

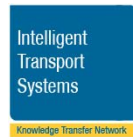
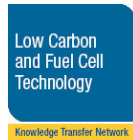
Vehicles for Low Carbon Generation

7th February 2008

Nick Barter

Chairman SMMT Foresight Vehicle

Low Carbon Vehicle Innovation Platform
Steering Committee

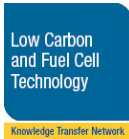


- **Stern King Report**
- **Personal View**
- **Technology Strategy Board**
- **Low Carbon Vehicle Innovation Platform**
- **Funding**
- **How to find out about it all**

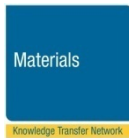




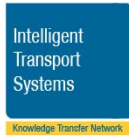
Stern King Report



Commissioned by the Chancellor of the Exchequer in his budget speech in April 2007



Consultation Document



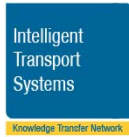
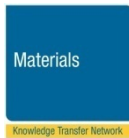
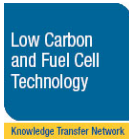
Part 1 Published in the Autumn 2007

What it said was that

- 1). There was lots that could be done - both with vehicle technology and how they are operated
- 2). That Biofuels were helpful in the near term – but there is good and bad biofuel
- 3). Electric power was the long term answer
- 4). Power generation would need to be clean



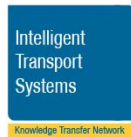
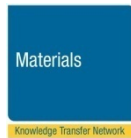
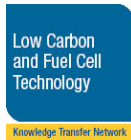
A Personal View



- **Electric drive probable future – issues are generation & storage**
- **Hybrids have a place – not universal solution**
- **Total impact of vehicle design, build, operation & recycling will increasingly be examined**
- **Fuel cells for vehicles are some way off – issues are cost & hydrogen production, distribution & storage**
- **Improved efficiency of current systems is key – engines, transmissions, energy recovery, stop-start, weight, tyres, aerodynamics.....**
- **The internal combustion engine is here for some time!**



Technology Strategy Board

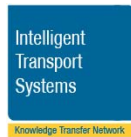
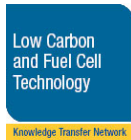


- **2004:** Technology Strategy Board established by Government as an advisory body
- **March 2006:** plans to give it a wider remit announced
- **November 2006:** Alistair Darling announced to Parliament that the Technology Strategy Board would become an executive arm's length body, taking over responsibility from DTI for delivering Government financial support through collaborative R&D and knowledge transfer.
- **July 2007:** the new body became operational



Technology Strategy Board

Key Facts

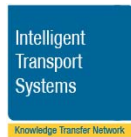
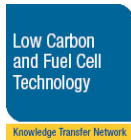


- Guided by a business-led Governing Board
- Sponsored by
Department for Innovation, Universities and Skills
- Funded by Government Departments, Research Councils, Devolved Administrations and RDAs.
- Budget – around £200m this year
- Staff of around 75 people when at full strength
- Based in Swindon (with desks in London)





Technology Strategy Board



The Vision

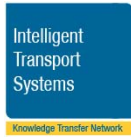
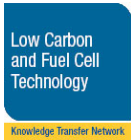
‘for the UK to be seen as a global leader in innovation and a magnet for technology-intensive companies, where new technology is applied rapidly and effectively...’

*To deliver this, **partnership** is key*





Technology Strategy Board



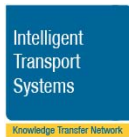
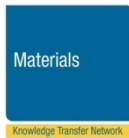
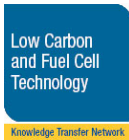
Innovation Platforms

- A new approach to stimulating innovation
- Designed to address major policy and societal challenges, by...
 - bringing together Government stakeholders and funders
 - understanding Government's intended use of regulation and procurement to address each challenge
 - engaging with business and the research community to identify appropriate responses and their development needs
 - supporting programmes to deliver innovative solutions



Technology Strategy Board

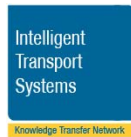
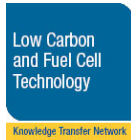
Innovation Platforms



- To achieve this they must
 - Build strong links to the Government Department that “owns” the challenge
 - Identify those companies already active in the field and (through technology road-mapping) those who are capable of providing an innovative solution to the challenge
 - Engage with the Science Base to identify and nurture those capabilities which could make a contribution once developed



Low Carbon Vehicle Innovation Platform



- UK has committed to 60% cuts in carbon dioxide emissions by 2050 and long-term energy security
- Transport contributes around 21% of UK carbon dioxide emissions **and growing**
- Road account for 80% of UK carbon dioxide emissions from transport
- Although average CO₂ emissions have gone down 13%, the 22% increase in the number of cars has led to a 6% overall increase

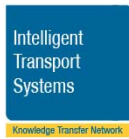
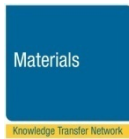
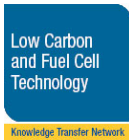
Department for
Transport



Low Carbon Vehicle Innovation Platform

Present Activity

- A £20m Competition jointly funded by the Department for Transport and the Technology Strategy Board
 - Focussed on pulling through near to market technology to the demonstrator phase with a clear route to market

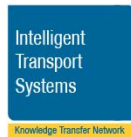
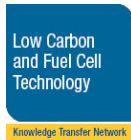




Low Carbon Vehicle Innovation Platform

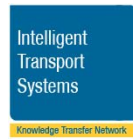
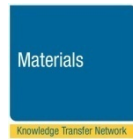
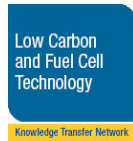
Future Activities may include

- Joint DfT, TSB and EPSRC Competition with longer term horizons
- Development of particular fuelling infrastructure
- Trans-national collaboration ~ scale effect reference demonstration programmes





Funding

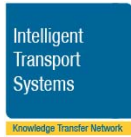
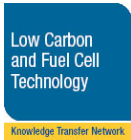


Collaborative R&D Projects

- Key mechanism for supporting business R&D
 - Business and research communities work together on research and technology projects to deliver successful new products and services
 - Collaborative Research & Development projects must have two or more collaborators, at least one from business
 - Project areas derived from Key Technology Areas and Innovation Platforms
 - Since 2004 more than 600 Collaborative R&D projects approved for funding - over £900 million of R&D activity



Funding



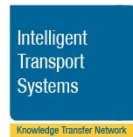
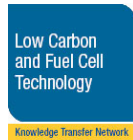
Criteria for Support

- UK capacity to develop and exploit the technology
- The right potential for impact in the right time frame
- The size of the global market opportunity
- A clear role for the TSB to add value





How to find out about it all



Knowledge Transfer Networks

- A single over-arching national network in a specific field of technology or business application
- Which brings together businesses, universities, research & technology organisations, and the finance community ...
- ... to stimulate innovation through knowledge transfer

and SMMT Foresight Vehicle

www.lowcarbonfuelcellktn.org.uk or www.smmtforesightvehicle.org.uk