Emissions from air conditioning systems in motor vehicles

2003/0189B(COD) - 11/08/2003 - Legislative proposal

PURPOSE : to put in place a legislative framework to reduce emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride, which are powerful greenhouse gases covered by the Kyoto Protocol.

CONTENT : the European Commission has adopted this proposal for a Regulation to reduce emissions of fluorinated greenhouse gases. The proposal represents a further step towards fulfilling the EU's obligations under the Kyoto Protocol to reduce emissions of all gases contributing to global warming. Fluorinated gases are extremely powerful and long-lived greenhouse gases. Their emissions are forecast to increase rapidly in the coming years if no action is taken. The gases are used in refrigeration, air conditioning, fire-fighting equipment and various industry processes. The Commission's proposal is expected to reduce by almost a quarter the projected emissions of these gases by 2010.

The main sources of emissions from are hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride are refrigeration and air conditioning, including mobile air-conditioning in cars, and industry. They are also used as foam blowing agents, aerosol propellants, fire-fighting agents, process gases in semiconductor manufacture and electrical insulators. HFCs and PFCs are needed in some applications to replace the ozone depleting substances being phased-out under Regulation 2037/2000/EC and the Montreal Protocol. As a result, their emissions have been increasing over recent years.

Currently, fluorinated gases account for 2% of total EU greenhouse gas emissions. However, their global warming potential is high and many of them have long atmospheric lifetimes. For example, sulphur hexafluoride has a global warming potential that is 23,900 times that of carbon dioxide (CO2), which is the most common greenhouse gas arising from human activities.

The Commission's proposal makes a significant contribution towards the European Union's Kyoto Protocol target to reduce greenhouse gas emission by 8% below 1990 levels in the period 2008-2012. Projected emissions of fluorinated gases are expected to be reduced by around 23 million tonnes of carbon dioxide equivalent by 2010, with even greater reductions in the period after.

More specifically, this proposal has four main elements:

- provisions to improve the containment of fluorinated gases;

- reporting requirements to strengthen the monitoring of emissions;

- marketing and use restrictions where containment is not feasible or the use of fluorinated gases is inappropriate;

- phase-out of HFC-134a in air-conditioning systems of new vehicles.

The containment of fluorinated gases will be improved by the requirement to take all measures that are technically and economically feasible to prevent and minimise emissions. In particular, all stationary refrigeration, air-conditioning, heat pump equipment and fire protection systems must be inspected for leakage by competent persons at least once a year. In addition, there is a requirement to install leakage detection systems for larger equipment and to maintain records on the quantities of fluorinated gases

added or recovered from equipment. Provision is also made for the recovery of fluorinated gases for recycling or destruction during servicing and at the end of life ofequipment. Member States are required to establish training and certification programmes for persons involved in inspection and recovery activities.

The proposal also requires producers, importers and exporters of fluorinated gases to report annually to the Commission on the production, importation and exportation of fluorinated gases.

Where improving the containment of fluorinated gases is not feasible, or the use of fluorinated gases is considered inappropriate, the proposal includes a number of marketing and use restrictions. The gases and applications affected are: sulphur hexafluoride in magnesium die-casting; sulphur hexafluoride in vehicle tyres; fluorinated gases in non-refillable containers; hydrofluorocarbons and perfluorocarbons in non-confined evaporative cooling systems (for example self-chilling drinks cans); perfluorocarbons in new fire protection systems and fire extinguishers; fluorinated gases in window manufacture; fluorinated gases in footwear; hydrofluorocarbons in one component foams hydrofluorocarbons in novelty aerosols.

As regards air-conditioning systems in new vehicles, the proposal states that the phase-out of the use of the gas HFC-134a in air-conditioning systems in new vehicles is a key element of the proposal. Emissions from this sector are forecast to grow from 1.4 million tonnes of carbon dioxide equivalent in 1995 to 20 million tonnes of carbon dioxide equivalent in 2010 if action is not taken. The proposal introduces a flexible system based on transferable quotas to gradually phase-out the use of HFC-134a in new vehicle air-conditioning systems over the period 2009 to 2013. Companies have the possibility to transfer quotas between companies, if they wish to do so, enabling the overall goal to be reached in an economically efficient way.

There is an incentive for reductions to be made even earlier. Quotas can be increased for companies that take early action by placing vehicles on the market either without -HFC-134a air-conditioning systems or with less emissive HFC-134a air-conditioning systems (so-called enhanced systems) before the phase-out period begins on 1 January 2009.

At the end of the phase-out period, it will be possible to carry over any quotas remaining up to 2018. This is to allow flexibility to those who act faster than they are required to, and so have excess quotas, and to allow niche markets to be served with HFC-134a systems.

These provisions will work because they are accompanied by a system of sanctions that will ensure compliance with the phase-out.

FINANCIAL STATEMENT:,

- total allocation for action : EUR 2.736 million for commitment;

- impact on human resources : 2 permanent posts;

- financial impact of human resources : EUR 216.000;

- other administrative expenditure deriving from the action :EUR 40.000.