Low Carbon Bus Demonstration and Procurement Project

Workshop Report

Bus Working Group 23 January 2008

Low Carbon Bus Demonstration and Procurement Project

Policy Drivers

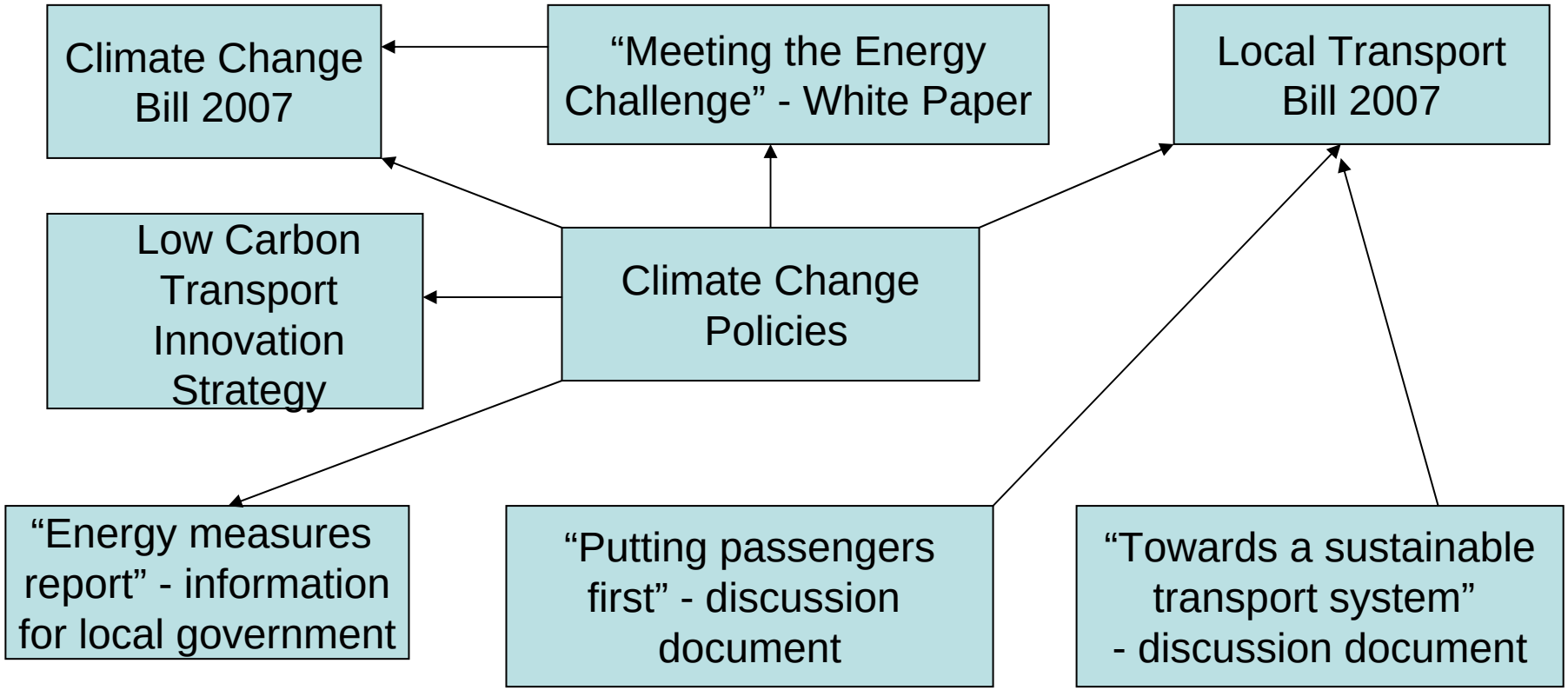
and Local Authority powers

Objectives

- To establish interest in low carbon bus procurement
- To identify the existing and potent policy drivers available to create/support a market for low carbon buses
- TfL have made significant moves inside London already
- Need to energise the rest of the UK and assist in the implementation of low carbon buses
- Local Transport Bill
  - Places new duties on PTE's – to take account of climate change Governmental policies and strategies and to take account of climate issues raised by the DfT
  - Places general duties on Local Authorities and PTE's to develop policies for the promotion of safe, integrated, efficient and economic transport in their area
  - PTE's will be able to take any steps felt likely to promote and improve the social, economic or environmental well-being of their community to own buses for lease to operators

STS NETWORK

UK Climate Change Policies and Strategies



Last Fridays workshop

- The aim was to gather views from PTEs, local authorities and bus operators:
  - We invited key organisations likely to be most interested in low carbon bus procurement throughout the UK
  - Discussion was based on how to best to take advantage of existing powers for PTAs and local authorities
  - Further discussion on the potential for using the new powers
  - We worked to assess the level of interest and commitment
  - We explored the contractual and financing issues around low carbon buses
  - To identify project initiatives as specific examples of how to proceed
- Link with parallel work on the low carbon bus specification

What ideas were discussed?

- It was felt that the Local Transport Bill 2007 will have a significant impact upon the powers and pressure points on all levels of the bus community.
- It's crucial to any Bus programme or FPP that the existing BSOG structure be redefined and amended, it was generally considered by the group that moving BSOG to an energy based profile that possibly only rewards energy efficiency
- It was considered important that social needs must be balanced with environmental requirements
- The 2004 Traffic Management Act enables traffic managers to ensure that road planning places design priorities on bus access and movement on all road and junction plans
- Discussion took place about the ability of PTE's to own buses; the legislation is vague on this point with one PTE saying yes, another no.

What ideas were discussed?

- Discussion about the Local Authorities and planning decisions took place; it was considered a good idea to task Local Authorities with charging developers a sum of money through a partnership approach to the development. This money should then be dedicated to providing environmental low carbon public transport services to the area.
- Discussion on the adoption of Strategic Quality Partnerships [SQP's]. These SQP's would establish a meaningful partnership between the Local Authority, the PTE and the vehicle operators that would be designed to protect the operator and their route.
- Consideration should be given PTE/Local Authorities providing capital support instead of revenue, this would enable operators to have initial finance
- The value of CO2 used by the Stern review has two different levels. DfT has used the lower value and this is considered as being too low and should be amended to the higher level

What ideas were discussed?

- While the Local Transport Plan is considered to have significant value it is felt that Government should set guidelines and establish these as key indicators within the LTP to strengthen its powers
- Pressure should be applied to get Buses established as a key element of the Governments future Low Carbon Vehicle programme funding cycle to provide a demonstration pool in excess of 300 vehicles for the UK
- The meeting felt that consortium buying, possibly through a forward procurement plan, was a good idea. However it was also felt that the PTE group should work more closely with TfL
- Would there be a case to increase the overall bus VED levels considerably and then provide discounts for low carbon vehicles – may need some grandfather rights and lead in time

Conclusions included…

- The creation of a forward procurement programme would assist in stimulating the low carbon bus market
- The existing BSOG structure should be amended to be based on energy/energy efficiency but retain the existing process and structure
- Government should ensure the Local Transport Bill should have guidance and emphasis placed on environmental issues and for it to motivate the Local Authorities/PTE's
- Work should be done on creating Strategic Quality Partnerships with protection for operators who deliver
- The UK based PTE's should work closely with TfL and their work in late 2008 on hybrid buses to ensure the best in class vehicles are identified

Low Carbon Bus Procurement Feasibility

Low Carbon Bus Specification

Workshop Feedback

LowCVP Bus WG London

23 January 2008

Workshop objectives

- To develop a draft specification of a low carbon bus appropriate for procurement processes
- Seek operator and supplier feedback on the draft specification and the volumes required to establish economies of scale

Relative costs

Technology	Technology Relative cost	Infrastructure Relative cost	CO2 Reduction
Catenary	Medium	Very high	30% - 100%
H2FC	High	High	Up to 100%
Hybrid	High	None	30% - 40%
H2ICE	Medium	High	Up to 100%
Biogas	Medium	Medium high	75% - 243%
Battery-electric	Medium	Medium	30% - 100%
Stop-Start	Low	None	5% - 25%
Regenerative braking	Low	None	5% - 30%
Low loss transmission	None	None	10% - 20%

Effect of BSOG

- Some technologies are much more attractive if BSOG is reformed
  - fuel cost saving is much less with BSOG qualifying operations with 80% of fuel duty rebated (staged routes)
  - break-even point not reached in an acceptable period of time on some technologies
- How to accommodate this in the specification?

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Proposal: Two tier approach

- A two tier specification was proposed prior to the Workshop
  - There are technologies which give worthwhile fuel consumption reductions with good cost-effectiveness
- The following was agreed:
  - Tier 1: 40% fuel consumption reduction compared to Euro 3 baseline
  - Tier 2: 20% fuel consumption reduction compared to Euro 3 baseline
- Baseline defined in LowCVP Bus Working Group document BWG-P-05-04 (February 2005) which was on a Well-To-Wheel basis
- See Table 1 Version 4 of the Specification for tabulated targets versus passenger capacity

Carbon dioxide targets

- Alternative views for carbon dioxide targets were as follows:
  - Use Euro 4 baseline
  - Use Tank-To-Wheels basis
  - Base on bus type; i.e. single decker / double decker / artic
- Issue about route specific nature of hybrids whereby MLTB cycle not necessarily representative
  - Forward procurement process should allow fine tuning initial trials

Air quality emissions

- An air quality target was proposed prior to the Workshop and EEV was adopted
- Note that the basis for emissions testing has been whole vehicle tests on the MLTB cycle
  - how to gauge equivalence to heavy duty emissions legislation which is determined by engine on test bed?
  - See Table 2 Version 4 of the Specification for an initial attempt at targets based on available Euro 3 data versus passenger capacity and then factoring for EEV / Euro 6 proposal
- A zero emission mode was discussed and it was agreed to have an optional requirement (4 miles range)
  - This reflects some authorities requiring this feature but that not all technologies are able to achieve ZEV performance

Noise emissions

- Exterior noise was agreed to follow current legislation -80 dB(A)
- Interior noise was agreed to follow the TfL-London Buses requirements (to be supplied)

EU Bus & Coach directive 2001 / 85

- It was agreed to use the whole vehicle approval EU Bus & Coach directive 2001 / 85 to cover the following:
  - Performance
  - Access
  - Disability requirements
  - EMC
  - H & S
  - Etc.