



Accelerating deployment of responses to the challenge of Climate Change

October 9th 2008

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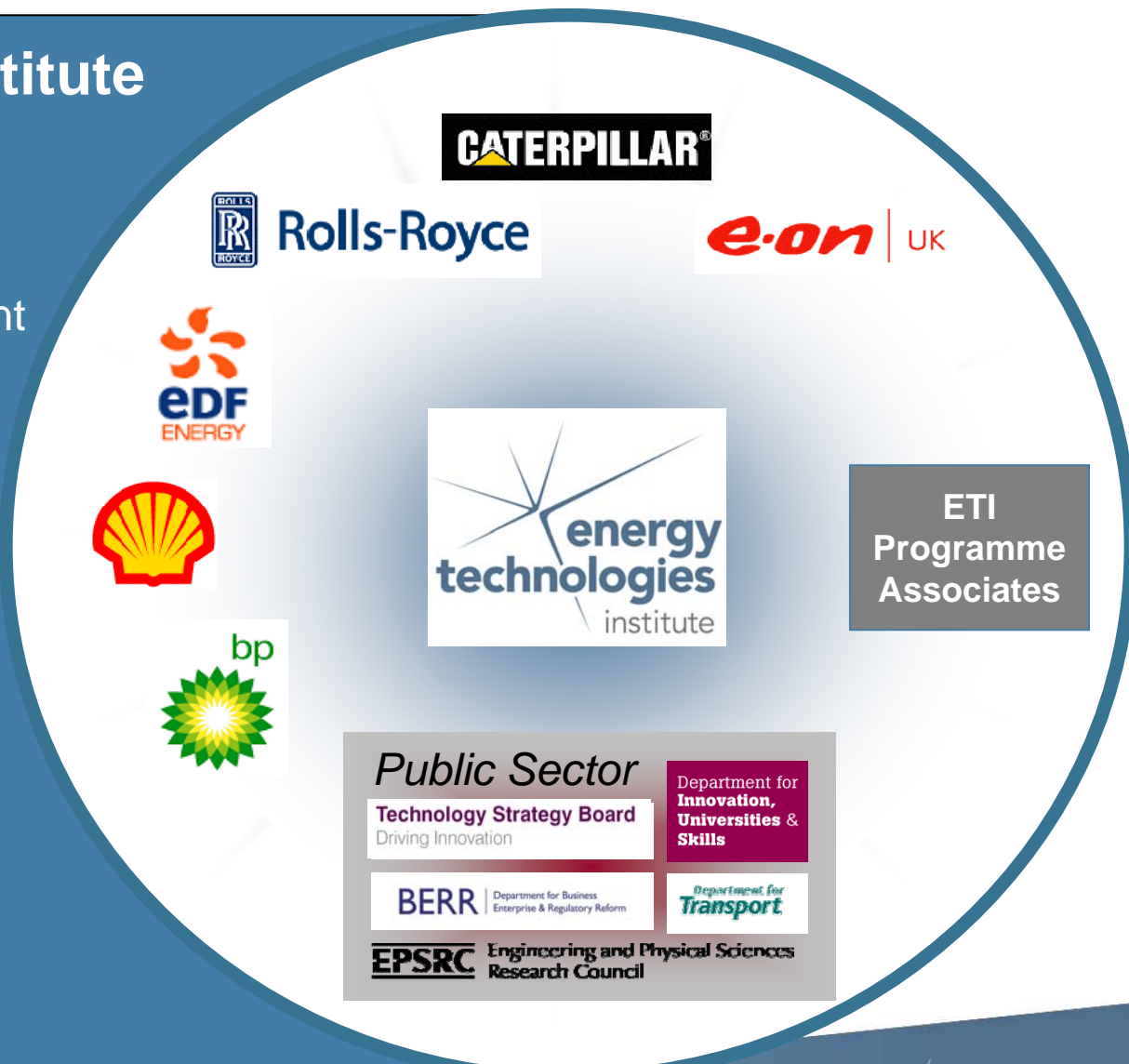
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Energy Technologies Institute

- Bringing together the complementary capabilities of global industrial groups in a unique approach with government
- Addressing the challenges of climate change and low carbon energy
 - Demonstrating technologies and systems
 - Energy usage, efficiency, supply and generation
 - Developing knowledge, skills and supply-chains
 - Informing development of regulation, standards and policy
 - Enabling deployment of affordable, secure, low carbon energy systems



Energy Technologies Institute (ETI)

- **Who ?**
 - A UK based partnership formed from global Industries and UK Government
- **What ?**
 - Leveraging the skills, capabilities and market access routes of the ETI Members with other partners to enable a leap forward in affordable, low carbon energy systems through engineering and technology development and demonstration
- **Why ?**
 - To enable acceleration of the deployment response to the UK's renewable energy and CO₂ reduction targets
- **How ?**
 - Through a focused portfolio of collaborative project teams based on strategic analysis, planning and a flexible approach to project development and contracting
- **Where ?**
 - ETI aims to work with the best systems and technology groups worldwide to deliver benefit in the UK and globally
- **When ?**
 - ETI projects will enable major deployments of low carbon energy systems from 2020 to 2050

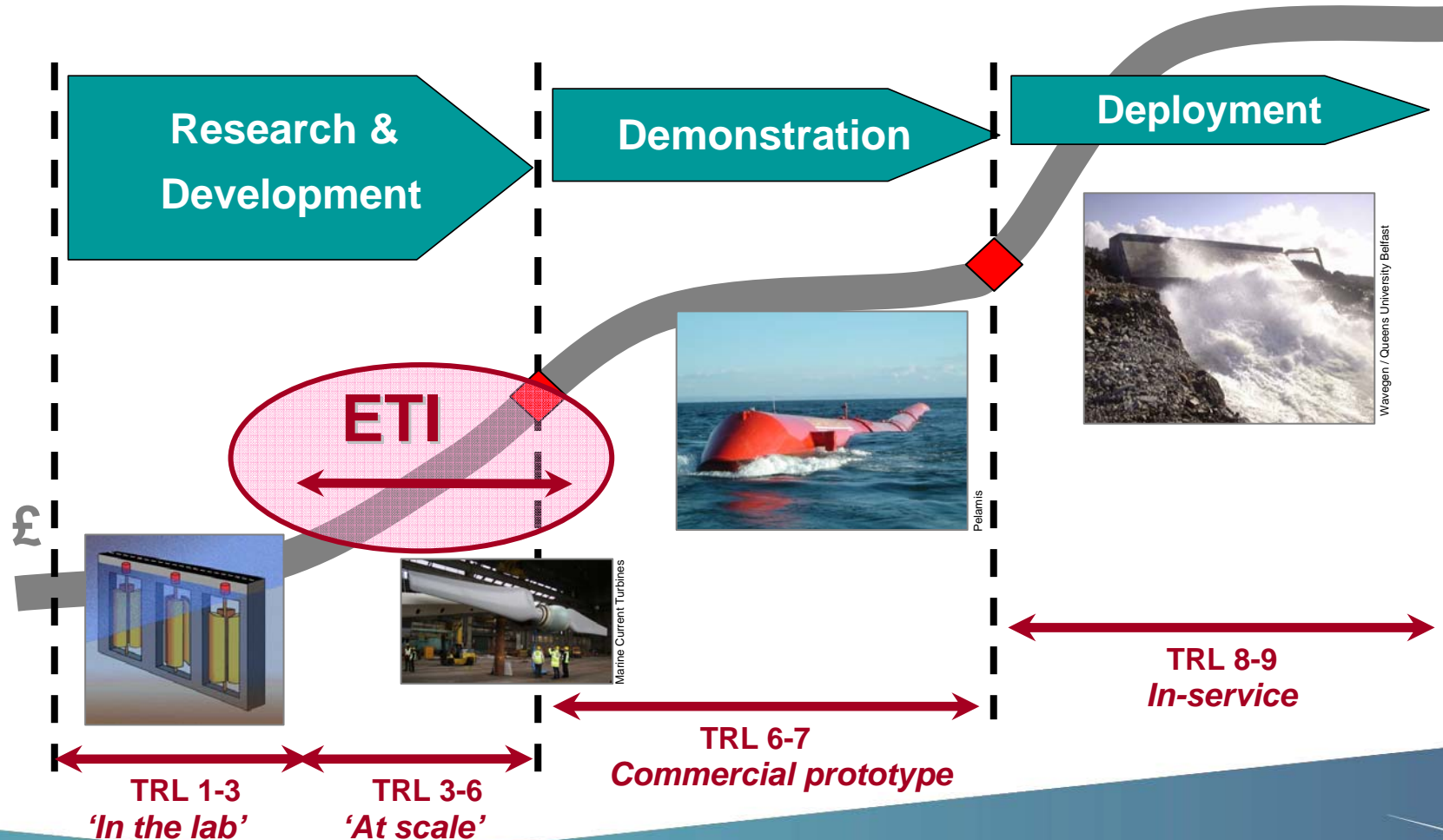
ETI supports projects that

- Develop and demonstrate system level capabilities based on novel low carbon energy technologies or services
- Create additional value through the synergistic capabilities of the ETI Members and Project Partners
- Create new partnerships - improving skills, knowledge, capabilities and supply chain capacity
- Create benefit in the UK and globally – through deployment, skills, knowledge base or exports
- Reduce risk associated with novel energy systems and supply-chains
- Identify barriers requiring ‘next generation’ science and technology support
- Inform development of regulations, standards and policy

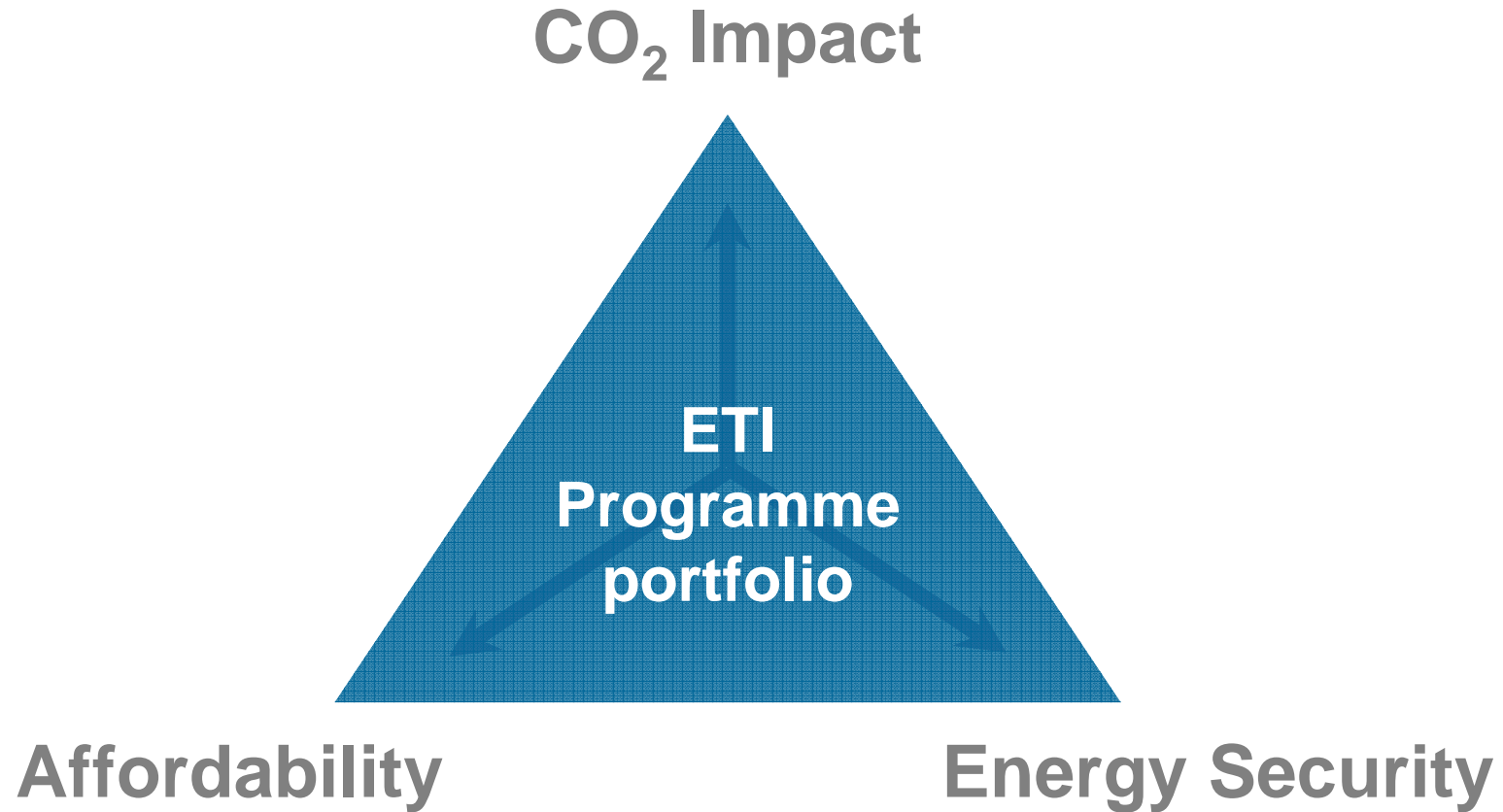
ETI is central in UK Energy Innovation Chain

Technology push & knowledge transfer...

... market pull & public policy



Balancing the drivers



ETI is addressing key energy challenges

- ⇒ **Offshore Wind**
- ⇒ **Marine – tidal stream and wave**
- ⇒ **Distributed Energy (DE) – Heat and Power**
- ⇒ **Carbon capture, handling and storage (CCS)**
- ⇒ **Energy Networks – grids and management**
- ⇒ **Storage Technologies - small scale & large scale**
- ⇒ **Transport - electric mobility, vehicle efficiency**

- ⇒ **Systems modelling**
- ⇒ **Skills and Capacity**

ETI – current status

- > £60m of contracts being finalised
 - Offshore Wind
 - Marine – Wave and Tidal
 - Systems demonstration and next-generation capabilities
- Further programmes and projects being developed
 - CCS, Transport (Plug-In Hybrids), Distributed Energy (Heat, Power and Controls)
- UK Energy System model in development
 - Toolset to enable prioritisation of programmes
- Technology roadmapping underway
 - Working with the supply communities and funders
- Involvement of a broad range of partners in all activities and projects
 - SMEs, large corporates, University groups, consultancies, ETI Members

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ETI – upcoming activities

2008

- Plug-in Hybrid Electric Vehicles (PHEVs) project launch and stakeholder engagement (Q4)

2009 Q1

- First contract announcements (~£60m+)
- Dissemination of Technology Strategy
- Launch of first projects in CCS and Distributed Energy

Some challenges for the UK energy sector ... (there are plenty more!)

- Clarity of integration across the energy landscape
 - Carbon Trust, EPSRC, Technology Strategy Board, ETI, Environmental Transformation Fund,
 - Universities, Institutes, Consultancies, SMEs, Industry, Government, Regulators,
 - Each have unique roles and differentiators
- Development and integration of underpinning technologies
 - Materials - performance and function
 - Information Management systems
- Regulation, standards and policies
 - New approaches for a new energy system
 - Public acceptance
- Industrial development
 - Skills, capacity, manufacturing base
 - Infrastructure – ports, maintenance facilities, ...

- Accelerating the pace of energy R+D
- Catalysing deployment of low carbon solutions



Creating

- *Collaboration*
- *Focus through effective decision making*
- *Effective pull-through from the technology base*
- *Growth in engineering and technology skills and capacity across industry and academia*
- *An increased “appetite” for risk at all levels*