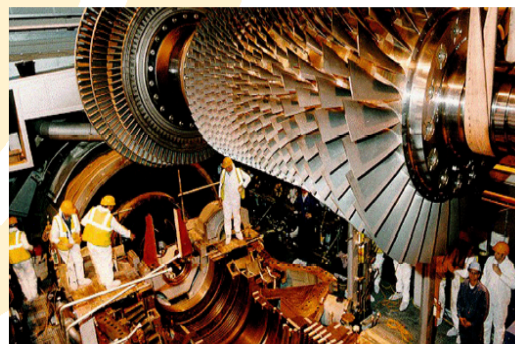
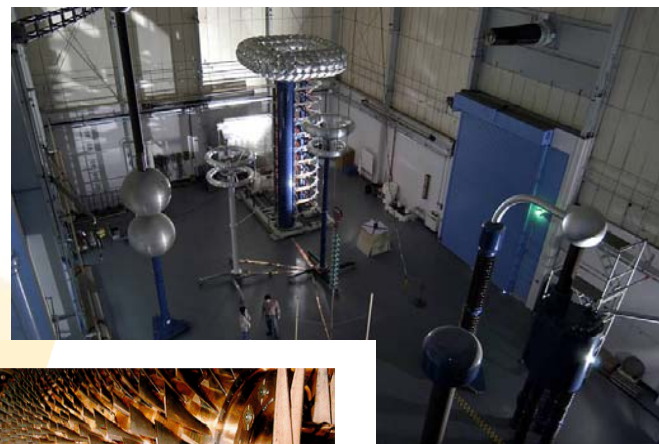
To expand the **UK research capacity** in energy-related areas.

Energy 2008 – 11

***£319M planned investment
by the Research Councils***

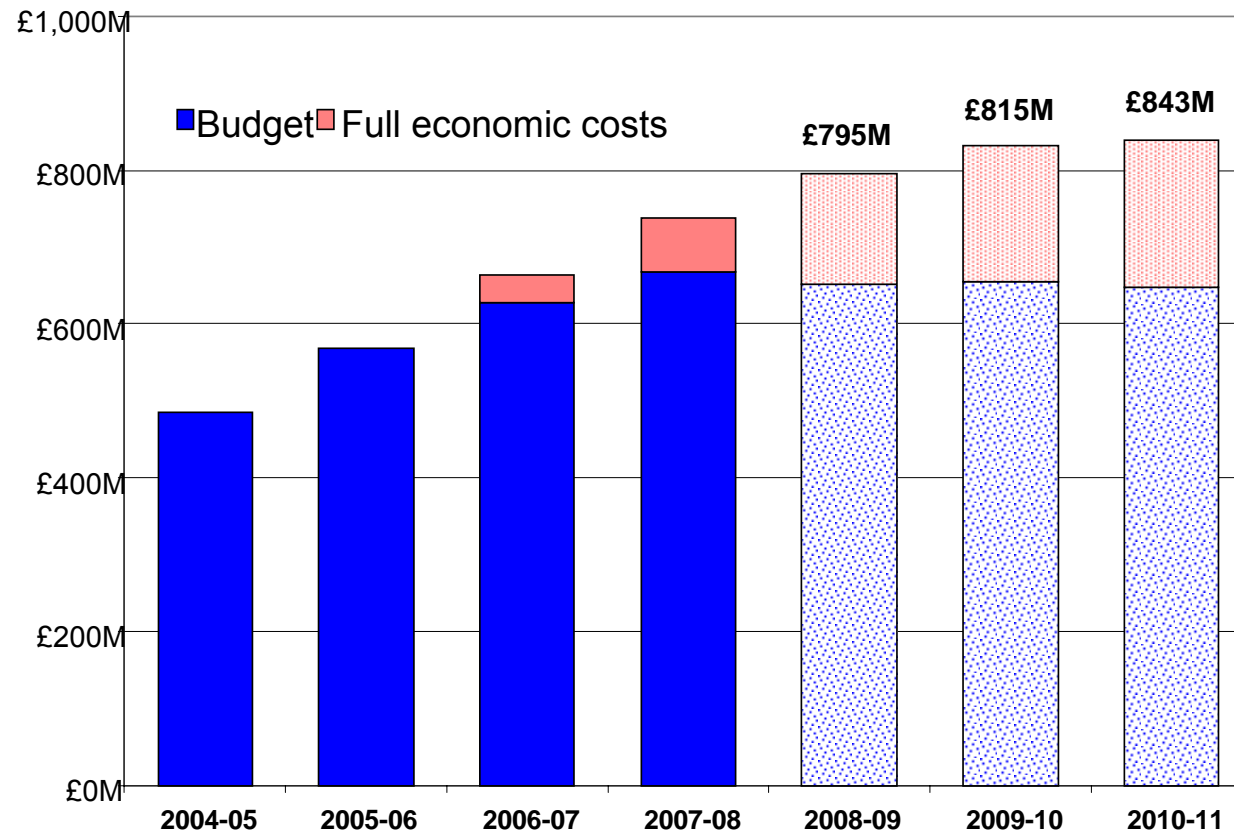
Priorities

- A whole system approach to energy options, supply and usage
- Rapid exploitation through ETI
- Growing portfolio in demand reduction and transport
- Enhanced research in sustainable power generation & supply / alternative sources
- Focused postgraduate training in energy themes





EPSRC 2004-05 to 2010-11 EXPENDITURE

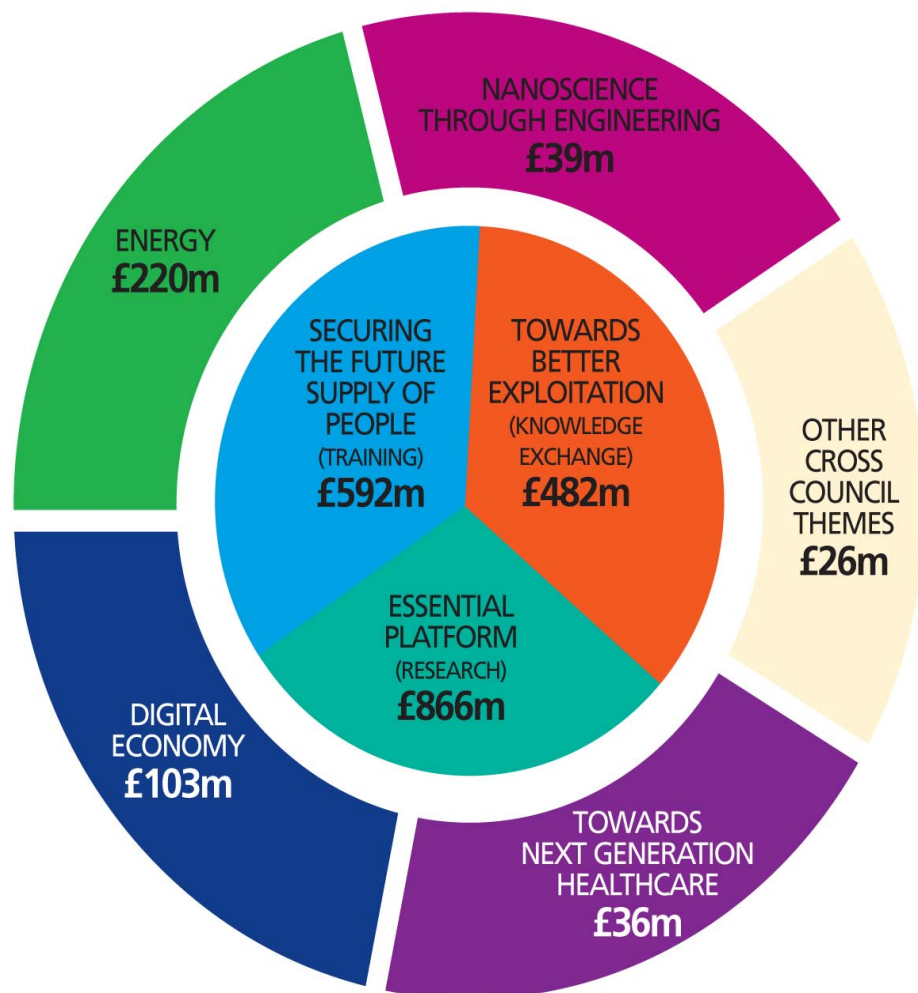


Plans include:

- Our priority themes
- ETI
- Target for TSB collaboration
- RCUK priority themes



THE WHOLE EPSRC PICTURE



Living with environmental change (£9M)
 Global Uncertainties: security for all in a changing world (£6M)
 Life-long health and wellbeing (£11M)

Values are commitment 2008-11



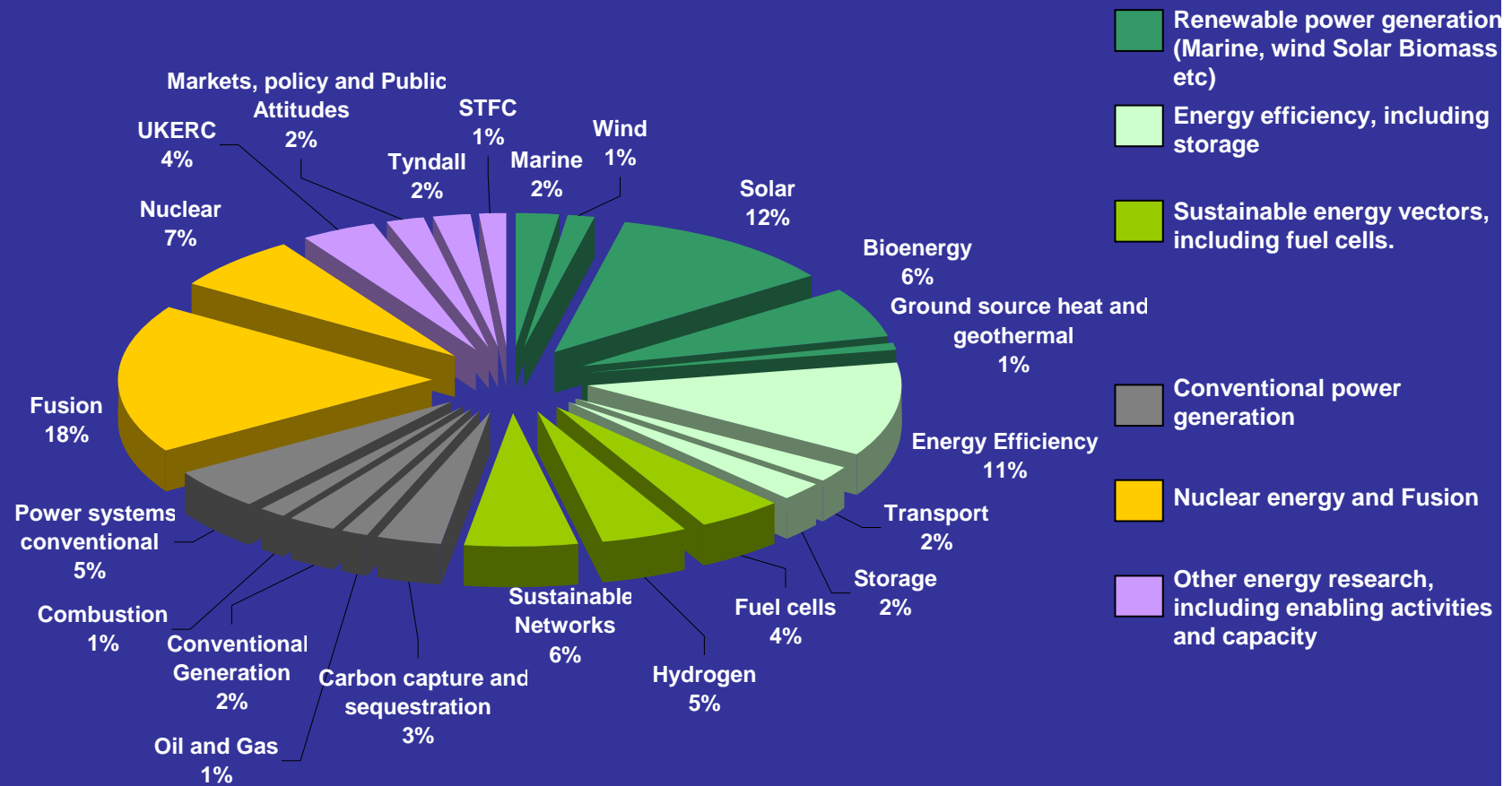
ESSENTIAL PLATFORM FOR A HEALTHY RESEARCH BASE

Longer term international quality research to provide a vibrant and sustainable research environment able to respond to future challenges

Key strategies:

- Supporting transformative research
- Community-led challenges
- Even more ambitious and flexible programmes of research for leading edge groups
- Signposting strategic areas
- Encouraging user collaboration

Research Council Energy Programme current portfolio by commitment value



Energy materials funding



Materials for
energy
2006
(£6.69M)

Solar cells
Battery storage
Fusion
Fission

Nano Grand Challenge
1 (£6.7M)

Hybrid PV
Block copolymer solar
cells
Heterojunction solar
cells
Nanocrystalline
photodiodes
Scaleable organic
photovoltaic

TSB (£2M)

High temperature
electronics
Novel energy
harvesting products
Power cables
PV
Sensor coating



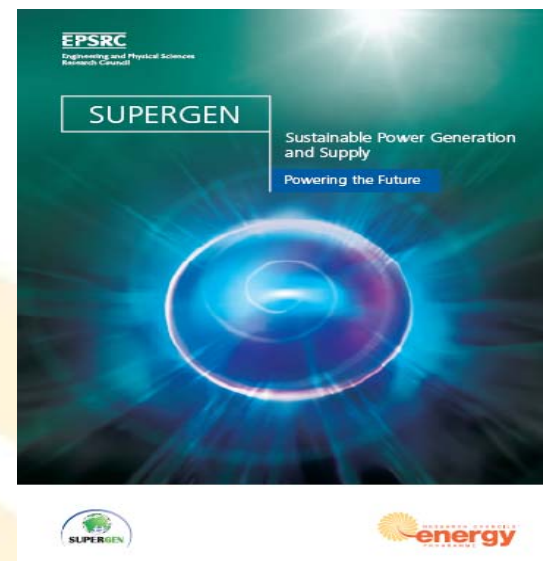
13 consortia

38 academic partners

80+ business and other collaborators

£57M in total

With the Carbon Trust



Materials research in many consortia including:

PV (£6.2M)

Organic PV (£1.1M)

Storage (£2.2M)

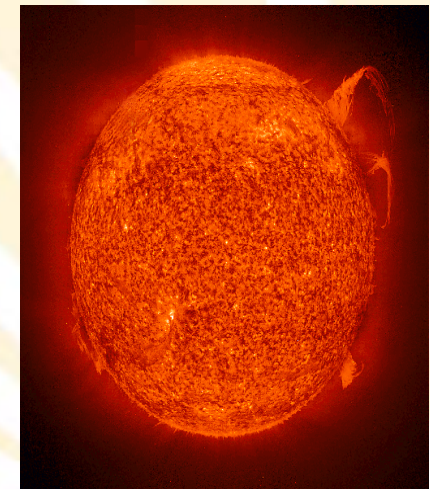
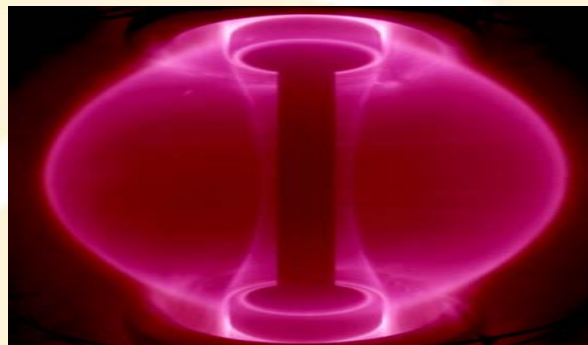
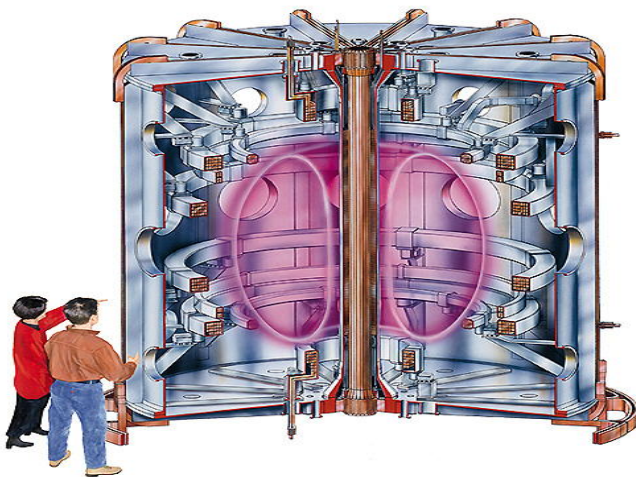
Plant lifetime extension (£4.3M)

Hydrogen UKSHEC (£6M)

Fusion



- Major block of funding – over £20M pa
- EPSRC funding for ITER, JET and UK domestic programme (alongside EURATOM funding)
- Getting the right balance with the energy portfolio and the changing fusion research landscape



Nuclear Fission



Current Activities

- Keeping the Nuclear Option Open (KNOO) –focus is on current and future reactor systems, materials and waste management.
- Nuclear skills Engineering Doctorate Centre with MoD, BE, BNFL, Nexia and AWE.
- NTEC – Nuclear Technology Education Consortium (masters)
- Sustainability of Nuclear Power (SPRing)
- Nuclear Waste Management & Decommissioning – working with the Nuclear Decommissioning Authority - DIAMOND: Decommissioning, Immobilisation And Management Of Nuclear wastes for Disposal

Where next?



- Fission and fusion?
- Demand reduction?
- Successor to Supergen?
- Focus vs breadth in the portfolio?

Energy team contacts



Head of Programme:

Jason Green –

jason.green@epsrc.ac.uk

Energy manager:

Claire Wagstaffe -

claire.wagstaff@epsrc.ac.uk