

**BWG-P-05-13**

## **FISCAL INCENTIVES FOR LOW CARBON BUSES**

### **Types of fiscal incentive**

Public funding via fiscal incentives for low carbon buses can take several forms:

- Fuel duty rebates for low carbon fuels;
- Capital allowances for purchasing buses that operate with low carbon emissions;
- Grants for research and development projects aimed at developing new low carbon technologies for buses;
- Grants for field trials and demonstration projects of low carbon bus fleets.

### **Fuel duty rebates**

One of the most effective ways to reduce bus carbon emissions is likely to be through increased use of biodiesel or other diesel substitute fuels. Fleets bunker their fuels for convenience and security of supply and this makes supply of specialist low carbon fuels simple and effective.

Biodiesel is more expensive to produce than fossil diesel. In order to encourage the market, a fuel duty rebate is available for biodiesel – this currently offers a reduction of 20p/litre off the level of ULS diesel fuel duty. However, the Bus Service Operators Grant (BSOG), which is based on fuel consumption, distorts the market by offering fare stage operators an 80% rebate on ULS diesel fuel duty, and a 100% rebate on biofuels. With ULS diesel being virtually the only conventional fuel type used in buses, there is little financial incentive to operate low carbon buses using biodiesel, based on fuel duty considerations alone.

It is also important to note that the EC Energy Products Directive forbids the granting of fuel duty incentives in excess of a biofuel's additional production costs, meaning that fuel suppliers will have limited opportunity to price biofuels below the cost of conventional fuels.

### **Capital allowances**

Bus operators considering investment in low carbon buses will have concerns regarding:

- High capital purchase costs,
- Possible increased maintenance costs and demands including training of mechanics,
- Possible unreliability of new technology,
- Loss of passenger capacity because of extra equipment needed on the vehicle.

Capital allowances allow the cost of capital assets to be written off against the taxable profits of a business. First-year allowances (FYA) is the name given to specially increased rates of allowances. They are some times also called Enhanced Capital Allowances (ECA). FYAs allow a greater proportion of the cost of an investment to qualify for tax relief against a business's profits of the period during which the investment is made. They bring forward the time tax relief is available for capital spending, and can encourage investment through a cash-flow boost.

Examples of such schemes are 100% ECAs for designated energy-saving technologies, water-efficient technologies and cars with low carbon dioxide emissions. However, ECAs have not so far been proposed for low carbon bus investments. [I think this is correct]

### **Grant schemes**

Government funded grant schemes in the energy sector have had a significant role in encouraging market transformation and increased uptake of low carbon technologies. Grants can assist companies to bring new products to market by supporting research, development and demonstration. Grants to users in order to off-set the higher purchase cost of new low carbon technologies can also increase market penetration.

Government must ensure, however, that funds are focussed at the stages of development in which they are most likely to lead to long-term development of the market for low carbon buses rather than short-term carbon-savings. Grants must also complement regulatory instruments to promote the purchase of low carbon vehicles. This will maximise the likelihood of investments delivering the desired market development.

Schemes must be sufficiently resourced and structured in a way to ensure that suppliers can have certainty over grant availability for a set period of time. Recent experiences of the stop-start nature of the EST Powershift programme significantly undermined manufacturers' confidence in the scheme. Consequently, few companies were willing to take account of grant availability in decisions regarding supply of low carbon vehicles. This significantly undermined the effectiveness and credibility of the scheme. Schemes must also be administratively simple to access.

### **Revised *TransportEnergy* programmes**

The Government has recognised that there is an important role for purchase grants within revised *TransportEnergy* programmes – not as a large scale ongoing intervention in the vehicle market, but for strategic purposes, to overcome specific barriers, and stimulate important technological developments<sup>1</sup>. The targeted use of purchase grants are seen of particular benefit for:

- helping overcome initial consumer uncertainty and absence of experience of novel vehicle technology or fuels;
- encouraging vehicle operators to purchase vehicles which have exceptionally low air pollution and carbon emissions, and hence gain immediate air quality and carbon reductions;
- demonstrating the UK's commitment to the low carbon, low emission vehicle agenda, and encouraging car companies to develop and market their vehicles early in the UK.

In March 2005, the Department for Transport notified the European Commission of its intention to introduce new grant incentive programmes in 2005/6. Six separate programmes have been proposed:

- **A Low Carbon Research and Development Programme:** which would provide grants towards the costs of research and development for prototype low carbon vehicles and technologies. The programme largely replicates the "New Vehicle Technology Fund" programme. Levels of grants will be limited according to European Research Funding rules, and will not exceed 50% of overall project costs.
- **A Low Carbon Bus Demonstration Programme:** which would provide purchase grants to bus operators to incentivise the purchase of up to 150 "low carbon buses" (defined as buses with CO<sub>2</sub> emissions at least 30% lower than new Euro III buses of equivalent passenger capacity). Grants will be no more than 30%-40% of the additional cost of purchasing and running a low carbon bus over 5 years compared to a conventional equivalent.
- **A Low Carbon Car Programme:** which would provide purchase grants to incentivise the uptake of cars and vans that fall below a maximum CO<sub>2</sub> limit.
- **An Air Quality Retrofit Programme:** which would provide grants for the retrofitting of air quality abatement equipment to existing vehicles, including vans, buses, coaches and HGVs.
- **An Air Quality Vehicle Programme:** which would provide grants to purchasers for eligible vehicles meeting the EC standards for Enhanced Environmental Vehicles. Grants will be no

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<sup>1</sup> Consultation on the *TransportEnergy* Clean Vehicle Grant Programmes, Department for Transport, June 2004.

more than 30%-40% of the additional cost of purchasing and running these vehicles over 5 years compared to a conventional equivalent

- **An Infrastructure Development Programme:** which would provide grants to support the early introduction and installation of alternative fuel infrastructure, including infrastructure for natural gas, electricity, biofuel and hydrogen fuels. Grants will be limited to no more than 30% of the costs of establishing alternative fuel infrastructure sites, and be limited to equipment and installation costs.

At the time of writing, DfT is awaiting formal State Aid approval from the EC for these programmes. State Aid that distorts competition in the Common Market is prohibited by the EC Treaty. The State Aid rules are designed to ensure that aid given by Government does not unnecessarily distort free markets by benefiting one sector, region or organisation over another. **[This comment may be overtaken by events in the Autumn.]**

### **Role of fiscal incentives for bus operators**

Incentives to encourage bus operators to invest in low carbon vehicle technologies are essential. Without any incentives, the commercial case for bus operators to purchase innovative designs of low carbon vehicles is marginal and accordingly the sector needs public support to increase the market share of low carbon buses and reduce unit costs. The limitations of the State Aid funding rules mean that a maximum of 30% funding for low carbon bus trials and demonstrations could be available once the new programmes have been cleared by the EC.

However, a clear signal from Government is needed in order to encourage the bus industry to take up the challenges of the Powering Future Vehicles Strategy. Fiscal incentives are the most direct means of achieving this. For example, research by EST has shown that current policy measures other than grants offer little or no incentive for operators to retrofit their vehicles or invest in new vehicles<sup>2</sup>. EST also acknowledged that grant incentives can only address a small number of vehicles in the UK, so grants should be targeted to deliver the best possible environmental benefits.

The carbon emissions of buses can be readily calculated using the methods set out in the LowCVP low carbon bus accreditation guidelines. The value of the carbon emissions avoided, compared with a "standard" bus can then be calculated, using the social cost of carbon (currently reckoned to be £70/tonne). A relationship between the value of carbon avoided and the level of fiscal incentive for the low carbon bus could be developed, so that the size of the purchase grant is related directly to the total carbon avoided during the lifetime of the bus.

David Martin  
Ecovector Consulting  
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<sup>2</sup> Consultation on TransportEnergy Clean Vehicle Grant Programmes: EST Response, November 2004.