

Manual of European Environmental Policy

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This section is the text of the Manual as published in 2012. It is therefore important to note the following:

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Quality of petrol and diesel

Formal references	
98/70/EC (OJ L 350/98)	Directive relating to the quality of petrol and diesel fuels and amending Council Directive 93/12/EEC
Proposed 1996 – COM(96)248	
Amended by	
2011/63/EU (OJ L 147/15)	Directive amending, for the purpose of its adaptation to technical progress, Directive 98/70/EC of the European Parliament and of the Council relating to the quality of petrol and diesel fuels
2009/30/EC (OJ L 140/88)	Directive amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterways vessels and repealing Directive 93/12/EEC
Proposed 2007 – COM(2007)18	
2003/17/EC (OJ L 76/2003)	Directive amending Directive 98/70/EC
Proposed 2001 – COM(2001)241	
2000/71/EC (OJ L 287/2000)	Commission Directive to adapt the measuring methods as laid down in Annexes I, II, III and IV to Directive 98/70 to technical progress as foreseen in Article 10 of the Directive 2002/159/EC
2002/159/EC	Commission Decision on a common format for the submission of national fuel quality data
Legal base	Article 114 TFEU (originally Article 100a EEC Treaty)
Binding dates	
2009/30/EC	
Entry into force	25 June 2009
Formal compliance	31 December 2010
Fuel suppliers will report annually GHG intensity of fuels and energy supplied	1 January 2011
Member States shall achieve the GHG intensity targets	31 December 2020
Member States shall submit a report of national fuel quality data for the preceding calendar year; total volumes of petrol and diesel fuels marketed in their territories and the volumes of	30 June (annually)

unleaded petrol and diesel fuels marketed with a maximum sulphur content of 10 mg/kg	
2003/17/EC	
Entry into force	22 March 2003
Transposition	30 June 2003
2000/71/EC	
Entry into force	4 December 2000
Formal compliance	1 January 2001
98/70/EC	
Entry into force	28 December 1998
Transposition	01 July 1999

Purpose of the Directives

Directive 98/70/EC relating to the quality of petrol and diesel fuels ('Fuel Quality Directive') sets a range of minimum technical specifications, on health and environmental grounds, for petrol and diesel fuels used in vehicles. As well as providing emissions benefits in their own right, these tighter specifications are necessary to enable the use of advanced technology for emissions control and greater fuel efficiency in vehicles. Fuel quality is environmentally important because it affects engine pollutant emissions and thus air quality and greenhouse gases emissions. It also affects the ease and cost with which desired pollutant and greenhouse emission limits can be achieved by manufacturers.

Directive 2003/17/EC amends Directive 98/70/EC to require that 'sulphur-free' petrol and diesel be made mandatory from 2009 and widely available from 2005. Non-respect of the fuel specification can lead to increased emissions (e.g. excess oxygenates can increase NO_x emissions) and might damage engine and exhaust after treatment systems (e.g. excess sulphur-damaging catalysts) leading to higher air pollutant emissions. In order to ensure compliance with the fuel quality standards mandatory under this Directive, Member States are required to introduce fuel quality monitoring systems.

Directive 2009/30/EC amends Directive 98/70/EC. The scope of the Directive includes fuels used by road vehicles, and non-road mobile machinery (including inland waterway vessels when not at sea), agricultural and forestry tractors, and recreational craft when not at sea. It includes provisions that further tighten environmental quality standards for a number of fuel parameters and to enable more widespread use of ethanol in petrol. Much more important, however, is the requirement included in this Directive for fuel suppliers to progressively reduce the full life-cycle carbon levels in all road fuels.

Directive [2011/63/EU](#) adapts Directive 98/70/EU to technical progress. It modifies the standards referenced in Annexes I, II and III in accordance with changes made by the European Committee for Standardisation.

Summary of the Directives

Directive 98/70/EC specifies, for petrol and diesel, limit values for each fuel parameter. The limit values are either a minimum (e.g. RON) or maximum (e.g. vapour pressure, DVPE). It also set out test methods for monitoring the above. The main provisions of the 1998 Directive were to specify a much wider range of parameters for petrol and diesel quality than those addressed by earlier Directives. The Directive amended Directive [93/12/EEC](#) as of 1 January 2000, and Directive [85/210/EEC](#) was repealed as of that date. The first stage came into effect in 2000, with more stringent limits for 2005. The sulphur content of diesel requirements superseded those of Directive 93/12/EEC for road fuels, but Member States could apply either value for off-road machinery and tractors.

Leaded fuel was prohibited from sale from 1 January 2000, although some derogations were allowed until 2005 and a very small quantity of leaded fuel could continue to be made available for vintage cars.

Member States could require fuels with tighter specifications in certain designated areas which appeared to present severe air quality problems likely to affect human health or the environment. To do this they are required to justify their request to the Commission and provide information on ambient air quality in the area.

Member States were required to monitor compliance with the Directive and report annually to the Commission summaries of the quality of fuels sold in their territories.

Commission Decision 2002/159/EC provides a common report template for Member States covering all parameters in Directive 98/70/EC. These reports must be submitted by 30 June each year, including data for the preceding calendar year.

Building and expanding on the reporting format specified in Decision 2002/159/EC, the European Standard EN14274:2003 on Automotive fuels – Assessment of petrol and diesel quality – includes a format for Member States to establish a Fuel Quality Monitoring System (FQMS), taking into account factors such as the number of refineries supplying the market, the number of fuel grades available and the sales volumes of different types of fuel.

Directive 2003/17/EC amends Directive 98/70/EC to require that ‘sulphur-free’ petrol and diesel (defined as having less than 10 parts per million (ppm) of sulphur, but otherwise meeting the standards of the earlier Directive) be made widely available from 2005. Member States must take the necessary measures to ensure that these fuels are in essence available throughout their territories by 1 January 2005. From 1 January 2009 only sulphur-free fuels will be permitted, throughout the EU.

A limit of 2000 mg/kg of sulphur is set for gas oil to be used in off-road mobile machinery and tractors, falling to 1000 mg/kg by 1 January 2008. It is envisaged that the standards for off-road fuel will be aligned with those for on-road, provisionally by 1 January 2009. The Directive requires Member States to annually report on the availability of sulphur-free fuels.

Directive 2009/30/EC amends Directive 98/70/EC to expand significantly its scope. It introduces a target for the reduction of life-cycle greenhouse gas (GHG) emissions of energy supplied for use in road vehicles and non-road mobile machinery and tighter provisions to limit the environmental impacts of fuels. It includes the following main points:

A binding target of 6 per cent reduction of life-cycle GHG per unit of energy supplied for road transport by 31 December 2020. The main goals of such scheme are to promote the use of sustainable biofuels, lower GHG intensity fuels and reduce the GHG emissions of fossil fuels pathways in the EU markets. The binding target will be subject to a review in 2014.

An additional non-binding 4 per cent target by 31 December 2020 should be achieved through other measures, namely 2 per cent from electric vehicles or ‘any technology (including carbon capture and storage) capable of reducing life-cycle GHG emissions per unit of energy’, and 2 per cent from CDM credits in the fuel supply sector (which effectively means flaring and venting reductions). The latter non-binding targets will be subject to a review by 31 December 2012 and might become mandatory (Article 9(1)).

The incorporation of sustainability criteria for the production of biofuels used to meet the GHG reduction requirement, in coordination with the renewable energy Directive ([2009/28/EC](#)).

Sulphur limits are set at a very low level of 10 mg/kg.

Phasing in of 10 per cent ethanol (E10) petrol and continued marketing of petrol containing maximum 5 per cent ethanol guaranteed until 2013, with the possibility of an extension to after that date if needed.

Derogations for petrol vapour pressure for Member States with cold summer conditions (Denmark, Estonia, Finland, Ireland, Latvia, Lithuania, Sweden and the United Kingdom) and blending in of ethanol are subject to Commission approval.

The revised Directive introduces for the first time a limit on the petrol additive MMT, an organometallic compound, of 6 mg from 2011 and 2 mg from 2014. It also requires labelling of other metallic additives.

The main revision taken by the new Directive is included in Article 7 on the provisions for the low-carbon fuels targets. With effect from January 2011 suppliers are required to report annually to Member States: (a) the total volume of each type of fuel or energy supplied, indicating where purchased and its origin; and (b) life-cycle GHG emissions per unit of energy. Fuel life-cycle GHG emissions covered by the target include CO₂, CH₄ and N₂O gases. It includes all relevant stages, from extraction or cultivation, including land-use changes (but excluding indirect land-use changes), transport and distribution, to processing and combustion of the fuels. It is important to note that the baseline for GHG reductions is 2010; therefore, any reduction achieved before then will not count towards the target.

Member States will have to ensure that reports are subject to verification, following a 'mass balance system' outlined in Article 7c. A system of penalties must be set up by Member States for fuel suppliers that fail to comply with the Directive.

Importantly, a large number of implementing measures of the Directive in relation to Article 7 will be defined by the Commission through the 'comitology' with scrutiny procedure by 2012, with many elements to be defined by 2010. These measures can be divided into two groups:

Implementing measures of Article 7a and in particular those measures relating to the baseline for the target and the implementation of the target using fossil fuels and electricity. The implementation of these measures is led by DG Environment and includes:

- the life-cycle GHG intensity of fuels, other than biofuels, and for energy supplied for transport for use in any type of road vehicle and non-road machinery (Article 7a(5a));
- establishing a baseline GHG intensity against which future GHG intensity is to be measured (Article 7a(5b));
- establishing any necessary rules to enable a group of suppliers to choose to meet the GHG reduction obligations jointly (Article 7a(5c)); and
- methodologies to calculate the contribution of electric road vehicles (Article 7a(5d)), as well as those of flaring and venting.

Elements dealing with the calculation of GHG emissions for biofuels are included in Annex IV of the Directive. Article 7b requires that biofuels fulfil the sustainability criteria defined in the Directive in order to be taken into account for the purposes of the target. However, several implementing measures concerning the sustainability of biofuels still need to be defined by the Commission via 'comitology' with scrutiny. These are developed in coordination with the implementation measures of Directive 2009/28/EC on the promotion of the use of energy from renewable sources led by DG TREN. They include:

- the criteria and geographic ranges to determine grasslands that should be preserved from biofuels cultivation (Article 7b (3));
- the reporting format for verifying compliance with the sustainability criteria for biofuels (Article 7c (3));
- the requirements for sustainability criteria for biofuels production to be included in bilateral and multilateral agreement between the Community and third countries (Article 7c(4));
- the Decision on whether to allow the use of voluntary schemes for setting standards for the production of biomass products and for demonstrating the compliance of biofuels with sustainability criteria (Article 7c(4));
- the Decision on whether a source of biofuel presented by Member States is acceptable for compliance towards the target (Article 7c(8));
- the definition of 'severely degraded land' and 'heavily contaminated land' as laid out in point 9 part C of Annex VI.

The Directive provides for regular reviews by the Commission which could be accompanied by amendment proposals, the first by 31 December 2012, and then every three years thereafter, including the possibility of amending the target (for a list of priority issues for consideration see Article 9(1)). The Commission will review the methodology for the calculation of life-cycle GHG emissions from biofuels on 31 December 2012 and every two years thereafter (Article 7d (5)). By then it will also make proposals on the feasibility of mandatory requirements in relation to air, soil and water protection (Article 7c(8)). Crucially, the Commission will submit a report on the role of indirect land-use change on GHG emissions from biofuels by 31 December 2010 (Article 7d (6)) and will propose, if appropriate, ways to minimize these impacts. A preliminary consultation on this issue was held in August 2009 and a public consultation is expected to be published by the end of 2009.

For a more extensive discussion on the biofuels requirements under this Directive we refer the reader to the section on biofuels requirements for Directive [2009/28/EC](#).

Directive 2011/63/EU amends Directive 98/70/EC and updates Annexes I, II and III. The modification concerns the analytical methods for petrol and diesel fuels placed on the market. The Directive's annexes refer to standards established by the European Committee for Standardisation that have been replaced to adapt to technical progress.

Development of the Directives

The need for a more comprehensive range of fuel quality parameters for petrol and diesel fuels was implicit from the outset in the Auto Oil Programme, to be developed alongside vehicle emission standards, for the year 2000. These broader specifications would enable the use of advanced technology for emissions control and greater fuel efficiency in light duty vehicles, but could also deliver benefits in the short term by reducing emissions from the existing vehicle fleet. For this reason, the vehicle and fuel standards were treated throughout as a single package, and the proposals were first published by the Commission in a single Communication in 1996.

Drafts of the Commission's proposals were widely leaked in the early part of 1996, and sparked controversy even before the Communication was formally published in June. The new standards were argued to be far less stringent than those already in place in either the United States or Scandinavia, and did not appear to go far beyond the quality already available in much of the EU. For example, the maximum proportion of aromatic compounds was set at 45 per cent, while Finland already has a standard of 30 per cent, and the European average was around 40 per cent at that time. The proposed new sulphur limit for diesel, at 350 parts per million (ppm), would also only reflect the then average sulphur content.

These proposals therefore attracted criticism from environmentalists and the Swedish government in particular, and reinforced the widely held view that the oil industry had used the Auto Oil process to its own advantage. Instead the car industry was to bear the brunt of the costs of new standards for the year 2000, and it too was highly critical of the proposals. On the other hand, both the oil and motor industries were opposed to proposals to introduce second-step standards for the year 2005, even though these were initially proposed as indicative standards only, pending the outcome of Auto Oil II. The European

Parliament also wished to see far more stringent standards, and pressed for the inclusion of mandatory standards for 2005.

The proposals were discussed at length at the Environment Council meeting in June 1997. While the Commission's proposals on vehicle standards were broadly accepted, there was controversy over some aspects of future fuel specifications, for the reasons outlined above. Nonetheless, the desire of most northern Member States to set tougher sulphur standards for petrol (at 50 ppm) was blocked by poorer southern states, which wished to stick with the Commission's proposal of 200 ppm for the year 2000. A compromise was reached at 150 ppm, but with a possible three-year period of grace for those experiencing serious economic difficulties with this. As a counterweight to this, the Council conclusions alluded to an 'indicative' limit of 50 ppm for the year 2005.

On 18 February 1998, the European Parliament adopted at second reading most of its Environment Committee's proposed amendments to the emissions and fuel quality proposals. The MEPs voted for tougher standards for the year 2000, and the inclusion of mandatory limits for 2005 as well. They also approved amendments to provide tax incentives for early introduction of cleaner vehicles and fuels. The oil and motor industry associations both condemned the proposed amendments in the strongest terms, arguing that they violated the principles underlying the Auto Oil Programme.

This Decision made the use of the Conciliation Procedure inevitable, as the Parliament and Council positions still diverged widely. The Council had already tightened some elements of the Commission's original proposal, but had adopted its Common Position unanimously, so could not easily offer further compromises. Tough negotiations followed, but on 30 June 1998 (the last day of the UK Presidency), compromise proposals were finally agreed under the Conciliation Procedure between the Council and the Parliament.

In essence, MEPs ceded their demands for tougher vehicle emissions standards for the year 2000, but their proposals for reduced sulphur content in fuels (a maximum of 50 ppm) were accepted by the Council for 2005. New limits from the year 2005 were also made mandatory rather than indicative, and tax incentives were to be allowed for vehicles and fuels meeting 2005 standards in advance.

NGOs gave a cautious welcome to the compromise, but the European oil producers' umbrella organization, EUROPIA, continued to argue that the outcome would be considerably more expensive for industry than was strictly necessary, and offered little additional environmental benefit.

As a result of the final agreement, a large part of the rationale of the Auto-Oil II Programme (i.e. establishing least-cost measures for the year 2005) disappeared. The new limits on sulphur content in fuels on the other hand went some way to meeting carmakers' demands for cleaner fuels to facilitate more efficient as well as cleaner cars.

Notwithstanding the significant cuts in sulphur levels agreed for 2005, it had been recognized from the outset that these levels would still not be low enough for some advanced emissions abatement technologies such as particulate traps and NO_x absorbers or for some highly fuel-efficient engine technologies. An additional measure was therefore needed to ensure that 'sulphur-free fuels' would also become widely available

across the EU's territory, and thereby allow these technologies to be developed. Much tighter limits would also be needed to facilitate new and tougher particulate limits for off-road vehicles, probably by 2010.

Towards the end of 1999, an attempt by the German government to encourage the introduction of fuel with a sulphur content of no more than 10 ppm was rejected by the Commission. Germany had requested permission to introduce tax breaks from 2003, with the rationale that this would encourage oil companies to develop such fuel, which is considered to be 'sulphur-free'. While not rejecting the proposal in principle, the Commission said that more time was needed to examine technological issues and environmental benefits. However it assured the German authorities that either a draft proposal for a Council Decision or a Communication on the matter would be issued as soon as possible.

In early 2000 vehicle manufacturers, which had earlier called for a reduction in the sulphur levels allowed in fuel, continued to put pressure on the Commission to take action to reduce the maximum sulphur levels further. In response, the Commission eventually launched a consultation exercise, with a view to amending Directive 98/70/EC. The reaction of the oil industry was mixed. While the European oil industry association EUROPIA remained opposed to further reductions, both Shell and BP Amoco started selling sulphur-free diesel in Germany, which suggested that the European oil industry was no longer speaking with one voice. EUROPIA argued that reducing sulphur levels further would yield no significant environmental benefit and that net carbon dioxide (CO₂) emissions would increase under present conditions, because the increase in refinery emissions resulting from the desulphurization process would more than offset the reduction in CO₂ emissions from vehicles. This was also a concern of the responses from a number of countries.

In May 2001, the Commission published a proposal to amend Directive 98/70/EC, which would reduce the maximum sulphur levels allowed in both petrol and diesel to 10 ppm from 2011 (COM(2001)241). Member States would also have to ensure that fuels meeting this specification were available on the market by 2005. The proposal also set separate limits on the level of sulphur in diesel to be used by off-road mobile machinery and agricultural tractors. Hitherto Member States had had the option of applying the requirements of Directive 98/70/EC to fuel used in these vehicles, but were only required to meet the much looser standards set out in Directive 93/12/EEC.

As previously, Parliament sought tougher and more wide-ranging measures, in particular that the new standards be applied to off-road vehicle fuels to the same timetable as for road fuels, and that the latter should be accelerated. The Council was amenable to an earlier date for the completion of the shift to sulphur-free road fuels, but not for off-road, and conciliation negotiations ensued. In these the deadline for the complete transition to sulphur free was brought forward by two years to 2009, but in exchange the alignment of off-road fuel standards would be subject to a review in 2005. This review had also to satisfy itself that the switch to sulphur-free diesel would not lead to an overall increase in GHG emissions, as the oil industry had warned.

The above modification (Directive 2003/17/EC), only affected the sulphur limits for petrol and diesel set in the Directive. The Directive itself required a wider review which was subject to delay owing to technical complexities. In the event, in order to keep pace

with the continuing evolution of Community pollutant emissions legislation and the links between vehicle technology and fuel quality, a proposal for a revision of the Directive was published in January 2007 (COM(2007)18).

When this proposal was formally published, most outsiders were surprised to find that it contained a requirement (in Article 7a) that would require fuel suppliers to progressively reduce full life-cycle carbon levels in all road fuels. This was a radical departure extending the scope of this Directive substantially, and would set an important precedent.

A blocking minority formed in the Environment Council during early Council negotiations to oppose Article 7a establishing a mandatory target. The United Kingdom was among the opposing Member States believing the targets proposed were unachievable without recourse to an unsustainable level of biofuel use. Subsequently in response to lobbying, the United Kingdom reversed its position to being favourable to amend the proposed Article 7a into a more workable form. As a result the blocking minority collapsed, and the Article survived. Subsequently it received support in the Environment Committee of the European Parliament, so it appeared increasingly likely that some form of requirement to decarbonize road fuels would survive. With its amendments, the Environment Committee proposed to include in the Directive sustainability criteria for biomass production, which could be superseded by other legislation under preparation with respect to a renewable energy transport target (the proposed Directive 2009/28/EC). Other amendments included guidelines for monitoring, reporting and verifying the life-cycle GHG emissions of fuels. In this way, the Parliament reaffirmed its right of scrutiny on implementing measures.

However, the clear overlap between this proposal, the Biofuels Directive [2003/30/EC](#) and the proposed Renewable Energy Directive (2009/28/EC) created the need for coordination with the proposed Directive (2009/28/EC), in particular in relation to the GHG emissions of biofuels. There was also significant disagreement among Member States in relation to the nature of the 10 per cent mandatory target for life-cycle GHG emissions by 2020 proposed by the Commission.

Following almost a year of deadlock, in September 2008 triologue discussions between the Commission, the European Parliament and the Council resumed. The resulting text settled on a mandatory 6 per cent reduction of GHG emissions from fuels and on a non-binding 4 per cent reduction achievable through additional measures. The cuts required would come from fuel production efficiency improvements and switches to cleaner fuels, such as biofuels. The biofuel sustainability criteria are the same as those in the new Renewable Energy Directive (2009/28/EC).

The environmental community welcomed the new text as a radical departure that would extend the scope of this Directive substantially, and set an important precedent for the environment. It provides a technologically neutral tool to make the fuels consumed in the EU cleaner and less carbon intensive on a life-cycle basis. Indeed, under Article 7a fuel providers can decide to improve the GHG performance of their fuels either by cleaning up the production processes for fossil fuels (i.e. improving efficiency in refineries, reducing flaring and venting, optimizing extraction and using cleaner crudes) or by switching to alternative fuels (biofuels, natural gas, electricity). The revised Directive has a number of advantages in environmental terms in relation to the old Biofuels Directive 2003/30/EC, repealed by Directive 2009/28/EC:

It encourages only those biofuels that offer significant carbon reductions, whereas the current legislation does not discriminate between ‘good’ and ‘bad’ biofuels.

It encourages the development of advanced ‘second-generation’ biofuels and possibly other low-carbon alternatives.

It forestalls the introduction of new synthetic fuels with very high life-cycle carbon emissions, such as those sourced from coal, oil shale or tar sands, which might otherwise be deployed in increasing quantities as conventional oil sources become more constrained.

The new law will also effectively encourage the oil industry to reduce gas flaring and venting – two widespread practices responsible for large amounts of GHG emissions and for which reduction potential is very large. The potential for electrification of transport to help deliver the Fuel Quality Directions target will largely depend on the use of renewable electricity, as set out under the new Renewable Energy Directive 2009/28/EC.

The revised Directive introduces for the first time a limit on the petrol additive MMT, an organometallic compound, of 6 mg from 2011 and 2 mg from 2014. It also requires labelling of other metallic additives. Metallic additives are thus not prohibited for the EU market, as hoped for by the European Parliament and the majority of Member States, as well as from the association of European car manufacturers (ACEA). The use of metallic additives is not very important in the EU, because only a few countries still use them. However, fuel quality standards adopted in the EU send an important signal to the rest of the world (e.g. Asian countries), thus sending the wrong messages to the car manufacturing market.

Directive [93/12/EEC](#) of 23 March 1993 relating to the sulphur content of certain liquid fuels was been extensively amended over time and as a result no longer retains any elements of substance. It was repealed by Directive 98/70/EC. Directive [85/210/EC](#) of 20 March 1985 on the approximation of the laws of the Member States concerning the lead content of petrol was also repealed by Directive 98/70/EC.

In January 2007, the Commission proposed a revision to the Directive ([COM\(2007\)18](#)) to:

- Reflect developments in fuel and engine technology.
- Help promote the development of lower carbon fuels, including biofuels.
- Meet air-quality objectives by reducing emissions of sulphur and PAHs (Poly Aromatic Hydrocarbons) from diesel.

This was adopted as Directive 2009/30/EC which includes provisions that further tightened environmental quality standards for a number of fuel parameters and enables more widespread use of ethanol in petrol.

Implementation of the Directive

The Fuel Quality Directives have been transposed in the Member States. See the national [execution measures](#) for Directive 2000/71/EC.

See the national [execution measures](#) for Directive 2003/17/EC.

See the national [execution measures](#) for Directive 2009/30/EC.

For Directive 2011/63/EU transposition is required by July 2012. Some early [reports](#) exist.

The European Commission produces annual [reports](#) based on the implementation reports resulting from the monitoring requirements for Member States included in the Directive and can be found here. The most recent report ([COM\(2011\)116](#)) summarizes Member States' submissions on the quality of petrol and diesel, as well as the volumes sold, for the year 2008. In 2008, the Commission found delays in submitting reports, 14 Member States submitted theirs after the deadline. Specifications for petrol and diesel laid down in Directive 98/70/EC were in general met. Fewer samples exceeded the limit values compared to previous years. For petrol the main parameters where exceedances were identified were research/motor octane number (RON/MON), summer vapour pressure and distillation/evaporation at 100/150°C. For diesel the main parameters where exceedances were identified were sulphur content, distillation 95 per cent point, cetane number and density.

Sulphur content for diesel was a particular problem in previous years (mainly for the EU-10), due to the new mandatory <50 ppm level from the start of 2005. However, this problem appeared to have been resolved since 2006. From 2005, it was mandatory for all fuel to meet the <50 ppm sulphur level, and for fuels of <10 ppm sulphur to be introduced in all Member States. The share of <10 ppm and <50 ppm sulphur fuels increased significantly from 2001 to 2008 for EU-15.

Member States are required to fully switch to sulphur-free fuels starting from 2009. So 2008 was the final year that low-sulphur fuels would comply with the Directive, so the improvement may be explained by Member States working toward the 2009 limit of <10 ppm . However, eight Member States have already fully moved over to sulphur-free petrol grades and similarly for sulphur-free diesel grades . In Sweden virtually all diesel has been sulphur-free since 1999, and in Germany it has been available from 2003. Eight Member States have also fully switched to sulphur-free fuel grades . The Czech Republic, Poland and Slovakia, however did not report 100 per cent sulphur free fuel availability, the report noted a lack of clarity in labelling and a lack of information to judge whether the geographic repartition of sulphur free fuels availability is balanced.

Importantly, in relation to the availability of sulphur-free fuels, it is necessary for these fuels to be clearly labelled to ensure that the consumer has the opportunity to choose them. Reporting on this labelling is intended to help the automotive industry to gain confidence in their availability and vehicles using the fuel are more widely introduced. This has ceased to be relevant in 2009, since sulphur free fuels are mandatory.

The same day the Commission made the implementation report for 2007 available [COM\(2011\)113](#). In 2007, all Member States but Luxembourg submitted their reports to the Commission. As in 2008, some delays were noted in the submission of data, and a lack of systematic labelling of sulphur free fuels at the pump. The progress toward the sulphur content for diesel was then constant as six Member States had moved toward sulphur free petrol grades (Denmark, Finland, Germany, Hungary, the Netherlands and Sweden). Austria and Estonia had also fully moved to sulphur free petrol diesel grades in 2007.

This closes a three years gap as the former report made available was in 2008 ([COM\(2008\)779](#)).

Enforcement and court cases

There have only been two cases concluded in the European Court of Justice concerning these Directives. One was brought by the European Commission (supported by Spain) against the United Kingdom for the failure to implement, in respect of Gibraltar, to transpose Directive 98/70/EC (Case [C-30/01](#) 23.09.2003). The Court dismissed the application. In [C-343/09](#) (08.07.10) the court rejected the proposition of certain questions raised affecting the validity of the Directive.

Further developments

The Directive outlines several issues on which the Commission is required to report to the European Parliament and the Council by 31 December 2009 and then every three years thereafter, to take into consideration the developments of existing legislation and technological developments and, where appropriate, table proposals for amendments of the Directive. These aspects are listed in Article 9.

Moreover, important implementing measures of the Directive, in particular in relation to Article 7 on the GHG emissions reductions target will be decided through the ‘comitology’ procedure with scrutiny by 2012; many elements will be decided before the end of 2010. Recently, DG Environment opened a [public consultation](#), which outlines the options so far considered by the Commission on the following implementing measures:

- The establishment of a methodology for calculating GHG intensity of fuels other than biofuels and for electricity supplied to road transport and non-road machinery (Article 7a(5a)).
- The establishment of the baseline GHG intensity against which future GHG intensity is to be measured (Article 7a(5b)). The baseline shall be based on the EU average level life-cycle GHG emissions per unit of energy from fossil fuel products in 2010.
- The establishment of ways to take into consideration savings from the provision of electricity for use in road vehicles.
- The establishment of ways to take into consideration the reduction of flaring and venting at production sites to achieve the Article 7a reduction target (as provided by recital 9 of the Directive).

- The establishment of any necessary rules to enable a group of suppliers to choose to meet the reduction obligations jointly and whether any such rules are needed (Article 7a(5c)).

The EU has implemented a thorough review process in relation to the implementation of Article 7a. As stated under Article 7a: ‘measures necessary for the implementation of this Directive ... shall be adopted in accordance with the regulatory procedure with scrutiny’ (i.e. through a comitology committee). In October 2011, the Commission put forward a comitology proposal which stated that implementation of Article 7a, and the adoption of the relevant measures, must be supported by a qualified majority vote in a committee of technical experts of EU Member States.

Discussions have been held on the new requirement for fuel suppliers to progressively reduce life cycle greenhouse gas emissions (GHG) in all road fuels. Article 7a of the amended Directive allows fuel providers to decide to improve the GHG performance of their fuels either by cleaning up the production processes for fossil fuels (i.e. improving efficiency in refineries, reducing flaring and venting, optimising extraction and using cleaner crudes) or by switching to alternative fuels (biofuels, natural gas, electricity). Furthermore, with respect to the debate on Canadian oil sands, Article 7a has the effect of strongly discouraging the introduction of new synthetic fuels with very high life-cycle carbon emissions, such as those sourced from coal, oil shale or tar sands, which might otherwise be deployed in increasing quantities as conventional oil sources become more constrained.

The Commission proposed to assign a value of 107g of CO₂ per mega joule of energy for tar sands oil processed in European refineries, compared to the default value of 87.5g of CO₂ per mega joule of energy assigned to standard conventional fossil fuels. This number reflects the fact that tar sands oil is roughly 23 per cent more carbon intensive than the average assigned to conventional crude currently used in the EU. This value also considers the fact that tar sands oil is processed from natural bitumen. If the GHG emissions from ‘well to wheel’ are taken into account, the amount of energy required to extract the bitumen, the figure would be even higher. Canada threatened to revive its intention to ‘protect its economic interests’ by launching a legal challenge through the World Trade Organization, although some analysts claim that Canada would not have a strong enough legal case to counter EU policy.

Despite what was anticipated to be widespread support for Article 7a in the European Parliament, technical experts on the fuel quality Directive Committee did not vote in favour of the proposed value for Canadian tar sands. The legislation was supported by 89 votes (from Austria, Denmark, Finland, Greece, Ireland, Latvia, Luxembourg, Malta, Romania, Slovakia, Slovenia, and Sweden). One-hundred and twenty-eight votes were cast against the legislation (from Bulgaria, Czech Republic, Estonia, Hungary, Italy, Lithuania, Poland and Spain) and there were 128 abstentions (from Belgium, Cyprus, France, Germany, the Netherlands, Portugal and the UK). Given the failure to achieve a majority vote within the Committee, a decision will now need to be made by Member States Environment Ministers.

Implementation measures relating to the sustainability criteria for biofuels are also under consideration. These measures are considered in coordination with the Renewable Energy Directive 2009/28/EC to ensure the establishment of a consistent EU market for biofuels for use in road transport. For more on this see the section on Directive [2009/28/EC](#) (see section on promotion of electricity from renewable energy).

Related legislation

The following measures are related to these Directives:

Directive [2009/28/EC](#) on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC. The methodology chosen for accounting for biofuels GHG emissions savings and the sustainability criteria for production are valid for compliance with the targets of both Directives. Implementation issues under consideration by the EC will have effect for both Directives.

Directive [1999/32/EC](#) relating to a reduction in the sulphur content of certain liquid fuels and amended by Directive 2005/33/EC. This Directive includes sulphur contents limits for fuels used other than in road transport and lays down some aspects of fuel use in inland waterway transport. In relation to the latter, the delimitation between that Directive and Directive 98/70/EC requires clarification. Both Directives establish limits for the maximum sulphur content of gas-oil used in inland waterway vessels. It is expected therefore that Directives 98/70/EC and 1999/32/EC be amended accordingly.

Directive [2009/29/EC](#) of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the GHG emission allowance trading scheme of the Community. Directive 2003/87/EC covers GHG emissions from oil refineries, as the FQD. Improving the efficiency of refineries production would bring them double benefits under the existing regulatory framework, provided that they are included in the FQD methodology for Article 7a, which is currently under development.