

## FENEBUS' POSITION PAPER ON REDUCING CO<sub>2</sub> EMISSIONS FROM ROAD VEHICLES

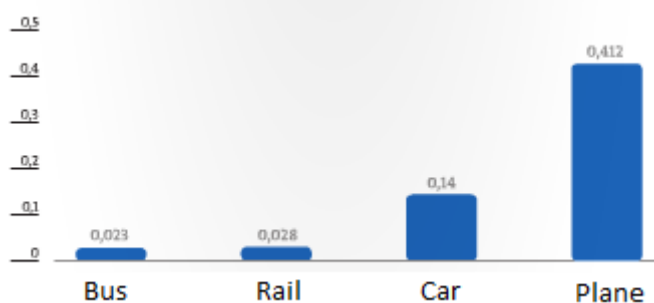
The Spanish Federation of Transport by Bus (Fenebús) is aware of the importance of the environmental issues in order to fully achieve a sustainable transport system in the EU. Global warming is one of the great challenges of the 21<sup>st</sup> century. The transport sector is the second one which generates more emissions and it represents a bit more than the 25% of the total emissions of greenhouse gases (GHGs) in the EU. But emissions are just one of the environmental problems of transport. Thus, other environmental problems arise from transport such as noise, air pollution, climate change, the occupation and segregation of urban space and the costs for nature and landscape, among others. Therefore it is fundamental to look for solutions to achieve an environmentally friendly transport which offers the maximum economic benefits and the highest social benefits possible.

Transport modes are different from each other and each of them has its own advantages and disadvantages. Therefore, a perfect combination of all transport modes is expected to improve our mobility system. However, not all modes contribute to environmental pollution in the same way. That is why Fenebús would like to focus on the environmental advantages of buses and coaches, especially in terms of CO<sub>2</sub> emissions.

Road transport emissions are often incorrectly said to represent a certain percentage. For the bus and coach sector this is counterproductive because many different road vehicles circulate on the roads. Environmental contribution from all these vehicles significantly varies.

As shown in the following chart and according to estimates by the International Road Union (IRU) based on statistics from the European Union, CO<sub>2</sub> emissions per passenger-km. are six times lower from buses than from cars. Thus, a promotion on the use of the bus would actively contribute to meet the Kyoto Protocol's environmental sustainability goals.

**Chart 1:** CO<sub>2</sub> emissions by transport mode (Kg per passenger-Km.)



Source: IRU, from EU Energy and Transport in figures 2005

In 2007, intercity buses in Spain prevented the emission of 6.9 million tons of CO<sub>2</sub> to the atmosphere. That level of emissions would have been issued if, in the absence of such services, bus users had used instead their private cars. Thus, a policy to promote the use of buses which achieves

a 10% modal transfer from the private vehicle to the bus would achieve a reduction of four million tons of CO<sub>2</sub> per year in Spain.

**Chart 2: CO<sub>2</sub> emission reduction due to the use of buses, 2007**

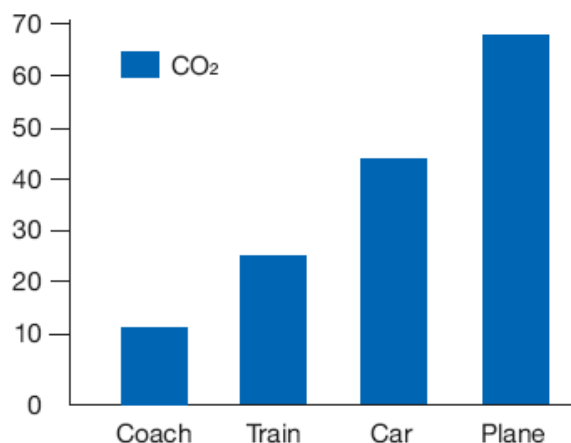
	Savings because of traffic done by buses	Savings in case scenario of substituting 10% of private vehicle traffic
CO <sub>2</sub> Emission reduction (Millions Tons)	6,92	4,02

Source: Spanish Ministry of Public Works and Transport and IRU

Thus, buses and coaches are the cleanest and most carbon efficient means of transport of all. For each passenger over 100 km, buses and coaches use half a litre of diesel fuel and emit half CO<sub>2</sub> less than trains. As you can see in the chart below and according to the IRU, coaches emit much less CO<sub>2</sub> than other modes in certain routes.

**Chart 3:**

**CO<sub>2</sub> emitted per passenger by mode from London to Blackpool (385 km)**



Source: Britain's Coaches: Partnership and Passengers, CPT, 2009

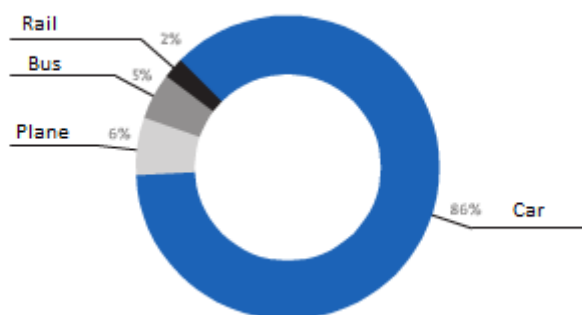
Within road transport, bus is the transport mode with the biggest reduction of CO<sub>2</sub> emissions per passenger-km. in the period 1995-2007. Thus, according to European Union data, buses have come to reduce its emissions by 14% compared to the 10% achieved by the car. This reduction has been possible due to three factors:

- Energy efficiency improvements through a fleet's age reduction and the introduction of the "Euro" engines,
- Optimization of fleet management, and
- Training in eco-driving.

However, the vehicle's life of buses or coaches should be taken into account when establishing the entry into force of any restrictions on the use of vehicles. The average size of companies in the EU road passenger transport sector is small. Thus, 75% of companies have between one and ten vehicles. Vehicles are obviously expensive and represent a significant investment for those companies. Therefore it seems logical that these companies have the right to use the purchased vehicle until the end of the product's life and without any imposed obligation for fleet renewal that is not accompanied by subsidies.

As we mentioned in the beginning, the environmental problems of transport are not limited to the emission of greenhouse gases. Thus, meeting the growing needs of the population's mobility generates a series of significant adverse effects, which are and should be subject of attention by public authorities. Part of these effects are borne and paid by users of different transport modes, and some are supported by the whole society in the form of negative externalities. As shown in the chart below, 86% of external costs in Spain are derived from the use of private vehicles, 6% from the plane, 5% from the bus and 2% from the train.

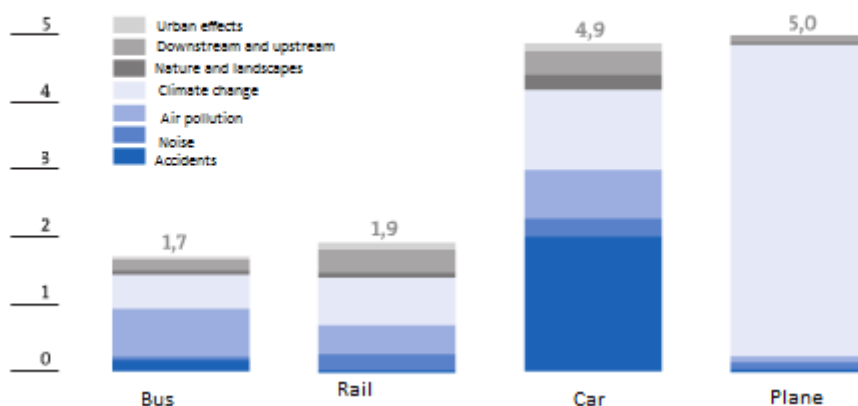
**Chart 4:** External costs by transport mode in Spain, 2007



Source: Afi from INFRA - University of Karlsruhe (2004): External cost of transport and Spanish Ministry of Public Works (2009): Road passenger transport observatory

The fact that the private vehicle is the main generator of external costs is not only because it is the most widely used means of transport in Spain (in 2007: 343,293,000 travelers / Km. by car compared to 59,163 bus passengers or 21,865 rail passengers), but also because it is the one which most negative externalities per passenger-km. generates, together with the airplane. On the other hand, as shown in the following chart, the bus is the most efficient means of transport in social terms. It generates lower negative externalities: 1.7 cents per passenger-km. transported compared to the 4.9 cents generated by private vehicles and 1.9 cents by rail. It is particularly noteworthy the bus' low impact in terms of climate change and accidents, which are the two main negative externalities of transport.

**Chart 5: External costs by transport mode in Spain**  
(in cents of Euro per passenger-Km.)



Source: CEDEX. SISTIA 2009, quoting INFRA - University of Karlsruhe (2004): External cost of transport

Besides being the transport mode with lower emissions of CO<sub>2</sub>, buses contribute to energy efficiency since they are three times more efficient than private cars in terms of liters of fuel per passenger-km<sup>1</sup>. They also help to reduce congestion in the access to large cities, especially when there is the necessary infrastructure: HOV lanes and dedicated bus lanes. Each bus can replace between 14-30 cars, so its use is certainly an effective tool for reducing congestion.

As if these figures were not enough, in the case of Spain, 26% of all households (more than 4 million of families) do not have an own vehicle and rely on public transport to meet their mobility needs. This makes buses an essential service to ensure the territorial structure of Spain and the key public transport mode to ensure the long-distance mobility. It is also fundamental to young people's mobility and its importance will be increasing due to the ageing of population. All this without forgetting that this is the safest road transportation mode and will be essential to meet the goals of reducing the number of deaths on European roads by 50% by 2020 and 100% by 2050, as European Commission's Action Plan on road safety 2011-2010 and the 2011 Transport White Paper point out.

Finally, we should remember that the European Commission's White Paper on Transport "Roadmap to a single European Transport Area - Towards a resource competitive and efficient transport system" strengthens on the need to promote public transport and to get a higher proportion of journeys made with collective transport modes as key aspects to solve urban and suburban pollution problems from transport. It also stresses that buses and coaches should have more resources to consolidate large volumes at medium distances.

For all these reasons, it does not seem appropriate to include buses and coaches in any internalization of road external costs, given its advantages, and especially if the goal is to promote public transport and collective passenger transport.

<sup>1</sup> Estimate based on average consumption data and average occupancy of buses and private vehicles extracted from Sistia 2009: 30 litres/100 km for buses, 6 litres/100 km for private vehicles, with average occupations of 25 passengers / vehicle in the case of the bus and 1.74 in the case of the private car.

We also want to state that any strategy to reduce CO<sub>2</sub> emissions from road transport vehicles must be aligned and be consistent with all relevant European policies: transport, energy, environment and climate change, taxation, industry.... If this is not done, there is a risk of sending wrong messages and lead to problems because of the profusion of inconsistent rules.

To conclude, Fenebús would like the European Commission to bear in mind all these data before developing a strategy to reduce CO<sub>2</sub> emissions from road transport vehicles. After all, perhaps buses and coaches are not the right target.