



QUALITY OF EUROPEAN GASOLINE AND DIESEL FUELS

1. The European Union (EU) will cut the sulphur content of petrol and diesel fuels to 50 parts per million (ppm) in 2005 (Dir. 1998/70/EC) for all road vehicles and will at the same time require that 'zero sulphur' fuels (maximum 10ppm sulphur) are available "on an appropriately balanced geographical basis" (Dir. 2003/17/EC). All petrol and diesel must meet the 10ppm limit from the start of 2009.
2. The 2003 Directive reduces the sulphur content of gas oils used for non-road mobile machinery and for agricultural and forestry tractors to no more than 1000ppm sulphur by the start of 2008. The Directive notes that "The adverse effects of sulphur in petrol and diesel fuels on the effectiveness of catalytic exhaust gas after-treatment technologies is well established for on-road vehicles and increasingly in the case of non-road mobile machinery". It also notes that "The introduction of fuels with a maximum sulphur content of 10mg/kgshould be examined in the case of non-road mobile machinery....".
3. The European car makers have agreed to achieve a new car average CO₂ target of 140 g/km by 2008 (a 25% reduction from 1995 levels). The agreement is based "on the availability of fuels of sufficient quality to enable the application of certain technologies" and the "unhampered diffusion of fuel-efficient technologies into the market". Japanese and Korean carmakers have reached similar agreements.
4. The Commission must review the on-road fuel specifications (*except sulphur content*) by 31 December 2005. The review must consider, amongst others items, the end date for full introduction of 10ppm sulphur diesel fuel; progress by the motor manufacturers towards CO₂ reduction; and the effect of metallic additives on pollution abatement technologies. It must also consider whether to align fuel quality requirements for non-road applications with the on-road sector, provisionally by 1 January 2009.
5. Germany considers sulphur-free fuels necessary for innovative engine technologies; increasing the working life of catalytic converters; reducing fuel consumption; cutting emissions of harmful particulates; and wider use of lean-burn gasoline engines (fuel consumption reduced by ≤15 percent).
6. From 1 January 2003 Germany introduced a duty differential of €0.015 per litre to encourage petrol and diesel with less than 10ppm sulphur. The U.K. government has announced that from 1 September 2004 it will set a duty reduction for these fuels of 0.5p per litre below that for 50ppm sulphur fuels.
7. AECC's response to the European Commission consultation on 'zero sulphur' fuels concluded that the best option to allow the unconstrained development and early introduction of new emission control technologies is to set a specification for sulphur levels at below 10ppm for introduction as soon as possible. This is equally applicable to on-road and non-road applications. Ultra low sulphur fuels are shown to reduce greenhouse gas emissions by allowing low fuel consumption vehicles, e.g. diesel and lean burn/petrol fuel injection, to flourish and by allowing catalysts to more efficiently remove greenhouse gases such as methane (CH₄) and nitrous oxide (N₂O).
8. The auto industry called for a 4th category of clean fuels by an update to the Worldwide Fuels Charter (January 2000, revised December 2002), supported by motor industry associations around the world. Engine and vehicle manufacturers say the new category of fuels is necessary to enable future vehicle technologies to meet "even more stringent emission regulations" planned in Asia, Europe and North America. The new fuels will have a maximum sulphur content in the range 5 to 10 ppm and are designed for "Lean NOx" and "NOx adsorber" catalyst systems and to control diesel particulates.
9. The December 2002 Charter revision recommends against the use of any metal-based additives replacing lead in commercial fuels to avoid potential health risks and damage to catalysts. AECC believes that the producers of additives should take the responsibility for proving that their products are not harmful to catalyst and trap based emission control systems. AECC supports the World-Wide Fuel Charter issued by the world motor industry associations.

Revision 1

8 July 2003