Actions already underway to reduce emissions

This chapter gives an overview of the measures being undertaken by the administration to respond to its transport needs in a more environmentally friendly manner.

1. Electrical vehicles

A public call for tender for two electrical small vans for inner-city goods transports in Brussels and Luxembourg has been launched in early 2008 but has unfortunately turned out to be unsuccessful as no technically valid offers were submitted. The procedure has been launched again recently in order to negotiate directly with selected suppliers.

2. New lorries and vans

Following a call for tender procedure, two new heavy-duty lorries have been ordered and are expected to be delivered in June 2008. These Euro V lorries will replace the two oldest Euro II norm lorries.

A call for tender procedure has been launched to replace the oldest (1997) small van by the end of this year.

3. Transport to Strasbourg by rail

As from July 2008, a special TGV train (Thalys) will directly connect Brussels to Strasbourg for the part-sessions and will replace six chartered airplanes for transporting MEPs and staff.

Contacts are made with the Belgian railway company SNCB, to look into the possibilities of transporting trunks and other equipment between Brussels and Strasbourg for the part-sessions by train, instead of by road.

4. Bikes

In both Brussels and Luxembourg, service bicycles are available to Members, assistants and staff, to facilitate the transport between the different buildings of the institutions. As the demand for bicycles is growing, ten new bicycles will be purchased this year (for Brussels).

Two electrical bikes will be purchased this year, one for each city. The aim is to familiarise staff will this alternative transport for cars and motor bikes.

5. Transport for the Goldbell building in Luxembourg

A call for tenders for the transport of Parliament staff to and from the Parliament's Goldbell (GOL) building in Luxembourg has been launched. To ensure the latest environmental standards, the buses are not to be older than four years at the time of the transport.

6. Public Transport, Luxembourg

The administration has concluded a contract with the city of Luxembourg. Since June 2008, Parliament's staff is able to use the city buses in Luxembourg free of charge for private transport as well as for professional transport to and from work and between the different buildings. This measure should motivate staff to leave their car at home.

The administration is currently negotiating similar arrangements for Brussels.

7. Transport of Members

Following a call for tender, a new contract for the transport of Members in Brussels was signed with a limousine service in November 2007. Among the selection criteria, 10% concerned environmental aspects (EURO 4 - Average CO_2 emissions - Hybrid cars), which was an improvement in comparison to the previous call for tender for the transport of Members in Brussels.

The last call for tender for the transport of Members in Strasbourg dates from 2006 and defined a 7% weighting for environmental aspects.

The administration regularly prompts the contractors to select less polluting cars and refuses to admit excessively polluting cars.

8. International transport of goods

A call for tender for the international transport of goods has been launched recently. The vehicles (lorries, vans) are not to be older than four years at the time of the transport, to ensure the latest environmental standards.

Annex 3

Environmental legislation for road vehicles

The pollutant emissions from road vehicles are regulated separately for small vehicles (cars and light vans) and for big vehicles (lorries and buses). Therefore, there are two types of Euro standards: the small vehicle standards are denoted by Arabic numerals, whereas the big vehicle standards are denoted by Roman numerals.

For small vehicles, the emission standard currently in force is Euro 4, as defined by Directive 98/70/EC which is one of the directives amending Directive 70/220/EEC. Following the CAFE (Clean Air for Europe) programme and the resulting Thematic Strategy on air pollution, new Euro 5 and Euro 6 standards have already been agreed by Council and Parliament.

Euro 5 will enter into force in September 2009. The main effect of Euro 5 is to reduce the emission of particulate matter from diesel cars from 25 mg/km to 5 mg/km. Euro 6 is scheduled to enter into force in January 2014 and will mainly reduce the emissions of NOx from diesel cars further, from 180mg/km to 80mg/km.

The legislation currently in force for big vehicles is Directive 2005/55/EC (agreed in co-decision) and Directive 2005/78/EC (implementing provisions). This legislation defines the emission standard currently in force, Euro IV, as well as the next stage (Euro V) which will enter into force in October 2008. In addition, it defines a non-binding standard called Enhanced Environmentally-friendly Vehicle (EEV).

In December 2007, following the CAFE programme and the resulting Thematic Strategy on air pollution, the Commission has made a proposal for a new Euro VI stage. As for the case of small vehicles, the proposal is based on industry input reviewed by a panel of independent experts.

Alternative fuels and environmentally friendly technology

In this chapter the various alternative energy sources to petrol and diesel are examined briefly.

1. Flexifuel - Bioethanol E85

Bioethanol is a renewable fuel primarily made from starch crops, such as corn, sugar beets and cane or cellulose materials, such as fast-growing trees and grasses.

The flexifuel car has a combustion engine with a flexible injection system. Unlike bi-fuel vehicles, like natural gas or LPG vehicles, flexifuel vehicles contain one fuelling system, which is made up of ethanol compatible components and is set to accommodate the higher oxygen content of E85. Any blend of fuel from E85 (85% ethanol and 15% petrol) to 100% petrol can be used in this car.

The environmental benefits depend to a large extent on how the crop is produced for ethanol. Intensive farming requires heavy machinery, fertilisers and pesticides, and the distillation process is also relatively energy intensive.

Several car makers have flexifuel vehicles in different sizes on the market already today, e.g. the Volvo S80 2.0 F (CO_2: 191 g/km). However, a major problem is the lack of fuelling stations in Belgium, France and Luxembourg. Therefore, for the time being, flexifuel driven vehicles cannot yet be procured for Parliament's use.

2. Hybrid cars

The combination of a combustion engine (petrol) and an electrical engine offers low emissions, with the power, range, and convenient fuelling of conventional (petrol and diesel) vehicles. The hybrid car has the advantage of fuel savings in an urban environment, but is not very fuel-efficient on motorways, as the weight of the batteries and electrical motor also has to be transported when driving on fuel.

Hybrid cars are for the moment only produced by Japanese car makers. European models are expected to arrive on the market in the coming years. Below, a short summary of the only five hybrid cars available on the European market today:

Model	**kW**	**Fuel**	**Consumption (petrol)**	**CO_2**
Lexus LS 600h	327	Hybrid/Petrol	9.5	220
Lexus RX 400h (SUV)	155	Hybrid/Petrol	8.1	192
Lexus GS 450h	183	Hybrid/Petrol	7.9	186
Honda Civic	70	Hybrid/Petrol	4.6	109
Toyota Prius	57	Hybrid/Petrol	4.3	104

It can be noted that many modern diesel cars show less CO_2 emissions than the Lexus LS, whose size corresponds to the current category of protocol-style cars. In both Lexus models (LS and GS), which also exist in non-hybrid form, the batteries however take up considerable boot space leaving little room for passengers' luggage. The Toyota Prius, on the other hand, is conceived *ab ovo* as a hybrid car and its batteries do not take away space in the boot. However, the Prius is a smaller type of car, and therefore the boot is not very big either.

3. Compressed Natural Gas (CNG)

Natural Gas is a fuel which can be used with a conventional petrol engine, but special storage and injection equipment is needed. Natural Gas is clean and produces less CO_2 emissions than the equivalent petrol engine, but not necessarily less than a diesel engine.

Certain vehicles are already today available on the market, e.g. the Mercedes E 200 NGT (CO_2: 171 g/km). A major problem however is the number of refuelling stations, which is still very low in many European countries. Therefore, for the time being, CNG driven vehicles cannot be procured for Parliament's use. It also has to be noted that the gas tank takes up considerable space in the boot, leaving insufficient room for passengers' luggage.

4. LPG

Liquefied petroleum gas (LPG), is a well-established fuel in several European countries. Almost all petrol vehicles can be equipped with LPG. Compared with vehicles fuelled by conventional diesel and gasoline, LPG vehicles can produce significantly lower amounts of some harmful emissions and the greenhouse gas carbon dioxide.

However, this type of car is not allowed to park in underground garages in Belgium, Luxembourg and France. Therefore, for the time being, LPG driven vehicles cannot be procured for Parliament's use. It also has to be noted that the gas tank takes up a considerable space in the boot, leaving insufficient room for passengers' luggage.

5. Hydrogen

Hydrogen has many benefits. It is a versatile energy carrier which can be produced from any sort of energy. Transport-related air pollution could be reduced to virtually none, if the hydrogen is produced from renewable sources of energy.

Currently, BMW has put a hydrogen car at the disposal of the President of the European Parliament. The car runs swiftly, but the autonomy on hydrogen is only 250 km. The tank takes up a huge space in the boot, leaving almost no room for passengers' luggage. There is only one experimental refuelling station in Belgium and the refuelling time is long.

The technology is still being developed and tested, and it will take many years before there will be hydrogen vehicles available on the open market.

6. Electrical cars

Electrical vehicles are zero emission vehicles, meaning they produce no emissions that contribute to air pollution and global warming (although electricity production is usually not pollution-free). The range of the electrical vehicles on the market does not yet allow for transports between the different working places of the Parliament. It can only be used for local transport.

Annex 5

Description of the current official cars

There are five BMW 730d cars in the pool with an automatic gearbox, of which two are Parliament's own property, and three are lease cars that will be returned to the leasing company in August 2008. Because of the decreasing number of official drivers, these three BMWs will not be replaced.

The typical pool car today is a Volvo S80 2.4 D (CO_2: 204 g/km) with an automatic gearbox. Ten cars of this type have been bought in May 2005. Since then, experience has shown that these cars are fairly noisy and less comfortable during long trips outside the city. Also, they are considered being less prestigious than BMW and Mercedes for representative use (protocol).

Contractually, the dealer has the obligation to take these ten Volvos back at a fixed negotiated price between the age of four (May 2009) to six years (April 2011), meaning their group replacement is fairly easy from an administrative point of view. The other pool cars (one Skoda, one Mercedes and two BMWs) will have to be sold, bringing the total of cars to be replaced at a number of fourteen. The total sale price of these fourteen vehicles is estimated at 170 000 euro by May 2009.

Tables on the different options

Option 1. The following protocol-style cars available on the market in 2008 are more or less equivalent in size and engine to the current pool vehicles.

Model 2008	kW	Fuel	Consumption	CO_2
Mercedes E 220 CDI aut	125	Diesel	7.1	187
Audi A6 2.7 TDI aut	132	Diesel	7.3	194
Volvo S802.4 D aut.	120	Diesel	7.3	194
Jaguar XF 2.7 V6 Twin Turbo aut	152	Diesel	7.5	199
BMW 730d aut.	170	Diesel	7.9	210
Lexus LS 600h	327	Hybrid/Petrol	9.5	220
Peugeot 607 2.7HDI aut.	150	Diesel	8.4	223
Citroën C6 2.7HDi aut	150	Diesel	8.7	230
Renault Vel Satis 3.0dCi aut	133	Diesel	8.7	232

The luxury and expensive hybrid Lexus LS 600h has a powerful petrol engine and is therefore fairly polluting. Cars with traditional energy sources in this market segment are less polluting. The purchase cost for fourteen cars of the least polluting model nowadays on the market can be estimated at 450 000 euros.

Option 2. The following protocol-style cars are equivalent in size to the current pool vehicles, but have less powerful engines. Their appearance is therefore identical, but they will have difficulty in following the speed of a police-accompanied autocade.

Model 2008	kW	Fuel	Consumption	CO_2
Audi A6 2.0 TDI aut.	103	Diesel	6.7	178
Mercedes E 200 CDI aut	100	Diesel	7.1	186
Renault Vel Satis 2.2dCi aut	102	Diesel	8.6	226

There are no hybrid cars in this market segment, but only cars with traditional energy sources. The reduction in CO_2 emissions is however not significant in comparison with option 1. Also, the least polluting model nowadays on the market is a little bit more expensive that the least polluting model under option 1. The purchase cost of fourteen of these cars can be estimated at 490 000 euro.

Option 3. The following 2008 cars are smaller in size than the actual pool vehicles.

Model	kW	Fuel	Consumption	CO_2
Toyota Prius aut.	57	Hybrid/Petrol	4.3	104
BMW 520d aut.	130	Diesel	5.6	149
Audi A4 2.0 TDI aut.	105	Diesel	6.1	155
Mercedes C 200 CDI aut.	100	Diesel	6.7	171
VW Passat 2.0 TDI aut.	103	Diesel	6.6	175
Renault Laguna 2.0dCi aut.	110	Diesel	7.0	185
Lexus GS 450h aut.	183	Hybrid/Petrol	7.9	186
Citroën C5 2.0 HDi aut.	100	Diesel	7.1	189
Peugeot 407 2.0 HDi aut.	100	Diesel	7.1	189
Volvo S60 2.4 D aut.	120	Diesel	7.5	199

The reduction in CO_2 emissions is significant in comparison with option 1. The purchase cost can be estimated at 350 000 euros for fourteen Toyota Prius cars (least polluting and alternative energy source). However, this car is not considered to be a protocol-style car suitable for representative use. The hybrid Lexus GS 450h, on the other hand, is more prestigious, but also much more polluting and it has a smaller boot than the Prius.