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Energy For a Low Carbon Future

EPSRC Engineering and Physical Sciences Research Council



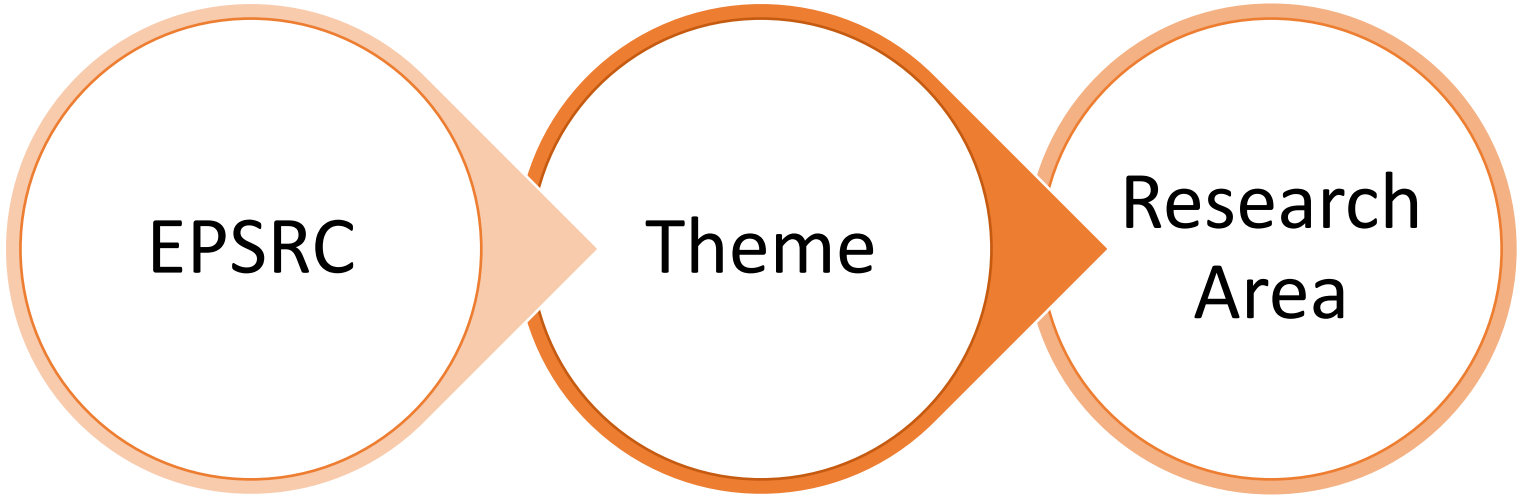


EPSRC Nuclear Portfolio: An Overview

Dr Neil Bateman, Senior Portfolio Manager

Structure of EPSRC

The Energy theme has 12 research areas:



- **Nuclear Fission**
- **Nuclear Fusion**
- Bioenergy
- Wind
- Solar
- Energy Storage
- Energy Networks
- End Use Energy Demand
- Marine and Tidal
- Whole Energy Systems
- Carbon Capture and Storage
- Hydrogen and fuel cells

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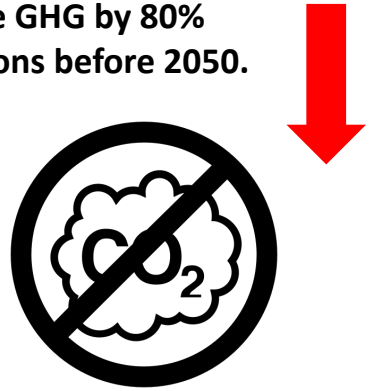
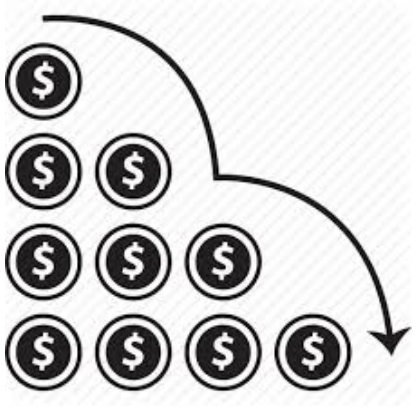
The Energy Programme

The **Research Councils working together** to plan, develop and deliver energy research and training within a **common strategic framework** through the Research Councils Energy Programme.

Reduce GHG by 80% emissions before 2050.

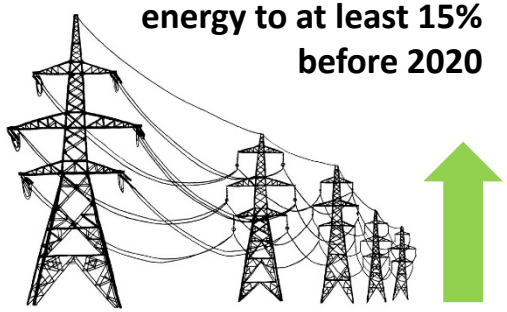


Reduce emissions



Reducing cost

Increase use of renewable energy to at least 15% before 2020



Enhance security of supply

Tackling all elements of the energy ‘trilemma’

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Nuclear fission

A key low-carbon power generation option.

- 72 live grants
- £76M currently committed (about 20% of the total EPSRC Energy portfolio)

- Challenges in this research area include:
  - Legacy waste clean-up
  - Decommissioning and disposal
  - Technological challenges for new nuclear build
  - Fuel reprocessing
  - Manage delivery of research infrastructure requirements
  - Engaging internationally

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Funding Routes & Examples

Managed activities

Large Investments

ATLANTIC

TRANSCEND

Robotics Hubs

Prosperity partnership

Skills

Centres of Doctoral Training (CDT)

International Programmes

Japan
South Korea
USA
India

Community led

Responsive mode

Standard mode

New Investigator Award

Programme Grants

Network Grants

Overseas Travel Grants

Fellowships

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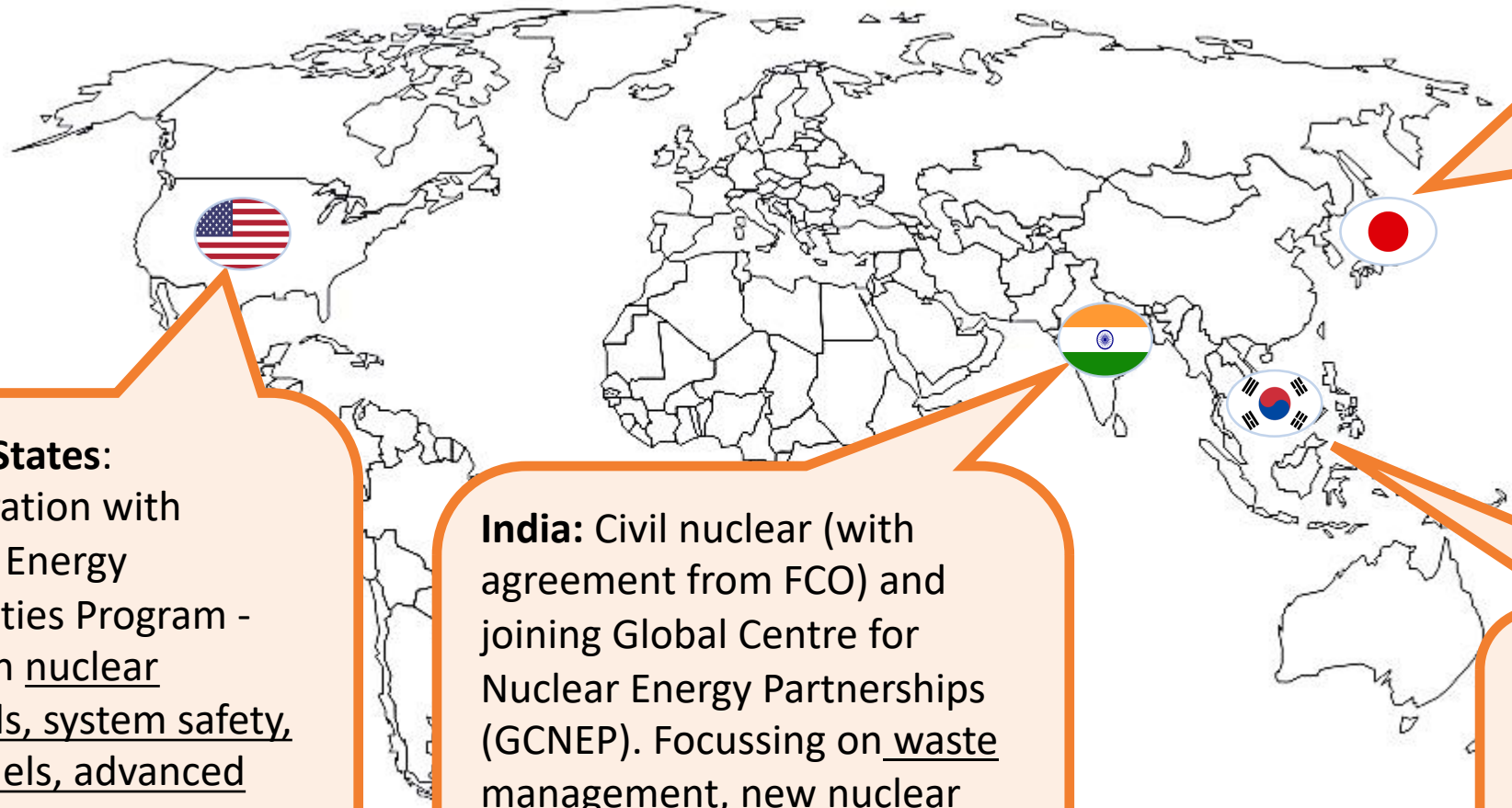
International Engagement



United States: collaboration with Nuclear Energy Universities Program - Focus on nuclear materials, system safety, spent fuels, advanced waste forms and fuels, modelling.

India: Civil nuclear (with agreement from FCO) and joining Global Centre for Nuclear Energy Partnerships (GCNEP). Focussing on waste management, new nuclear systems, life extension of existing plants, and system safety.

Japan: Delivered annually. Covering decommissioning (around Fukushima Daiichi) and robotics for decommissioning - > £4M in total over several calls

Republic of Korea: Delivered on 3 to 4 year cycle. Concerned with decommissioning and spent fuel management, also robotics.

NNUF phase 2

5 years in the making…

- Ranking Panel held in mid August
- 15 facilities proposals to be supported, plus management grant
  - 10 submission cover closely or very closely facilities identified in the Business case.
  - 1 is quite well aligned
  - 4 are ‘new’
- Some gaps remain

NNUF phase 2

Next Steps

- Gateway review 3 is underway –
  - 24th to 26th September
  - Main projects will be interviewed
    - Not a re-reviewing!
      - Does the list of projects still meet the requirement as made in the business case?
      - Is the project ready to move to the funding phase?
  - Authorisation can only take place if GR is passed.

NNUF phase 2

Next Steps

- Aim to authorise ASAP
- Gap analysis early next year.

- Management group will be recruiting Steering Board members and organising the first meetings
- First progress reports will be due 6 weeks after starting.
    - All projects will have the same reporting dates. Six weekly updates, Quarterly more detailed and Annual formal reports to BEIS and Treasury.
- Likely to be more gateway Reviews in the future

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Useful Links & Information

Research Councils' Energy Programme

EPSRC Nuclear fission portfolio

Business Engagement Page

TRL Funding Landscape

EPSRC Project partners letter of support infomation