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**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE  
COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE  
COMMITTEE OF THE REGIONS**

**on the application of Directive 2009/33/EC on the promotion of clean and energy  
efficient road transport vehicles**

**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS**

**on the application of Directive 2009/33/EC on the promotion of clean and energy efficient road transport vehicles**

**INTRODUCTION**

This is the first report on the application of Directive 2009/33/EC of 23 April 2009 on the promotion of clean and energy-efficient road transport vehicles<sup>1</sup> (“Clean Vehicle Directive”), and on supporting actions taken by Member States, as required by Article 10 of this Directive.

Directive 2009/33/EC has only been in force for a short period of time, with implementation in a number of Member States being delayed considerably. In addition, the absence of reporting obligations for Member States and the inconsistencies in the data available, made the analysis difficult. Thus this report can provide only a limited qualitative analysis, and that mostly on the basis of case studies. Detailed material is provided in a study prepared for the Commission<sup>2</sup>.

The Clean Vehicle Directive aims at stimulating the market for clean and energy-efficient vehicles, thus contributing in the transport sector to the energy, climate and environment policies of the EU. The deadline for transposition was set for 4 December 2010.

The Directive applies to vehicles purchased by contracting authorities and contracting entities as defined by the public procurement Directives<sup>3</sup>, and to public transport operators as defined by the Regulation on public passenger transport service<sup>4</sup>. The Directive requires that lifetime operational energy consumption, emissions of carbon dioxide (CO<sub>2</sub>), and emissions of oxides of nitrogen (NO<sub>x</sub>), non-methane hydrocarbons (NMHC) and particulate matter (PM) are taken into account. Thereby, the Clean Vehicle Directive has introduced for the first time sustainability obligations into public procurement law for the whole EU.

The Directive gives two options for taking account of energy and environmental impacts: The first one is setting technical specifications for the performance of the vehicles with respect to energy and environmental impacts. The second option gives the opportunity to use these impacts as award criteria.

The Directive defines a methodology for calculating lifetime operational costs for energy consumption, CO<sub>2</sub> emissions, and pollutant emissions of vehicles. This monetisation approach internalises external costs of transport, a long-term objective of EU policy. This gives an

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1 Directive 2009/33/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of clean and energy-efficient road transport vehicles, OJ L 120/5 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:120:0005:0012:en:pdf>)

2 [http://ec.europa.eu/transport/themes/urban/vehicles/directive/index\\_en.htm](http://ec.europa.eu/transport/themes/urban/vehicles/directive/index_en.htm)

3 Directive 2004/17/EC of the European Parliament and of the Council coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors; Directive 2004/18/EC of the European Parliament and of the Council on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts

4 Regulation (EC) No 1370/2007 of the European Parliament and of the Council of 23 October 2007 on public passenger transport services by rail and by road

advantage to more energy efficient and cleaner vehicles and accelerates their market penetration, both conventional internal combustion engine and alternative fuel vehicles.

## 1. IMPLEMENTATION OF THE CLEAN VEHICLE DIRECTIVE IN THE MEMBER STATES

The deadline for the transposition of the Directive was set for 4 December 2010. Only three Member States fulfilled this obligation by that date. The Commission had to initiate infringement proceedings against those Member States that did not fulfil this obligation. At the time of drafting this report all ongoing infringement procedures have been closed upon transposition by the respective Member States.

However, there is still one Member State left which has not yet fully transposed the Directive into national legislation. This Member State, Latvia, is still in the process of completing its transposition. An overview on the evolution of the transposition process is given in Table 1.

Table 1: Overview of the transposition process of the Clean Vehicle Directive in the Member States

	Member State	National transposition	Action taken by the Commission
Date set in the Directive: 4 December 2010	Czech Republic	September 2010	n/a
	Denmark, Portugal	December 2010	
2011	Lithuania	February 2011	27.01.2011: Letter of formal notice sent to 13 EU Member States due to non-communication of national measures (Belgium, Germany, Spain, Finland, France, Italy, Cyprus, Lithuania, Hungary, Malta, Netherlands, Poland and Romania)
	Bulgaria, Cyprus, Hungary, Italy, Spain	March 2011	
	Romania	April 2011	
	France, Germany, Poland, Malta	May 2011	
	Greece, Ireland, Luxembourg, Netherlands, Slovakia, Sweden	June 2011	
2011	UK	July 2011	16.06.2011: Reasoned opinion sent to 10 EU Member States (Austria, Bulgaria, Estonia, Greece, Ireland, Luxembourg, Slovenia, Slovakia, Sweden and the United Kingdom)  25.11.2011: Reasoned opinion sent to Finland due to absence of measures relating to the Province of Åland
	Belgium, Estonia	October 2011	
2012	Austria	February 2012	22.03.2012: Commission decision to refer Finland to the EU Court of Justice  (closed after notification of integral transposition by Finland)
	Slovenia	March 2012	
	Finland	April 2012	
	Latvia	2013 (planned)	

In most cases, the process of transposition involved amendments to existing public procurement acts, rather than adoption of new legislations. Several Member States have also

prepared guidance documents related to the implementation of Directive 2009/33/EC or intend to prepare such documents.

No exemptions as provided for under Article 2 of this Directive were reported from the Member States.

To facilitate implementation of the Clean Vehicle Directive, the Commission opened an internet portal on 30 March 2009, the date of the adoption of the Directive by the Council of Ministers. The portal provided further explanations of the Directive. It also included a calculator for monetising energy, CO<sub>2</sub> and pollutant costs as well as information on related policies and measures in the Member States. A more elaborate Clean Vehicle Portal<sup>5</sup> was subsequently opened on the transposition of Directive 2009/33/EC in order to facilitate its application. This portal provides the available data for the calculation of lifetime costs for all vehicles on the market. It facilitates joint procurement to help bundling purchases of vehicles to achieve economies of scale with larger volumes. The portal also informs on public procurement legislation and specific programmes and incentives for the purchase and operation of clean and energy efficient vehicles, at EU level and in the different Member States, at national, regional and local levels.

## **2. SUPPORTING ACTIONS TAKEN BY MEMBER STATES**

Many Member States have implemented additional measures in support of the development of a market for clean and energy efficient vehicles in recent years, which have contributed to the same objectives as the Clean Vehicle Directive. These measures include incentives and support for clean vehicles by public authorities, as well as measures that stimulate the purchase and use of clean and energy efficient vehicles indirectly, such as selective access restrictions and local demand management differentiating through environmental criteria, and vehicle taxation measures.

Where access restrictions are in place, vehicles usually have to adhere to a required standard/emissions level or other criteria to gain entry to the market. So whilst aiming to improve environmental conditions in a localised area, the benefits may also become more widespread if the uptake of clean and energy efficient vehicles is stimulated as a result.

Demonstration projects, such as those supported by the CIVITAS Initiative, could potentially promote best practices and interest in clean and energy efficient vehicles for the public sector, particularly where benefits are realised.

The provision of appropriate refuelling/recharging infrastructure is of key importance when aiming to increase the purchase and use of clean and energy efficient vehicles relying on alternative fuels/technologies. A lack of consumer confidence in the availability of alternative fuels can prohibit their uptake. The importance of this aspect is highlighted in the Commission proposal for a Directive on the deployment of alternative fuels infrastructure<sup>6</sup>.

The provision of refuelling/recharging infrastructure varies greatly between and within Member States and should be better harmonised to take full profit of the internal market for a

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<sup>5</sup> <http://www.cleanvehicle.eu/>

<sup>6</sup> COM(2013) 18 final

broad uptake of clean and energy efficient vehicles using alternative fuels as tackled by the Clean Power for Transport communication of the Commission<sup>7</sup>.

### 3. APPLICATION OF THE OPTIONS FORESEEN IN THE CLEAN VEHICLE DIRECTIVE

The majority of Member States have retained all the different options provided by Article 5 (3) of the Clean Vehicle Directive, when transposing this Directive into national legislation.

This allows public authorities to include the energy and environmental impacts of vehicles in procurement procedures by setting either technical specifications or including the impacts as award criteria. In the latter case, these impacts can also be monetized.

The main reasons given by the Member States to retain all of the options provided by Article 5 (3) of the Clean Vehicle Directive were to enable greater flexibility for the purchasing authority, to give the purchasing authority the ability to use the options best suited to their procurement needs and to enable the most appropriate options according to local circumstances. Only Slovenia, which exclusively allowed the energy and environmental impacts to be used as award criteria, the Czech Republic, which did not permit the use of the monetisation option, and Sweden, which did not create a possibility for the energy and environmental impacts to be used as award criteria, limited these options for reasons of simplicity or consistency with the existing national approach. An overview on the application of the Directive is given in Table 2.

**Table 2: Application of Article 5(3) in EU Member States**

Action taken by Member State on Article 5(3)	Member States
Allow all of the options	24 Member States: Austria, Belgium, Bulgaria, Cyprus, Denmark, Estonia, France, Finland, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Spain, United Kingdom
Allow only option 1 (i.e. set technical specifications for the energy and environmental performance of vehicles)	-
Allow only option 2a (i.e. where energy and environmental impacts are used as award criteria)	Slovenia
Allow only option 2b (i.e. where energy and environmental impacts are monetised)	-
Options 1 and 2a)	Czech Republic
Options 1 and 2b)	Sweden

At the national level, Germany provided anecdotal evidence as to the options that are most commonly used by purchasing authorities (all options foreseen are currently possible under the legislation transposed in Germany), with Option 1 considered to be the one selected the

<sup>7</sup> COM(2013) 17 final

most, followed by Option 2a. It was noted that Option 2b was probably the least used, mainly due to difficulties regarding its application. Contacts from the city of **Hamburg** supported this view, stating that to date they have only used Option 1, mainly due to its easy applicability. In **Copenhagen**, all of the options have been used by the public transport authorities, and they reported good experiences with each of them. **Bologna** has used Options 2a and 2b, but evidence relating to positive or negative experiences of these methods is not yet available. Slovenia has used the methodology for operational lifetime costs, although it was considered that there was a lack of information regarding emissions performance. Representatives from Copenhagen, Bologna and Slovenia are all yet to form an opinion as to whether the options should be retained or amended. **Ghent** uses both the technical specifications and award criteria options (i.e. options 1 and 2a). For the former, the technology that the vehicle to be procured should have is the only one to be specified (based on a review of the vehicles on the market), while for the award criteria, vehicles have to meet a minimum environmental performance. In **Stockholm**, Directive 2009/33/EC allows for a continuation of the approach previously used within the city, which effectively sets technical specifications, i.e. it is only possible to procure vehicles that respond to the national definition of a clean vehicle. Representatives of Ghent and Stockholm considered that, respectively, additional guidance was needed in relation to using energy and environmental impacts as technical requirements and that a rebalancing of the factors used in the monetisation option was needed. **London, Vienna and Romanian public transport operators** all specify the environmental standards with which vehicles to be purchased have to comply, while **Barcelona** estimates the life cycle costs of the vehicle along with other factors.

The majority of Member States were of the opinion that all options should be retained. This was largely due to the limited experience they have had with Directive 2009/33/EC since its transposition. And namely the lack of assessments undertaken to date to determine the impacts of this Directive, including on the market development of clean and energy efficient vehicles. Some Member States also pointed out that national systems differ across the EU, so retaining the choice between options will be important so as not to disadvantage certain Member States.

With regard to whether any of the options should be amended, Member States felt again that limited experience with Directive 2009/33/EC prohibited them from suggesting ways in which the options could be improved at this stage. Further experience and assessment of impacts would be required in order to do so.

Specific guidance on the application of the different options of Directive 2009/33/EC and on the relative weightings to be given to its provisions has only been prepared by a few Member States, such as the Netherlands, Latvia, Denmark, France and the UK.

#### **4. IMPACT OF THE CLEAN VEHICLE DIRECTIVE**

The assessment of the impact of Directive 2009/33/EC was heavily hampered by the absence of reporting obligations for Member States, and aggravated by the lack of comprehensive data, both on the side of procurers as on the side of manufacturers. No consistent data collection has been found on the performance regarding energy efficiency, CO<sub>2</sub> and pollutant emissions of the vehicles purchased under the terms of this Directive.

Implementation of Directive 2009/33/EC in a number of Member States much later than the initially scheduled transposition date also prevented any major impact of this legislation to be expected at this early stage.

Assessments on the expected impact of the Clean Vehicle Directive were carried out only in a few cases. With regard to the potential estimated impacts of the options provided for in its Article 5(3), very few Member States have undertaken an assessment. In the UK, an impact assessment for the transposing legislation was undertaken, but regarding the Directive in its entirety and not on the specific options. It concluded that there would be EUR 27 million worth of economic benefits associated with the implementation of this Directive in the UK. However, due to the belated transposition process and the lack of feasible post-implementation data there are no conclusive impact assessments concerning the actual post-transposition impact yet.

A number of Member States had existing ‘green’ public procurement requirements relating to the procurement of vehicles prior to the introduction of Directive 2009/33/EC. Therefore the impact of this Directive has been minimal on the existing situation. However, it was acknowledged that it is possible that public bodies will benefit from having the criteria for procurement formalised, and those Member States who did not previously have any existing criteria are expected to benefit.

Many cities in the EU have established policies with the view to procure cleaner and more energy efficient vehicles. These policies have contributed to emissions reductions from public vehicle fleets in these cities. They have often been driven by the need to meet EU air quality standards. With the Clean Vehicle Directive in place, more cities are expected to clean up their vehicle fleets, using the options offered by this Directive.

Manufacturers indicated that more public authorities have been evaluating life time costs and impacts of vehicles, rather than just focusing on purchasing costs. In this respect, Directive 2009/33/EC seems to lead to a change in attitude, which could have a more significant impact on procurement decisions of public authorities and public transport operators in the longer term.

However, with regards to the wider impacts, it was felt that it would be extremely difficult to assess the impacts of Directive 2009/33/EC as similar anticipated impacts can also have been stimulated by other policy measures. Although the market for low emission vehicles is expanding, it is difficult to attribute this to the implementation of this Directive, and it is more likely to be due to other factors (including technological developments, other EU legislations, national vehicle taxation policies, market conditions, existing government incentive schemes etc.).

Many Member States mentioned how public procurement activity relating to vehicle (and other sectors) had been low in recent years – many have very few funds available to renew vehicle fleets/service contracts as a result of consequences of the global recession.

A further factor that may have an impact on the purchase decisions of public authorities and private stakeholders are high petrol/energy prices as mentioned by one Member State. It is being estimated that such considerations could be generally applicable. Total costs of ownership are, in some cases, important in purchase decisions (particularly for heavy duty and fleet vehicles), which in part could be exerting pressure on vehicle manufacturers to increase their clean vehicle range and offers.

The lack of common procedures on the measurement of CO<sub>2</sub> emissions of heavy duty vehicles was a barrier to applying Directive 2009/33/EC to such vehicles. A specific calculation methodology has therefore been provided on the Clean Vehicle Portal. Additionally, the International Association of Public Transport (UITP) and the European Automobile Manufacturers' Association (ACEA) worked together to agree on how operators and procurers could apply the provisions of the Clean Vehicle Directive in bus tendering. Similar collaboration could be undertaken for other types of heavy duty vehicles.

As of 2013, all heavy duty vehicle engines will be tested according to the "Worldwide Harmonized Heavy-Duty Transient Cycle" as defined under the auspices of the UNECE. As stated by the final report<sup>8</sup> of the respective working group, the objective of the initial research conducted was the development of a worldwide harmonised engine test cycle for engine exhaust emissions. This tool will be used for measuring air pollutant emissions, CO<sub>2</sub> emissions and fuel consumption. These measurements will support a wider application of the monetisation option of the Clean Vehicle Directive.

No evidence of technology selection was found to date, thus confirming the completely technology-neutral approach of this Directive.

## **5. REPLICATION OF THE CLEAN VEHICLE DIRECTIVE APPROACH**

The Clean Vehicle Directive has been part of a gradual shift in EU policy to a more proactive and consistent inclusion of environmental requirements in EU procurement and product legislation. Approaches similar to the Clean Vehicle Directive on including lifetime operational impacts on resources and environment have been taken in some other sectors, such as buildings, electric appliances, or office equipment, for a number of years. Such initiatives, along with increasingly clean and energy efficient vehicles, will play an important role in meeting the EU 2020 target of a 20% improvement regarding the EU's energy efficiency.

The development in procurement legislation towards a cost-effectiveness approach, such as life-cycle costing, has been generalised in the proposal of the Commission of 20<sup>th</sup> December 2011 for a revision of the existing Directives on public procurement<sup>9</sup>, in particular in Article 66 on contract award criteria and Article 67 on life-cycle costing. The changes that the proposed revised framework includes should lead to a more consistent consideration of environmental criteria in public procurement decisions in the EU.

While no evidence was found on Directive 2009/33/EC directly influencing the approach taken in the private sector in relation to the procurement of clean and energy efficient vehicles, examples of the private sector procuring more energy efficient vehicles were nevertheless found. However, it is important to note that the procurement of energy efficient vehicles by the private sector is only one element of fleet management. Procuring such vehicles can lead to a reduction in the costs of managing a fleet, particularly where the lifetime costs of an energy-efficient vehicle are less than those of conventional vehicles. However, other elements of energy-efficient fleet management include maximising loads, reducing empty running and eco-driving. Consequently, many firms with large fleets, e.g. courier companies such as DHL, TNT and UPS, manage their fleets to reduce energy

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<sup>8</sup> <http://www.unece.org/fileadmin/DAM/trans/doc/2001/wp29grpe/TRANS-WP29-GRPE-42-inf02.pdf>  
<sup>9</sup> COM(2011) 896

consumption, and thus emissions. For such companies, managing their vehicles fleets in such a way makes economic sense, in addition to responding to wider environmental concerns, including those of their customers. It is possible to identify various good practice examples with respect to clean fleet management that have been undertaken globally.

In Finland the approaches set out in Directive 2009/33/EC have been taken up within the private sector. The procurement advice produced in relation to the implementation of the Clean Vehicle Directive has also been disseminated to large private buyers, such as company car buyers, which is important as almost one fifth of new cars sold in Finland are company cars.

## 6. CONCLUSIONS

Belated transposition of the Clean Vehicle Directive by most Member States has limited the experience with this Directive to date and has therefore provided challenges for the assessment of its impacts within the scope of this monitoring report. This situation is further aggravated by the absence of reporting obligations for Member States.

Additional guidance appears necessary for the application of the different options of the Directive in order to take into account energy consumption, CO<sub>2</sub> and pollutant emissions when procuring vehicles. There is also the need to support the still novel monetisation approach. Member States should provide this guidance, paying particular attention to their relevant national legislation. Dedicated training for staff responsible for implementing the relevant national legislation should also be taken into account.

The Clean Vehicle Portal is considered a useful tool in assisting public authorities with the procurement of clean and energy efficient vehicles, and concerning the prevalence of the experience acquired under this Directive. The Commission will upgrade the Clean Vehicle Portal to respond to the expectations of public and private procurers. Additionally, the functionality in relation to the stimulation of joint procurement of clean and energy efficient vehicles on the Portal will be improved, including the better facilitation of close contacts between the relevant national and regional authorities in the EU 27 and beyond.

This is expected to help build up market power for clean and energy efficient vehicles more rapidly so that industry can profit from economies of scale and offer more competitive products. More attention to private customers can also enhance the impact of Directive 2009/33/EC, following the original objective of initially addressing the public sector directly, and subsequently reaching out to professional and private procurement.

Various stakeholders, such as the EU industry associations, could develop guidance, as the International Association of Public Transport (UITP) has done, for their respective members in order to increase awareness of this Directive.

The Commission launched a European Electro-mobility Observatory (EEO) in December 2012<sup>10</sup>, which will ensure collection and dissemination of key statistical data on electromobility (battery electric and fuel cell electric vehicles) in a consistent manner by regional and local authorities. The EEO should become the main information platform of European regions on electromobility. It should also provide information on how public

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<sup>10</sup> <http://www.hyer.eu/publications/newsletters/hyer-update-december-2012/hyer-signs-european-electromobility-observatory-contract>

procurement at the local level influences the development of electric vehicles or fuel cell electric vehicles market in Europe.

In the next review of the Clean Vehicle Directive scheduled for 2014, the Commission is planning to assess thoroughly the value added of the Directive. In this context the Commission may consider the possibility of simplifying the application of this Directive by streamlining it. This could be done by narrowing choices on Member State level for example by focussing on the simplest approach with regard to calculations to be carried out. This would prevent a possible fragmentation of the internal market through different technological selections. It could then provide better conditions for economies of scale for innovative vehicle technologies through bundling demand within the internal market. Clear reporting obligations could also be imposed upon the Member States.