

BWG-P-07-17

Paper for LowCVP Bus Working Group

**Technology Strategy Board
Low Carbon Vehicle Innovation Platform**

This paper relates to the Technology Strategy Board's Low Carbon Vehicle Innovation Platform and the recent call for proposals. The paper is provided for information only.

Abstract

This paper has been developed to give an overview of the Technology Strategy Board (TSB) and in particular the Low Carbon Vehicle Innovation Platform (IP). The paper will provide an introduction to the TSB, background to the initial activity of the Low Carbon Vehicle IP and then comment on potential plans for the future of the IP and how that will be determined and developed

Introduction to the Technology Strategy Board

The Vision for the TSB is

'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 create wealth'.

The objectives and role of the TSB to support that Vision are to:

- Promote and support research into, and development and exploitation of, science and technology for business benefit for economic growth and quality of life
- Deliver a programme of financial support to encourage business investment in, and use of, technology across all sectors in UK
- Provide leadership to Government Departments and Agencies and work with RDAs, DAs and the Research Councils on technological developments and innovation of importance to UK industry
- Advise Government on areas where barriers exist to the exploitation of new technologies and put forward recommendations as to how they can be removed

The Technology Strategy within the TSB will be focused towards

- Helping our leading sectors and businesses to remain prosperous in the face of global competition
- Stimulating those sectors and businesses with the capacity to be among the best in the world to fulfil their potential
- Ensuring that the emerging technologies of today become the growth sectors of tomorrow
- Combining all these elements in such a way that the UK becomes a centre for investment by world-leading companies

The Technology Strategy will be delivered through several methods including

Collaborative R, D & D Competitions

- Collaborative R, D & D Competitions are a key mechanism for supporting business Research, Development and Demonstration (R, D & D). Collaborative R, D & D Competitions help business and research communities to work together on

research and technology projects to deliver successful new products and services. Project areas are derived from Key Technology Areas and Innovation Platform Strategies. Since 2004 more than 600 Collaborative R&D projects approved for funding - over £900 million of R&D activity

Knowledge Transfer Networks

- Knowledge Transfer Networks (KTNs) are a single over-arching national network in a specific field of technology or business application. They bring together businesses, universities, research & technology organisations, and the finance community to stimulate innovation through knowledge transfer
- Current KTNs over the following areas
 - Aerospace and Defence
 - bioProcessUK
 - Bioscience for Business
 - Chemistry Innovation
 - Cyber Security
 - Electronics
 - Electronics Enabled Products
 - Food Processing
 - Grid Computing Now!
 - Healthcare Technologies
 - Industrial Mathematics
 - Integrated Pollution Management
 - Intelligent Transport Systems
 - Location and Timing
 - Low Carbon & Fuel Cell Technologies
 - Materials
 - Micro & Nano Technologies
 - Modern Built Environment
 - Photonics
 - Resource Efficiency
 - Sensors
 - UK Displays and Lighting
 - Creative Industries
 - Digital Communications

Knowledge Transfer Partnerships

- Knowledge Transfer Partnerships (KTPs) facilitate the transfer of knowledge and spread of technical and business skills, through innovation projects undertaken by high calibre, recently qualified people. It is operated through company-based training for graduates. KTPs stimulate business relevant education and research in knowledge base and increases business interaction with knowledge base

Innovation Platforms

- Innovation Platforms are a new approach to stimulating innovation. They are intended to
 - address a major policy and societal challenge
 - bring together Government stakeholders and funders
 - engage with business and the research community to identify appropriate action
 - align policy, regulation and government procurement in support of innovative solutions to societal problems
- 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

So far two pilot Innovation Platforms have been fully launched covering Intelligent Transport Systems and Services, and Network Security

Three further Innovation Platforms will be fully launched by the end of 2007 covering

Low Carbon Vehicles
Assisted Living, and
Low Impact Housing

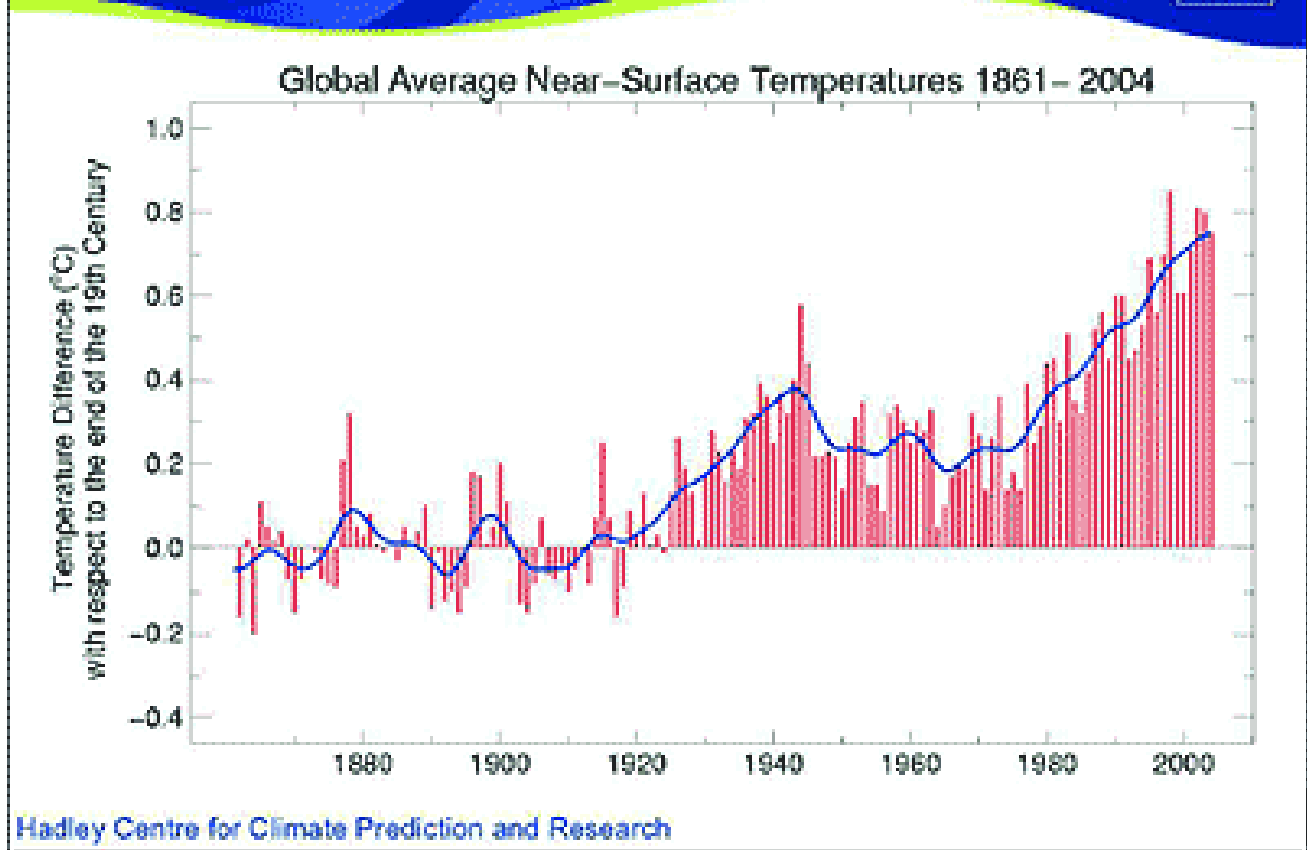
The initial activity of the Low Carbon Vehicle IP has been to launch a Technology Competition for near-market Low carbon Vehicle Technologies joint funded by the TSB and the Department for Transport (DfT). This competition was launched on 21st September 2007.

Background to the current Competition Call

This section will outline the policy background to Low Carbon Vehicle IP competition and links to other Government approaches to the challenge of Vehicle Carbon emissions

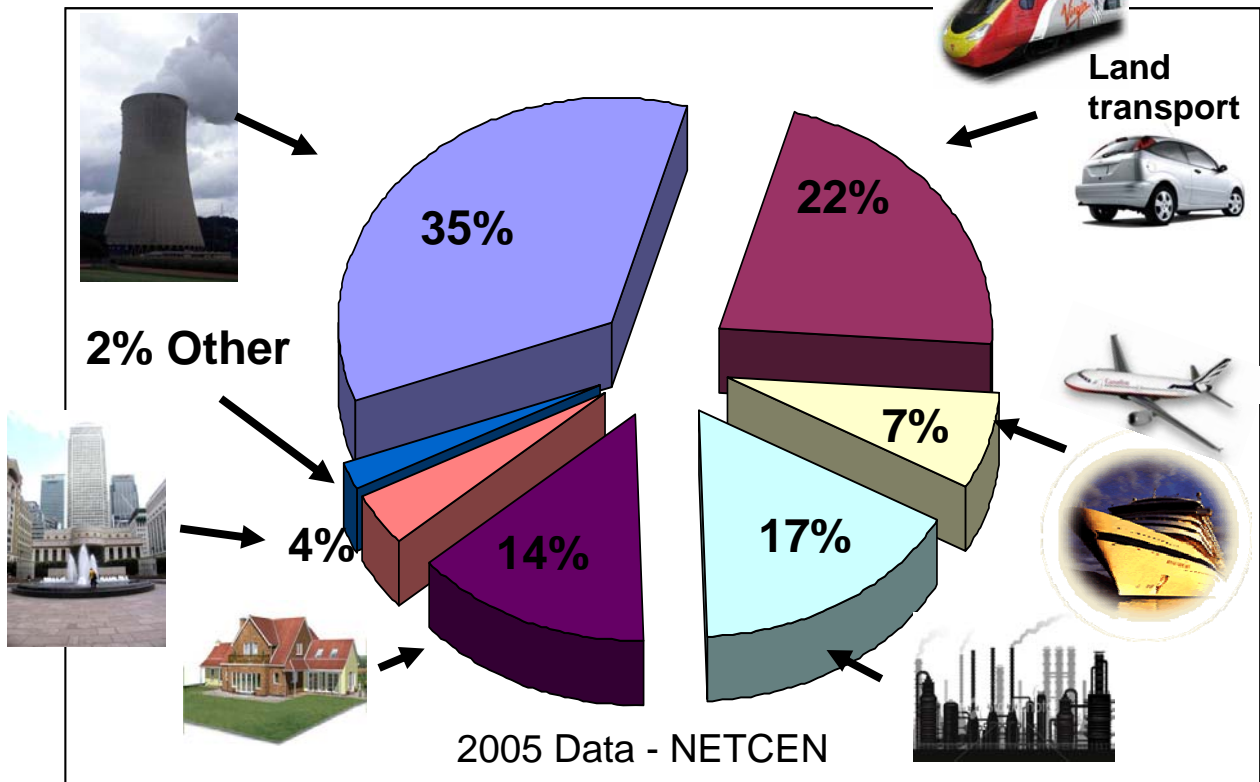
Starting with the over-riding issue that we all face....

Strong global warming observed since 1975

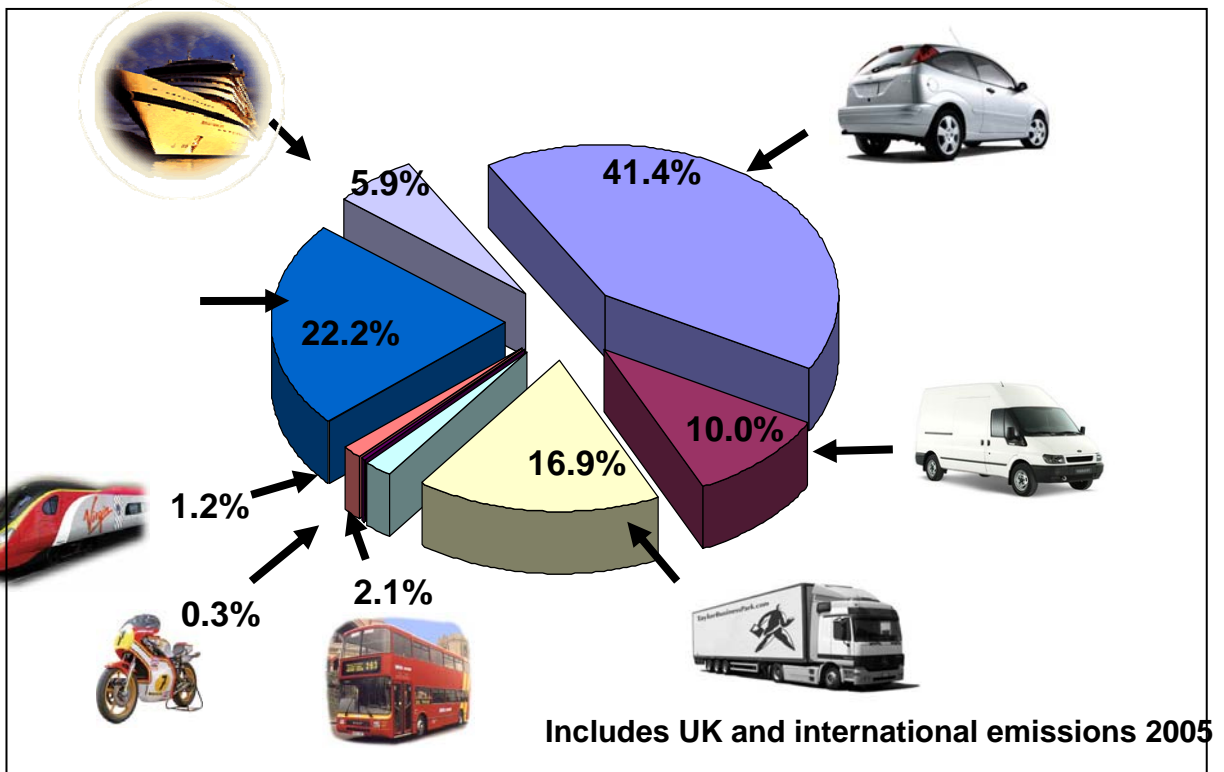


As we know CO2 emissions impact the global climate. In order to understand what can be done to reduce this we need to see where the emissions come from

This chart (from DfT) shows UK CO2 emissions by group



The UK Transport element can be further broken down to sector...



- 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

The Low Carbon Transport Innovation Strategy (LCTIS)

The demand for transport projected to grow strongly to 2050 reflecting strong linkage between transport, growth and productivity. It is clear that technology will have a significant role to play in reducing emissions from the transport sector

LCTIS was published alongside Energy White Paper in May 2007. It sets out the Government's overall approach to Low Carbon Transport. All major transport modes are covered. LCTIS

LCTIS is available in full at www.dft.gov/pgr/scienceresearch/technology/

The policies that are identified in the Energy White paper and LCTIS for the road transport sector were -

- Support for demanding and mandatory EU wide new car CO2 targets
- Graduated VED extended in Budget
- Communications campaign on vehicle purchasing and eco-driving
- New automotive Innovation Platform (with funding from the Technology Strategy Board, DfT and EPSRC).
- Low carbon transport theme to Energy Technologies Institute with additional (£5m pa) DfT contribution
- New Government procurement targets and a new (initial £20m) fund to support procurement of fleet demonstrations of lower carbon vehicles
- Stern/King Review further considering the scope for decarbonisation of road transport over time

Innovation Platform Activity

- £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
 - ammes

Competition Call - Drivers, Scope, Prerequisites & Timeline

Competition Drivers

- to promote Low Carbon Vehicle, Research, Development and Demonstration Projects in the UK.
- With the aim of delivering:
 - Meaningful and cost effective carbon reduction benefits in domestic and international vehicle markets.
 - An acceleration of the “standard market driven” introduction of Low Carbon road transport vehicles.
 - Help position the UK's automotive sector to benefit from the growing demand for LCV, both domestic and international markets.

Competition Scope

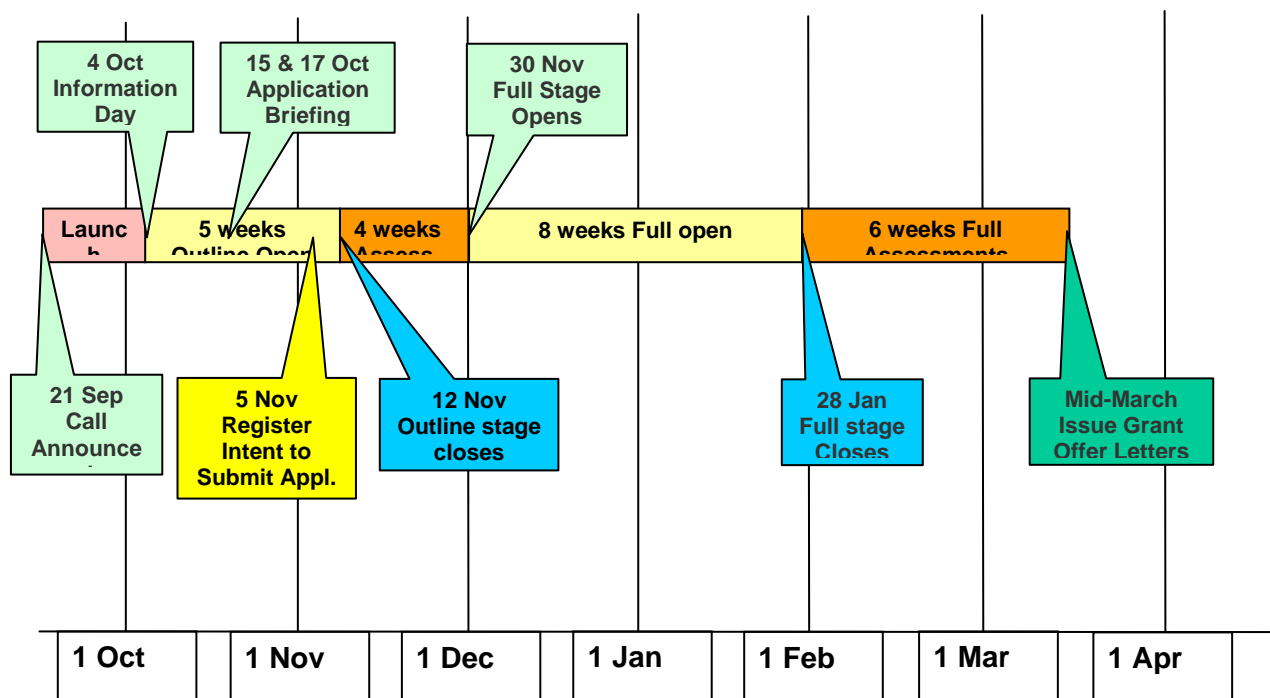
- Support LCV vehicle technologies with clear route to market within 5~7 years (near market).
- Have the potential to feed low carbon fleet and private vehicle procurement, public and private sectors.
- Applies to Road based vehicles

- Can be full vehicles or in-vehicle systems or components, OEM or after market fit.

Competition Prerequisites

- Meets the “Scope” of the Competition
- Collaboration of 2 or more UK based partners.
 - Industry Led
 - Can be multiple B2B or Independent Research and Technology Organisations
- UK Capacity to Develop and Exploit the Technology
- The right potential for Impact and right Time Frame
- The Size of the Global Market Opportunity
 - create value add in UK, taking account of the global market potential.
- A clear role for the Technology Strategy Board to add value
 - Competition success would/could:
 - Increase total investment by consortium
 - Deliver project faster to market
 - Makes this a UK based programme.
 - Reach new markets, wider take up of technology
- Requirement to submit a non-commercially confidential summary ~ start and conclusion of project.

Timeline for Competition



Next Steps for The Innovation Platform

The main focus for the IP now that the Competition is successfully underway is to develop a clear Strategy and Implementation Plan

- Future activities for the IP may include:
 - Take ownership of vehicle Technology Roadmap, to cover technology, UK R, D & D capability and market/exploitation options
 - Joint DfT, TSB and EPSRC Competition with longer term research horizons possibly focussing on key areas identified in King report
 - Development of particular fuelling infrastructure

- Trans-national collaboration

To support the development of the IP Strategy a Steering Committee has been formed with its initial meeting planned for mid-December 2007.

A number of workshops will also be needed to support development of the Implementation Plan. These workshops will be used to bring together the key stakeholders and players within the Transport sector to ensure that the Implementation Plan is realistic and is a stretch and that it also meets the needs of the Low Carbon Vehicle IP Strategy

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