QUESTIONNAIRE FOR PRODUCERS OF EARLY LOW CARBON BUSES

MAY 2003

This questionnaire has been devised by the Bus Working Group (BWG) of the Low Carbon Vehicle Partnership (LowCVP) to ascertain what the likely on-costs are going to be for the producers of early low carbon buses, i.e. low carbon buses entering service in 2004/2005,

In order to maintain total commercial confidentiality the results will be collated by the SMMT and rendered anonymous for use by LowCVP. Please send the completed questionnaire to SMMT at the address at the end of the form.

Definition
The Government has the ambition to see 20% of new buses in 2012 being "Low Carbon" buses. The working definition of a Low Carbon Bus is a bus producing at least 30% fewer greenhouse gas emissions (which are mainly carbon dioxide) than a current Euro 3 diesel bus of the same total passenger capacity - taking into account both "well to tank" emissions in producing the fuel and also "tank-to-wheel" emissions in consuming the fuel.

For the purpose of the questionnaire, an **early low carbon bus** is therefore defined as a bus that demonstrates substantially reduced CO2 emissions, is on the development path towards the Government's 2012 target and can enter into service in 2004/05.

1) Is your company likely to be a producer of early low carbon buses? YES/NO

   If "No" please pass to question number 14. If "Yes" please answer the following questions:

2) What size of early low carbon bus are you likely to produce?
   (passenger capacity - split between seated and standing)

3) What is the overall carbon saving of your early low carbon bus likely to be?

4) Is the bus likely to be fitted with an Electric or Hybrid Electric driveline? YES/NO

   If "No" please pass to question number 10. If "Yes" please answer the following questions:

5) With a vehicle of this type a substantial proportion of the on-cost is associated with the cost and type of batteries, and the subsequent design performance of the vehicle. Please circle therefore the battery type likely to be fitted to your bus, and indicate in the space beneath the approximate cost in £'K of the battery pack fitted to the vehicle, and its likely working life in kilometres travelled.

   Lead Acid NiMH Li-Ion Other (please specify)

6) Is the bus likely to possess a Zero Emission capability? YES/NO

7) If "Yes" what approximate Zero Emission range in kilometres is envisaged?

8) Will the provision of this capability influence the type and cost of the batteries fitted and therefore your answer to question 5? YES/NO

9) If "Yes" please indicate the degree to which the type and cost will be altered.

10) If your early low carbon bus is **not** an Electric or Hybrid Electric design, please indicate its driveline type by circling the choice given below

Fuel Cell Flywheel Other (please specify)

a) Does the bus possess a Zero Emission capability? YES/NO

b) If "Yes" what approximate Zero Emission range in kilometres is envisaged?

11) By what approximate percentage is the cost of your low carbon bus likely to be increased compared to an equivalent current conventional diesel powered bus, when averaged out over the following pre-production and production quantities? (If of Electric or Hybrid Electric type please **exclude** the cost of the battery pack from your answer)

a) The first 100 vehicles:
b) The following 200 vehicles:
c) The following 700 vehicles:

12) What fuels are you investigating or planning for your early low carbon bus? (e.g. diesel, alcohol, bio-fuel, LPG, CNG, Hydrogen, other)

13) Please specify any implications for maintenance and operating costs.

14) Do you envisage your company producing Low Carbon buses on a regular production basis by 2012? YES/NO

15) If "Yes" do you envisage that their cost on a whole life basis will compare favourably with conventional buses that will be required by that date, conforming to the emission regulations that will be in force at that time? YES/NO

16) Would low carbon buses produced by your company be suitable for use in the UK as well as mainland Europe/Internationally? YES/NO

17) What size of market - in terms of vehicle sales per year - is required to deliver the required economies of scale? Is the UK market sufficiently large on its own to generate this level of production?

Thank you for your co-operation in completing this questionnaire. Please send it in an envelope marked "Strictly Private and Confidential", with a short covering letter to: Mr Bob Davis, SMMT, Forbes House, Halkin Street, London, SW1X 7DS