

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

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Executive summary

Background

Ricardo-AEA, with TEPR, was commissioned to inform the European Commission (DG MOVE) of the state of play of the implementation of Directive 2009/33/EC on the promotion of clean and energy efficient road vehicles in the EU's 27 Member States. This study had a number of tasks, namely:

- The analysis of the implementation of the Directive by each Member State;
- The analysis of other supporting actions undertaken by Member States;
- The analysis of the actual application of the Directive in procurement;
- The analysis of the impact of the Directive;
- The analysis of the take-up of the approach in private vehicle purchases, other sectors, and outside of the EU; and
- The development of proposals for possible EU actions.

Directive 2009/33/EC¹ (hereafter referred to as the “Clean Vehicle Directive”) required transposition by Member States by 4 December 2010. It requires that energy and environmental impacts are taken into account when road transport vehicles are purchased by public authorities or by private operators purchasing vehicles to perform public transport services. The objective of the Directive is to promote and stimulate the market for clean and energy-efficient vehicles, thus improving the contribution of the transport sector to the environment, climate and energy policies of the EU. Article 10 of the Directive requires that the Commission prepares a monitoring report every two years. This report provides the basis of the Commission's first monitoring report to be published in December 2012.

Methodology

The tasks within the report required a number of different methodological approaches:

- **Development of a fiche for each Member States** – Each fiche contains information gathered from the internet, as well as from the engagement with Member State authorities. In this respect, the fiches contain information on the findings from a number of tasks, but focusing on Member State implementation.
- **Engagement with national authorities and other relevant stakeholders** - Such engagement was directly relevant to a number of tasks, and was a useful source of case studies (see below).
- **Online internet searches and a literature review** – This was used to supplement information gained from engagement with key stakeholders.
- **Development of case studies** – Different case studies have been used to illustrate experiences with the procurement of clean and energy efficient vehicles. In this respect, a number of case studies focusing on cities were undertaken, including: Barcelona (Spain); Bologna (Italy); Copenhagen (Denmark); Ghent (Belgium); Hamburg (Germany); London (UK); Romanian public transport operators; Stockholm (Sweden); Slovenian national public procurement agency; and Zagreb (Croatia).
- **Analysis of engagement and results.**

¹ EC (2009) Directive 2009/33/EC of the European Parliament and of the council of 23rd April 2009 on the promotion of clean and energy-efficient road transport vehicles, Official Journal of the European Union, L120/5: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:120:0005:0012:en:pdf>

Key Findings

An overview of the key findings for each of the tasks is provided below.

Implementation and application of the Clean Vehicle Directive in EU Member States

All but one Member State has now fully transposed the Directive into national legislation. The final Member State to do so, Latvia, is in the process of completing its transposition so that it applies to all of the entities covered by the Directive. It is anticipated that the Directive will be fully transposed in Latvia by the end of 2012. Only three Member States met the transposition deadline of December 2010. In a number of cases, the process of transposition involved amendments to existing public procurement acts, rather than new legislation. A number of Member States have also prepared, or intend to prepare, guidance documents related to the implementation of the Directive.

A small number of Member States raised issues or difficulties regarding the transposition of the legislation, the majority of which related to Article 5(3), in particular to the understanding and applicability of option 2b), which relates to the monetisation of impacts (see below). Some Member States considered that more guidance on applying the options under Article 5(3), such as worked examples, would help to overcome these problems. In this respect, it is worth noting that some Member States have provided additional guidance on the implementation of the Directive; other Member States may potentially benefit from doing the same.

Additional measures that support the objectives of the Directive

In addition to the transposition of the Clean Vehicle Directive, many Member States have implemented other measures that have also contributed to the development of a market for clean and energy efficient vehicles, and thus have also contributed to the same objectives as the Directive. Many of these pre-date the transposition of the Directive, indicating that Member States have been taking action to stimulate the market for clean and energy vehicles for several years. The measures include incentives for, and the active promotion of, clean vehicles by public authorities, as well as other measures that stimulate the purchase and use of clean and energy efficient vehicles more widely, such as access restrictions, local demand management and vehicle taxation measures. The latter will have an impact on vehicles operated and purchased by public entities and public transport operators, but are more likely to encourage the purchase of clean and more energy efficient vehicles by the public and the private sector.

Application of the Directive in procurement

The majority of Member States have retained all options presented in Article 5(3) when transposing the Directive into national legislation. In other words, they allow public authorities to include the energy and environmental impacts of vehicles in procurement procedures by setting technical specifications (Option 1), by including the impacts as award criteria (Option 2a) or to monetise these impacts (Option 2b). The main reasons for allowing all of the options 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; or to enable the selection of options according to local circumstances. Only Slovenia, which only allowed the impacts to be used as award criteria, the Czech Republic, which did not allow the monetisation option to be used, and Sweden, which did not allow the impacts to be used as award criteria, limited the options for reasons of simplicity or consistency with the existing national approach. Member States generally agreed that at this stage all of the options presented in Article 5(3) should be retained, largely due to the limited experience with the implementation of the Directive to date and the lack of any evidence of the impact of the Directive (see below).

Very few Member States had prepared specific guidance on the application of the options presented in Article 5(3) and none had yet made an assessment of the actual impacts of the Directive. Various forms of guidance have been produced in the Netherlands, Latvia, Denmark, France and the UK.

Analysis of the impact of the Clean Vehicle Directive

The consensus amongst stakeholders was that the Directive has had little impact on the market for cleaner vehicles at this stage; indeed no stakeholder was able to provide evidence for a direct impact of the Directive on the market to date. This is not surprising for a number of reasons, not least that the Directive has only been in force for a short period of time, with implementation in a number of Member States being delayed until 2012. Indeed in some Member States it may not be possible to notice a discernible impact even after a longer period of time, due to the relatively low numbers of vehicles being purchased by public authorities in those countries. However in other Member States where purchases by public authorities make up a larger proportion of total sales, noticeable impacts might be expected in future years (for example, in Germany a relatively high proportion of vehicle sales are for public purposes). In this respect, it is worth noting that some cities and Member States were already taking action to procure clean and energy efficient vehicles, as was evidenced from the city case studies undertaken for this report (see below), and so an increased uptake of cleaner vehicles by public authorities might have been expected regardless of how they have implemented the Directive.

A number of respondents from industry and cities also commented that the current situation in the vehicle market meant that it was harder than normal to identify the impacts of the Directive, with many public authorities cutting back on the numbers of vehicles bought due to on-going public spending cuts. Notwithstanding the state of the market and the late transposition in most Member States, it would still have been very unlikely that a significant impact from the Directive would have been identified at this stage, i.e. after two years of its application. Road vehicles typically have a lifetime of between 10 to 15 years, and although public authorities may not operate vehicles for their entire lifetime, this fact, along with the relatively small proportion of the total vehicle market procured by public authorities means that it would be very unlikely, even in the best scenario (e.g. a vibrant market, transposition on time in all countries) that an impact from the Directive would have been felt on the vehicle market in only two years.

Despite there being little impact so far on the market for clean vehicles, there was anecdotal evidence from manufacturers that more public authorities have been trying to evaluate a vehicle's life time costs and impacts, rather than just focusing on purchasing costs. In this respect, the Directive could be considered to be leading to a change in culture, which could have a more significant impact with respect to how public authorities make procurement decisions in the longer-term.

One of the main issues raised by manufacturers in relation to heavy duty vehicles (HDVs) was that there is as yet no common agreement on the measurement of CO₂ emissions of such vehicles, which acts as a barrier to applying the Directive to such vehicles. This is in spite of a calculation methodology that could be applied to such vehicles being set out on the Clean Vehicle Portal. Additionally, the UITP and ACEA worked together to agree on how operators and procurers should apply the provisions of the Clean Vehicle Directive in bus tendering; similar collaboration could have been undertaken for other types of HDVs. Finally, from 2013, it is worth noting that all HDV engines will be tested according to the Worldwide Harmonized Heavy-Duty transient Cycle, which will *inter alia* measure air pollutant emissions, CO₂ emissions and fuel consumption; the potential of using these measurements in the approaches set out in the Clean Vehicle Directive should be analysed.

The case studies undertaken for this project showed that many cities in the EU, such as Stockholm, Hamburg and London, have established policies in place to procure cleaner and more energy efficient vehicles, which have contributed to emissions reductions from public

vehicle fleets in these cities (see Box 5-2). These policies have often been driven by policy objectives other than those of the Clean Vehicle Directive, such as the need to meet EU air quality standards. For such cities, the Directive has had little impact on their existing approach. Interestingly, cities that are less known for their clean procurement policies, such as those in Romania and Zagreb, also already took account of the environmental impacts of the buses that were procured prior to the transposition of the Directive. However, the approaches on these cities tended to focus on requiring compliance with Euro standards, rather than wider approaches that also encompassed energy efficiency. Since the transposition of the Directive, some public transport operators in Romania for example, have been considering applying some of the other approaches of the Directive. Consequently, over time it might be expected that more cities will pay more attention to the options allowed for by the Directive in the longer-term, as the familiarity with the approaches increases.

In relation to technology selection, the general view was that there was no evidence of technology selection to date and that there was sufficient scope within the Directive for technology selection not to be an issue, although there was little experience with some of the methods to confirm this in practice. However, a couple of stakeholders (a city and public transport operators) raised a concern that the monetisation methodology favours diesel vehicles as opposed to vehicles that would generally be considered to be cleaner; an example (see Table 5.2) was provided to demonstrate this concern. However, this concern needs to be seen in the context of what the Directive is trying to do, i.e. one of its main aims was to introduce a common approach to the monetisation of three of transport's most important external impacts – on air pollution, CO₂ emissions and energy use – in the procurement of vehicles. In this respect, if the monetisation methodology favours diesel vehicles, then it could be argued that it is leading to the procurement of the cleanest, most energy efficient and most cost effective vehicle, which is one of the objectives of the Directive. However, where a city's main priority is to address air pollution that city might prefer to procure "clean" vehicles, as opposed to "clean and energy efficient" vehicles, in which case the application of the monetisation methodology might not be the best option to address local priorities.

Analysis of the take-up of the approach in private vehicle purchases

Rather than undertake an extensive analysis of the take-up of the approach in private vehicle purchases, the relevant task focused on the identification of examples of approaches where clean and energy efficient vehicles have been actively procured for private fleets. We were not been able to identify an example of where the Directive has directly influenced the procurement policy of a private sector organisation, and those who had a view (e.g. some European stakeholders, those responsible for private fleets) felt that the Directive was unlikely to have had much direct impact on the private sector. This was largely due to the fact that the Directive did not target the private sector directly, but also that private sector procurement policy is already influenced by a wide range of factors. In relation to vehicles, these include high fuel prices, national policies such as taxes, customer demands and the integration of wider sustainability considerations into company strategies. Such policies range from trialling alternative vehicles, which could of course lead to a more extensive deployment, to integrating sustainability concerns into the company strategy.

At the basic level, it makes simple economic sense for the private sector to respond to high fuel costs and incentives provided by taxation policies, particularly for companies for which fuel costs are a high, or significant, proportion of total costs. From a wider perspective, responding to customer concerns, as well as wider societal issues, could also be seen as good business where consumers and other stakeholders pay more attention to a company's wider environmental and social performance. Hence, it is not that surprising that there appears to be little direct impact of the Clean Vehicle Directive on procurement policies in the private sector. In the longer-term, however, there could potentially be synergies between the Directive and private sector vehicle procurement. For example, the development of a market by focusing on the public sector could stimulate manufacturers to integrate the new

technologies developed for the public sector into vehicles purchased by the private sector in order to maximise the returns on their investments. This could lead to improved environmental performance in vehicles procured by the public sector.

Many Member States have undertaken dissemination activities, or have directly engaged with local authorities and other relevant stakeholders when transposing the Directive. Additionally, the UITP has been active in informing its members of the Directive and its implications for them and some of the UITP's national members have similarly disseminated information about the Directive within their respective countries. These dissemination activities are clearly linked directly to the Directive. Many of the stakeholders contacted believe that dissemination is important, although some cities felt that more information could have been provided on the application of the Directive within some countries and on the use of the Portal.

Other organisations, such as automobile associations and national energy agencies, have engaged with private users and private fleets with respect to cleaner and more energy efficient vehicles, including on eco-driving and alternative energy sources and propulsion systems, if not about the Directive explicitly. We did not identify active dissemination to private users that was directly linked to the Directive. Instead, such activities were usually linked to lowering costs for members, e.g. automobile associations communicating to drivers, or linked to an organisation's wider objective, e.g. energy agencies focusing on energy efficiency. Over time, however, the various dissemination activities are likely to reinforce each other. Hence, in this respect, the dissemination activities inspired by the Directive to the public sector could be seen to complement the various dissemination activities that aim to target private users and fleets.

Analysis of the take-up of the approach in other sectors

Similar approaches have been taken in a limited number of sectors, including office equipment, buildings and energy efficiency for a number of years. The approach taken by these sectors is usually the mandatory setting of environmental criteria in the public procurement process. Whilst this is a similar approach used to Option 1 of the Clean Vehicle Directive (Article 5(3)), it cannot be concluded that the Clean Vehicle Directive has directly influenced the methods used in these sectors, as many of the approaches pre-date the Directive. In this respect, it is important to note that 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.

The gradual cultural shift has been continued in the revised framework for public procurement that was proposed by the Commission in December 2011, which will see the updating and replacement of existing Directives on public procurement. Importantly, the changes that the revised framework includes will enable the more consistent consideration of social and environmental criteria in public procurement decisions in the EU. The development of this legislation has benefited from the experience gained with the development of the Clean Vehicle Directive, as the respective Commission DGs engaged with each other in the course of the development of the new framework proposal.

Analysis of replications of the approach outside of the EU

Of the policies that have been identified that were implemented in countries outside of the EU, the only example of policies being directly influenced by the Directive was in cities in Switzerland and Norway, where the UITP's recommendations on bus tenders, which are based on the Directive, have been implemented. Elsewhere, e.g. in the USA and Japan, clean vehicle procurement policy predates the Directive. In both these countries, clean vehicles are effectively defined and then targets are set for their purchase. A similar approach – i.e. defining what a “clean vehicle” is – has been used in the EU. In Sweden, the Stockholm city authority agreed on a definition of a clean vehicle in 2002 that could be used for a range of policies, such as reduced parking charges and company car taxation, as well

as for procurement, while Gothenburg also had a definition. A national definition was first introduced in Sweden in 2005, which has been progressively tightened and is still used for the purpose of *inter alia* clean vehicle procurement². Such an approach is consistent with Option 1 allowed by Article 5(3) of the Directive, i.e. the use of environmental and energy criteria in technical specifications.

The clean vehicle policies in China are simpler, in that they specify a maximum engine size and a maximum cost for the cars procured by the public sector, as well as potentially specifying a list of qualifying vehicles, as in the proposals from early 2012. However, it is important to note that this does not necessarily lead to improved environmental performance, as cars with smaller engines can have higher environmental impacts than those with larger engines. No clean and energy efficient vehicle procurement policy was identified in India. In this respect, it should be remembered that action in other countries is often behind that in the EU and other more developed countries, e.g. the focus in many countries is still on setting standards for fuel quality and emissions limit values for vehicles at levels that were implemented in more developed countries many years ago. Consequently it might be the case that public procurement policies have not generally been considered, as yet, in the less well developed countries as other policies that the EU has already implemented are the current focus.

Consequently, the approaches of policies that aim to stimulate the procurement of clean vehicles in other countries around the world do not appear to be more advanced than the Clean Vehicle Directive as these would probably be consistent with, and therefore allowed by, the provisions of the Directive.

Recommendations

The following recommendations have been made (see Section 9 of the main report for full details):

Reporting requirements of the Directive:

As noted above, even if the market for clean vehicles had been vibrant and Member States had all transposed the Directive on time, it would still have been unlikely that an impact of the Directive on the market for clean vehicles would have been detected after only two years. Hence, we recommend that:

- In developing new legislation, the EU institutions should ensure that the reporting requirements, be they on the Commission or Member States, provide enough time for there to be sufficient experience with the application of the legislation in order to enable a proper assessment of its impacts. In this respect, it is important to consider in what period it might be possible to identify a measurable impact. This appropriate time period for the first monitoring or evaluation report will vary depending on the focus of the legislation. In the case of the procurement of road transport vehicles, five years might have been a more appropriate time period. For other legislation, the appropriate time period might be significantly shorter.

Whilst it is possible to design a project to evaluate the impact of the Directive to some extent, the quality, and therefore accuracy, of the evaluation would always be better if this was supported by evaluations undertaken by other stakeholders, particularly Member States. Consequently, we recommend that:

- In developing new legislation, the EU institutions should consider requiring Member States to undertake some form of monitoring of, if not fully evaluating and reporting on, the impacts of legislation, in order to facilitate the Commission's own reports on

² City of Stockholm (2010) "Clean Vehicles in Stockholm: Historic retrospect 1994-2010" Environment and Health Administration in the City of Stockholm

the application of the Directive. Any future amendment to the Clean Vehicle Directive should consider placing some reporting requirements on Member States.

- In order to facilitate better evaluation of the impacts of the Clean Vehicle Directive in future monitoring reports, Member States and potentially other stakeholders, should undertake evaluations of the impact of the Directive in their respective countries, or from the perspective of their member organisations. This would significantly improve the amount of information that could be analysed for the next monitoring report, which is due in December 2014, as well as the depth of the subsequent analysis. Such monitoring should cover, at the minimum, the impact on the market, energy savings and emissions reductions resulting from the application of the various options allowed.

A number of issues in relation to the implementation of the Directive have been noted above. Our recommendations in this respect are:

- There appear to be some barriers to the use of the monetisation methodology in particular, which might in part be subject to its novelty. In this respect, the Commission might consider developing the information on the Clean Vehicle Portal to ensure that this is easier to use.
- However, within Member States there also appears to be some desire for additional information on the Directive. Some Member States have already developed guidance on the application of the Directive in their respective countries; other Member States should produce such guidance if national stakeholders consider that this would be useful. Training for staff that are responsible for implementing the respective national legislation could also be considered. Various stakeholders, such as the EU level associations, should also consider sharing information between their respective national members in order to increase awareness of the Directive. Such stakeholders could also consider developing guidance, as the UITP has done, for their respective members.
- The Commission should also investigate whether the information on emissions and fuel consumption that will be generated by the HDV tests under the Worldwide Harmonized Heavy-Duty transient Cycle might be used for the purpose of the monetisation methodology of the Clean Vehicle Directive.

As noted above, there has been little experience with the Directive to date, so:

- No changes to the Directive should be proposed at this time due to the lack of experience with the provisions of the Directive, and the potential to gain a wealth of information from the evaluation of these provisions for further reports on the application of the Directive.
- Future evaluations of the application of the Directive should continue to consider the potential wider impacts of the Directive, as the identification of these has the potential to inform additional actions that might enhance the impact further still. In this respect, positive and negative experience with the Directive should be collated, evaluated and widely disseminated to the private sector, other sectors and relevant stakeholders in other countries. Additionally, it might be useful to consider ways of disseminating innovative actions in the private sector both to the private sector more widely, but also to the public sector, in order to maximise on potential synergies.

Although the Clean Vehicle Portal was not the focus of this report, a number of stakeholders, particularly from city authorities, mentioned that the information on the Portal was either

insufficient for their needs in procuring clean and energy efficient vehicles or was confusing. Consequently, we recommend that:

- The Clean Vehicle Portal is clearly a potentially important tool both in assisting Member States' public authorities with the procurement of clean and energy efficient vehicles, and in the dissemination of (good and bad) experience with the Directive and of wider good procurement practice, but there was some suggestion that the Portal is not as useful as it might be. Hence, the Commission should consider including an evaluation of the impact of the Portal as part of the next report on the application of the Directive.

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1 Introduction

Ricardo-AEA, with TEPR, were commissioned to inform the European Commission (DG MOVE) of the state of play of implementation of Directive 2009/33/EC on the promotion of clean and energy efficient road vehicles in the EU 27 Member States. This study included eight main tasks, which were as follows:

- Task 1: Analysis of the implementation by the Member States;
- Task 2: Analysis of other supporting actions by Member States;
- Task 3: Analysis of the application of the Directive in procurement;
- Task 4: Analysis of the impact of the Directive;
- Task 5: Analysis of the take-up of the approach in private vehicle purchases;
- Task 6: Analysis of the take-up of the approach in other sectors;
- Task 7: Analysis of the take-up of the approach outside of the EU; and
- Task 8: Develop proposals for possible EU actions.

This report sets out the findings of the study based on the tasks above.

1.1 Regulatory Framework and Directive 2009/33/EC

1.1.1 The ‘Clean Vehicle Directive’

Directive 2009/33/EC³ on the Promotion of Clean and Energy Efficient Road Transport Vehicles (hereafter referred to as the “Clean Vehicle Directive” (CVD)) had to be transposed by Member States by December 2010. The Clean Vehicle Directive requires that energy and environmental impacts are taken into account when road transport vehicles are purchased by public authorities or by private operators purchasing vehicles to perform public transport services. The objective of the Directive is to promote and stimulate the market for clean and energy-efficient vehicles and improve the contribution of the transport sector to the environment, climate and energy policies of the EU (as stated in Article 1). The Directive aims to contribute to addressing on-going environmental challenges, particularly in relation to climate change and air quality, as well as other objectives such as the need to improve energy security. However, it is important to note that the Directive is only one of several pieces of EU legislation that contribute to achieving the same objectives. The Clean Vehicle Directive aims to complement these other pieces of European legislation, as it is another demand-side measure that aims to directly stimulate the market for low CO₂/more fuel efficient vehicles.

The Directive itself is one of a number of EU initiatives promoting green public procurement (GPP), but the only one that actually sets mandatory requirements for Member States (and authorities, entities and operators within these countries). ‘Greener’ (e.g. less polluting, more energy efficient) vehicles (and goods, more generally) are often relatively more expensive due to the fact that they are new on the market, and so do not yet benefit from the economies of scale and price reductions that comparable, less green goods have experienced; this is often a barrier to the uptake of greener goods. However, the use of GPP can help to stimulate demand sufficiently to enable greener goods to expand their market

³ EC (2009) Directive 2009/33/EC of the European Parliament and of the council of 23rd April 2009 on the promotion of clean and energy-efficient road transport vehicles, Official Journal of the European Union, L120/5: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:120:0005:0012:en:pdf>

share, leading to reductions in unit costs, thus aiding technologies that are not currently commercially viable to move into mainstream markets. In terms of the transport sector, this is likely to include vehicles using alternative fuels or energy carriers, such as biofuels, hydrogen and electric or hybrid vehicles, as well as more efficient vehicles using conventional internal combustion engine technology. Applying GPP in this way could lead to the faster adoption across the economy of products with reduced environmental impacts. Such products would also have benefits in terms of reductions in energy consumption and energy imports, whilst boosting the EU industry's ability to compete in global environmental product markets⁴.

The use of GPP in the EU has been encouraged by the Commission since its 2003 Communication on Integrated Product Policy⁵, although it was not until the 2004 public procurement Directives that the use of environmental criteria in public procurement was clarified from the legal perspective⁶. These Directives allow public procurement in the Member States to take account of environmental and social aspects of public procurement under certain conditions, including the following:

- Relevant environmental and social requirements may be specified but must be linked to the subject-matter and defined sufficiently precisely to allow bidders to understand the requirement and to allow award of contracts taking these requirements into account;
- Production process standards and eco label criteria can be used as references but alternatives which demonstrate equivalence must be considered.

The key elements of Directive 2009/33/EC are set out in Box 1-1.

Box 1-1: Directive 2009/33/EC – Key Requirements

The Directive (Article 4(3)) covers the purchase of principal categories of road vehicle, including cars, but also other categories that have not yet been covered by other European vehicle CO₂ legislation, including heavy goods vehicles (i.e. N₂ and N₃ vehicles) and buses (i.e. M₂ and M₃ vehicles). It does not cover special purpose vehicles, including those primarily designed and constructed for off road use, such as mobile machinery, vehicles used in the construction industry and in quarries and vehicles used at ports and airports, as well as vehicles used by the armed forces, civil defence and emergency services (Article 2).

The Directive applies to vehicles purchased by contracting authorities and contracting entities as defined by the 2004 public procurement Directives⁷ and to public transport operators as defined by the Regulation on public passenger transport service⁸ (Articles 3, 4(1) and 4(2)). Principally these include:

- Public authorities, e.g. national, regional or local authorities;
- Entities providing services primarily for public authorities in the energy, water, postal and transport sectors (an indicative list of relevant authorities and entities is provided in Annexes I to X of Directive 2004/17); and
- Public transport operators providing services on behalf of public authorities.

The Directive requires that the following energy and environmental impacts are taken into account (Article 5(2)):

⁴ Brannigan, C. et al (2009) *Information to raise awareness and instruments to stimulate innovation and development: Paper 9* Paper produced as part of contract ENV.C.3/SER/2008/0053 between European Commission Directorate-General Environment and AEA Technology plc; see website www.eutransportghg2050.eu

⁵ COM (2003)302 *Communication from the Commission to the Council and the European Parliament - Integrated Product Policy - Building on Environmental Life-Cycle Thinking*; see <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52003DC0302:EN:NOT>

⁶ 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

⁷ Directive 2004/17/EC and Directive 2004/18/EC

⁸ 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

- Energy consumption;
- Emissions of carbon dioxide (CO₂); and
- Emissions of oxides of nitrogen (NO_x), non-methane hydrocarbons (NMHC) and particulate matter (PM).

The Directive requires that the lifetime (i.e. operational) energy consumption and emissions be taken into account, i.e. the energy consumption and pollutants emitted while the vehicle is in use. Lifecycle emissions and energy associated with the manufacture and disposal of vehicles and with the production of fuel and other energy sources are **not** included.

The Directive sets out three possible options for taking account of the required energy and environmental considerations (Article 5(3)), i.e. by:

1. Setting technical specifications for the performance of the vehicles to be procured with respect to each of the energy and environmental impacts considered.
2. a) (In cases where a procurement procedure is applied) Using the energy and environmental impacts as award criteria. The Directive does not specify the weighting that these award criteria should be given with respect to other award criteria, such as quality, cost, etc.
b) Monetising the energy and environmental impacts for inclusion in the purchasing decision (in which case the methodology set out in Article 6 of the Directive is to be used).

Article 8 requires the Commission to facilitate the exchange of best practice between Member States, whereas Article 10 sets out the requirements for reporting. These requirements state that it is the responsibility of the Commission to prepare monitoring reports every two years, starting from 4th December 2010.

Member States were required to transpose the Directive by 4th December 2010, as required by Article 11.

The detail of the Directive is very different from that originally proposed by the Commission. Indeed, the Commission produced an initial proposal in 2005 (COM (2005) 634⁹), which was then significantly revised by a 2007 proposal after the European Parliament had rejected the original version¹⁰. It was the 2007 proposal (COM (2007) 817¹¹) that eventually led to the Clean Vehicle Directive. The formulation of the options available to Member States when ensuring that energy and environmental impacts are taken into account in public purchasing decisions is significantly different between the two proposals. The 2005 version proposed that a quota of heavy duty vehicle purchases should be clean vehicles. The 2007 version adopted a different approach as it focused on the monetisation of the energy and environmental impacts as the means of taking account of these impacts in the purchase decision, although this did not preclude the use of other award criteria that were deemed to be necessary. The 2007 version also expanded the scope of the proposal to all vehicles procured by public authorities. Both proposals aimed for a technology-neutral approach in response to recommendations from the Council, Parliament and stakeholders, in order to allow the automotive industry the flexibility to respond to technical and economic developments.

The 2007 proposal noted that action on the procurement of clean and energy efficient vehicles was taking place in various countries and cities. However, it argued that EU level action was justified, as leaving the approach to cities and Member States would lead to a fragmentation of the internal market and prevent economies of scale, whereas the

⁹ Proposal for a Directive on the promotion of clean road transport vehicles, COM(2005) 634, 21.12.2005

¹⁰ <http://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&mode=XML&reference=A6-2006-232&language=EN>

¹¹ Revised proposal for a Directive on the promotion of clean road transport vehicles, COM(2007) 817, 19.12.2007

automotive industry operated within the EU market as a whole. Consequently, a harmonised approach (as noted above, the proposal only contained the monetisation option not the three options contained in the eventual Directive) would provide a more cost-effective framework for industry, while at the same time stimulating an EU-wide market for clean and energy efficient vehicles. This would also help to achieve economies of scale, as manufacturers would be able to provide similar vehicles throughout the EU, and therefore reduce the costs associated with cleaner and more energy efficient vehicles, as well as increasing the visibility of, and hopefully interest in, these vehicles on the part of the general public. The inclusion of the monetisation of lifetime costs in the Directive was in line with the recommendation of a 2007 High Level Group on competitiveness, energy and the environment, which had called for full lifetime costs to be taken account of in private and public procurement¹². The proposal to monetise the main external costs of transport was innovative, even though the commitment to internalise external costs had been a long-term objective of EU policy.

The expansion of the options available to public authorities in relation to the inclusion of energy and environmental impacts in the public procurement of clean and energy efficient vehicles was a result of discussions in the Council. This flexibility – allowing energy and environmental impacts to also be taken account of in procurement through technical specifications and award criteria – was considered important as it would allow public authorities and operators to use the options that best suited local environmental issues and priorities¹³.

The Clean Vehicle Directive is only one of several pieces of EU legislation that aim to contribute to addressing ongoing environmental challenges, particularly in relation to climate change and air quality, as well as well other objectives such as the need to improve energy security. There are Regulations that focus on ensuring that the average CO₂ emissions and fuel efficiency performance of new cars¹⁴ and vans¹⁵ on the market improves. Other Regulations require that all vehicles¹⁶ (or engines used in heavy duty vehicles¹⁷) do not exceed specified emission limit values for a range of air pollutants. All of these pieces of legislation focus on the supply-side. On the demand-side, there is a Directive that requires the provision of information on CO₂ emissions and fuel efficiency of new cars (i.e. M₁ vehicles) to consumers¹⁸, which will indirectly stimulate the market for low CO₂/more fuel efficient cars. The Clean Vehicle Directive is a further complementary demand-side measure that aims to stimulate the availability and market uptake of cleaner and more energy efficient road transport vehicles. This report is focused solely on the Clean Vehicle Directive and does not cover issues relevant to other complementary pieces of legislation.

1.1.2 The Clean Vehicle Portal

The Clean Vehicle Portal (CVP)¹⁹ is a web-based tool launched by the Commission at the end of 2010 to facilitate the implementation of Directive 2009/33/EC. The key objectives of the Portal have been identified as follows:

- To assist contracting authorities, contracting entities as well as certain operators for the discharge of public service obligations to take into account lifetime energy and environmental impacts of road transport vehicles, in accordance with the Clean Vehicle Directive, during procurement.
- To publicise the financial instruments available in the Member States for the promotion of clean and energy efficient road transport vehicles.

¹² COM(2007) 817

¹³ <http://www.europarl.europa.eu/oeil/popups/summary.do?id=1040117&t=e&l=en>

¹⁴ Regulation (EC) 443/2009 setting emission performance standards for new passenger cars

¹⁵ Regulation (EU) 510/2011 setting emission performance standards for light duty vehicles

¹⁶ Regulation 715/2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6)

¹⁷ Regulation 715/2009 on type approval of motor vehicles with respect to emissions from heavy duty vehicles (Euro VI)

¹⁸ Directive 1999/94; see <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:012:0016:0023:EN:PDF>

¹⁹ Clean Vehicle Portal: <http://www.cleanvehicle.eu/>

- To facilitate the exchange of knowledge and best practice between Member States on practices for promoting the purchase of clean and energy efficient road transport vehicles by contracting authorities, contracting entities and operators as well as other relevant stakeholders.

The key features of the portal are as follows:

- Online database showing environmental performance/lifetime costs of road vehicles (quarterly updating of data) including the following information and/or functionality:
 - Those vehicles listed in the annex to the Clean Vehicle Directive are covered by the existing portal; namely passenger cars (M₁); light commercial vehicles (N₁); heavy goods vehicles (N₂, N₃); and buses (M₂, M₃).
 - Ability to rank the performance of vehicles of the same fuel type, vehicles within a specific class, or vehicles of all classes.
 - Lifetime cost calculations for N₁/M₁ vehicle categories which have been based on standardised Community test procedures, providing representative data on energy consumption, CO₂ emissions, and pollutant emissions per kilometre. For categories N₂/N₃ and M₂/M₃ vehicles, the lifetime costs have been derived from industry test cycles.
- Largest online database/information base regarding the use of clean vehicles and existing supporting instruments in the EU (quarterly updating of information/data):
 - Information at the EU level – Including relevant policy and institutions.
 - Information at the Member State level – including status quo; fuelling infrastructure; national support instruments for clean vehicles; public procurement of clean vehicles; national information sources on clean vehicles; and links to important documents.
- Daily information regarding actual tenders for the procurement of vehicles in the EU.
- Daily news items regarding clean vehicles and environmentally friendly mobility.
- Active support and information exchange for organisations looking for clean vehicle information.

1.2 Report structure

The remainder of this report sets out our research findings on the implementation and impact of Directive 2009/33/EC in the following sections:

- **Section 2:** Implementation of the Clean Vehicle Directive in EU Member States (Task 1)
- **Section 3:** Directive support measures (Task 2)
- **Section 4:** Application of the Directive in procurement (Task 3)
- **Section 5:** Analysis of the impact of the Clean Vehicle Directive (Task 4)
- **Section 6:** Analysis of the take-up of the approach in private vehicle purchases (Task 5)
- **Section 7:** Analysis of the take-up of the approach in other sectors (Task 6)
- **Section 8:** Analysis of replications of the approach outside the EU (Task 7)
- **Section 9:** Conclusions and recommendations (Task 8)

1.3 Approach to the study

As mentioned earlier, this study was based on eight key tasks. Each of the tasks, and the methodology used, are described in more detail in this section. A number of methodological tools have been used across the tasks. These included the following:

- Online internet searches and literature review;
- Engagement with national authorities and other relevant stakeholders;

- Development of fiches for Member States;
- Case studies; and
- Analysis of engagement and results.

A number of factors were identified that have limited the experience of Member States in relation to the implementation and experience of the Clean Vehicle Directive, which have impacted on the ability of this study to collate comprehensive monitoring data/information. These include:

- By the time that this study began (in early 2012), Member States had, at most, one year's experience with the Directive (transposition of Directive due by December 2010).
- A number of Member States did not implement the Directive by the required date (see Section 2.2), hence these Member States have had less than one year's experience with the Directive, and at least ten only had around six months experience when the study began. Indeed, when the study began, four Member States had still not fully transposed the Directive (see below).
- Member State legislation generally does not apply retrospectively. Hence, the provisions of the Clean Vehicle Directive only apply to contracts for which the procurement process began after the national legislation had been put in place.
- Public sector budget cuts, in response to the ongoing financial crisis, might have delayed the ability of the relevant authorities, entities and operators to procure vehicles. Hence, there may have been fewer relevant contracts in 2011 than there might otherwise have been.

Another potential barrier to collating and assessing experience with the implementation of the Directive was that, as a result of the above factors, Member States will not have had much time to collate information themselves on the implementation of the Directive. Additionally, within the Directive, there is no requirement for Member States to collate and report on the implementation of the Directive (the responsibility of preparing bi-annual monitoring reports lies with the Commission as outlined in Article 10 - to which this report will contribute). As this study has progressed during the course of 2012, Member States have gained more experience with the implementation of the Directive. Where possible, experience gained in 2012 has been gathered and included within the project. Such considerations were taken on board in the design of the project, including the various methodological approaches used (see below).

Engagement with national authorities has been an important activity within the project. For all of the Tasks that have required engagement with national authorities, the relevant research and engagement has been undertaken at the same time, i.e. the necessary internet searches and contact with administrations have addressed all relevant tasks at the same time, rather than there being separate contact for each task. The engagement with national authorities has been used to identify the information on implementation and supporting actions, as well as suggestions for case studies which have provided information on the impact of the Directive (primarily Task 4). For each Member State, the information on national implementation and application has been collated into a Member State-specific fiche, which has separate parts corresponding to the findings of Tasks 1 to 3, respectively. We believe that such an approach has been a good way of ensuring comparative and comprehensive information was collected across all of the Member States (see Appendix 1 for a copy of the Member States fiche).

However, while national authorities have clearly been the source of some of the information of relevance to the project, such as national legislation and implementing provisions, there has not been much information available at the national level on the actual implementation of the Directive, particularly at such an early stage in its implementation. On the contrary, it has

been the case that the most useful information on the experience with the Directive that is of interest to the project has been found at the local and regional level. It was therefore important to contact some local and regional authorities. However, within the proposed project timescales, it was not possible to gather extensive information from a large number of local and regional administrations. In order to overcome this problem, a case study approach was used. Case studies were undertaken with selected city, local or regional authorities, other entities and operators. These case studies have focused on assessing the actual impact of the Clean Vehicle Directive on these authorities. In identifying the relevant contracting authorities, entities and operators, we have aimed to ensure that these represent different Member States and different types of authorities (e.g. city, regional), as far as is possible.

The case studies were identified by the following means:

- Internet searches;
- Engagement with Member States and relevant national stakeholders;
- Information from Commission sources, such as the Clean Vehicle Portal and any other information resulting from other means of exchanging best practice under Article 8 of the Directive; and
- Engagement with EU-level networks of authorities, such as Eurocities and ICLEI.

The importance of engaging with other stakeholders, both at the national and European levels, was also identified. For example, vehicle manufacturers and trade associations were contacted as part of Task 4 (analysis of the impact of the Directive) in order to provide information with respect to how the market has developed in response to the Directive and on private sector purchase decisions (Task 5), while EC Directorate Generals were able to provide information on the uptake of the approach in other sectors (Task 6) and other European/International stakeholders information on non-EU countries (Task 7).

All stakeholders were asked to either complete a short telephone interview, or to answer a set of questions electronically. The questions asked of each stakeholder are presented in Appendix 2.

In summary, the following methodological tools have been used to support the study:

- **Development of a fiche for each Member State.** Each fiche contains information gathered from the internet, as well as from the engagement with Member State authorities. In this respect, the fiches contain information on the findings from a number of tasks, particularly Tasks 1, 2 and 3 (although information from all tasks is also included).
- **Development of case studies.** Different case studies have been used to illustrate positive and negative experiences with the implementation of the Directive. Case study cities included the following:
 - Barcelona, Spain;
 - Bologna, Italy;
 - Copenhagen, Denmark;
 - Gent, Belgium;
 - Hamburg, Germany;
 - London, UK;
 - Romanian public transport operators;
 - Stockholm, Sweden;
 - Slovenian national public procurement agency; and
 - Zagreb, Croatia.

Table 1.1: Stakeholders contacted as part of the project

Group	Stakeholder
Member States	Representative from each of the 27 EU Member States responsible for the transposition and implementation of the Directive – usually in Transport or public procurement ministry
Vehicle Manufacturers	Toyota (cars and vans) VW (cars and vans) Ford (cars and vans) PSA (cars and vans) Fiat (cars and vans) Scania (HDVs and buses) Iveco/Irisbus (HDVs and buses) Alexander Dennis (buses)
Users, environmental groups	International Association of Public Transport (UITP) Transport and Environment (T&E) International Automobile Federation (FIA) International Road Transport Union (IRU) European Consumers' Organisation (BEUC)
Industry groups	European Automobile Manufacturers' Association (ACEA) Japan Automobile Manufacturers' Association (JAMA) Korean Automobile Manufacturers' Association (KAMA) European Federation of Leasing Company Associations (LeaseEurope) European Association of Automotive Suppliers (CLEPA) European Council for Motor Trades and Repairers (CECRA)
City networks	Council of European Municipalities and Regions (CEMR) European Metropolitan Transport Authorities (EMTA) POLIS Local Governments for Sustainability (ICLEI) European Sustainable Cities and Towns Campaign Eurocities
EC Directorate Generals	DG Environment (DG ENV) DG Energy (DG ENER) DG Research and Innovation (DG RTD) DG Climate Action (DG CLIMA) DG Internal Market and Services (DG MARKT) DG Communications Networks, Content and Technology (DG INFSO/CONNECT) DG Health and Consumers (DG SANCO) Executive Agency for Competitiveness and Innovation (EACI)

- **Engagement with other European and national stakeholders.** Such engagement is directly relevant to a number of tasks, and has been a source of identifying case studies. Stakeholders contacted are identified in Table 1.1.

Work on many of the tasks was undertaken in parallel using similar methodological tools. A summary of the methods that have been used for each Task can be found in Table 1.2.

Table 1.2: Mapping tasks to methodological tools

Task	Methodological tool					
	Internet search, literature review	Contact with national authorities	Develop fiches	Case studies	Contact with other stakeholders	Analysis
1. Analysis of MS implementation	X	X	X			X
2. Analysis of MS supporting actions	X	X	X			X
3. Analysis of application in procurement		X	X	X	X (city networks, operators; EU stakeholders)	X
4. Analysis of the impact		X		X	X (manufacturers; EU stakeholders)	X
5. Analysis of take-up of approach for private vehicle purchases	X	X			X (EU stakeholders: national automobile associations, energy agencies, fleet operators)	X
6. Analysis of take-up of the approach in other sectors	X	X			X (EC DGs)	
7. Analysis of take-up of the approach outside of the EU	X	X			X (EU stakeholders)	X
8. Assessment of possible needs for adjustment and further actions						X

2 Implementation and application of the Clean Vehicle Directive in EU Member States

Tasks 1 to 3 of this study focused on analysis of the implementation of the Directive by the Member States (this section); analysis of other supporting actions by Member States (see Section 3); and analysis of the application of the Directive in procurement (see Section 4). Data collection for these three tasks was undertaken at the same time through the completion of Member State (MS) fiches (see Appendix 1 and 3). In order to complete the MS fiches, internet/relevant literature searches were initially performed to identify as much of the required information as possible. This was followed by members of the study team identifying and contacting relevant national ministries (transport, environment, public procurement ministries etc.) in each of the 27 EU Member States to complete a short interview/questionnaire to answer any remaining questions.

2.1 Implementing legislation

The purpose of this task was to document and analyse the implementation of the Clean Vehicle Directive in each of the 27 EU Member States. Information has been obtained from a number of online sources and then verified with national representatives responsible for transposing and implementing the Directive in Member States. Table 2.1 provides a summary of the implementation of the Directive in the Member States, including the main transposing legislation; the nature of the legislation (i.e. new legislation, amendment to existing legislation); date of legislation (including date of entry into force, date to which it applies to procurement if different etc.); other supporting legislation required; and whether the Member State has produced any guidance documents to accompany the national legislation.

Table 2.1: Implementation of the Directive in EU Member States

Member State	Main transposing legislation	Nature of legislation (e.g. new, amendment to existing)	Date of legislation (including date of entry into force and date to which it applies to procurement process if different)	Other legislation required to implement	Guidance documents
Austria	Austrian Federal Public Procurement Law 2006	Amendment to Austrian Federal Public Procurement Law 2006 (Bundesvergabegesetz, 206)	Published 4 th March 2010 (came into force 5 th March 2010). Article 3(b) transposed and published 16 th February 2012 (came into force 1 st April 2012)	No	Explanatory notes – includes reflections on impacts of transposing the Directive (financial impacts, economic impacts, administrative costs, anticipated environmental impacts). Details/ explanations of the changes and implementation/application of the legislation.
Belgium	<p><i>At the federal level:</i></p> <p><i>Royal Decree on the promotion of clean road transport vehicles and energy in the context of public procurement, No. 2010/21131.</i></p> <p><i>Regional level: Decree of the Government of the Brussels-Capital Region on the introduction of vehicles more environmentally friendly fleets in the regional authorities</i></p> <p><i>Decree of the Walloon Government transposing 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</i></p>	New legislation	20 th December 2010 (entered into force 15 th January 2011).	No	"Explanatory note on the application of the Royal Decree of 20 December 2010 on the promotion of clean road transport and energy within the framework of public procurement", "Federal Circular 307 relative to the acquisition of vehicles for those services of state agencies and certain public interest".

Member State	Main transposing legislation	Nature of legislation (e.g. new, amendment to existing)	Date of legislation (including date of entry into force and date to which it applies to procurement process if different)	Other legislation required to implement	Guidance documents
Bulgaria	Ordinance No. H-3 on determination of the methodology for calculation of energy consumption costs, carbon dioxide emissions, nitrogen oxide emissions, non-methane hydrocarbons and particulate matter during the whole operational lifetime of vehicles. Public procurement law.	Amendment to the Public procurement law (Article 26 of 2011 amendment), and an agreement on a common Bulgarian methodology for calculations and to extend the scope of the regulations to passenger cars.	29 th March 2011	No	N/A
Cyprus	Law providing for the award of public works contracts and services and related matters / Law providing for the award of public works contracts and services in the water, energy, transport and postal services and related matters	Amendment to existing legislation	23 rd March 2011	No	N/A
Czech Republic	Act on Public Procurement	Amendment to the Act on Public Procurement through addition of new provision.	18 th May 2010 (15 th September 2010)	Government Regulations on means of determination of specific technical conditions for purpose of PPA.	N/A
Denmark	Bekendtgørelse nr. 1394 af 14. december 2010 om miljøbevidste indkøb af køretøjer til vejtransport (Environmental Awareness surrounding purchase of vehicles)	Amendment to existing legislation 'Bekendtgørelse af lov om miljøbeskyttelse' nr 876; 26/06/10 which relates to a law covering environmental protection components which are superseded	14 th December 2010	Yes – Addition to the Environmental Protection Act, which gave legal basis to the Minister of Environment was needed in order to implement the Clean Vehicle Directive	The Environmental Ministry has a section on its website outlining the requirements of the Danish Legislation nr 1394

Member State	Main transposing legislation	Nature of legislation (e.g. new, amendment to existing)	Date of legislation (including date of entry into force and date to which it applies to procurement process if different)	Other legislation required to implement	Guidance documents
		by the new 1394 legislation. Also note: Article 5 paragraph 3 in the Clean Vehicle Directive is made optional in the Administrative Order.			
Estonia	The Government Regulation Act	New legislation	27 th October 2011 (implemented) 4 th November 2011 (requirements came into force)	No	N/A
Finland	1509/2011 Decree on account of energy and environmental consequences for public procurement of vehicles	New legislation	29 December 2011 (1 st February 2012)	No	Online portal available to municipalities where advice on the Clean Vehicle Directive can be accessed.
France	Article 12 of 5 th January 2011 Decree 011-493 of 5 th May 2011 on considering the energy and environmental impact of motor vehicles in public procurement procedures. Order of 5 th May 2011 relating to the terms reflected in the Decree on the energy and environmental impact of motor vehicles in public procurement procedures.	Partially updated legislation	5 th January 2011 (6 th May 2011)	No	"Guide to the public procurement of road transport vehicles", July 2012
Germany	Public Procurement Regulation	Amendment of existing regulation	May 2011	No	N/A
Greece	Legal Act 3982/11 Promoting clean and energy efficient road	New legislation	17 th June 2011	No	Implementation letter (circular)

Member State	Main transposing legislation	Nature of legislation (e.g. new, amendment to existing)	Date of legislation (including date of entry into force and date to which it applies to procurement process if different)	Other legislation required to implement	Guidance documents
	transport vehicles				30/01/2012
Hungary	48/2011 (III.30.) Government Regulation on the promotion of the purchase of environmentally friendly and energy-efficient road transport vehicles	New legislation	30 th March 2011	Legal Act – Concordance table	Guidance has been prepared by KTI (Hungarian Institute for Transport Sciences)
Ireland	Statutory Instrument no. 339 of 2011. European Communities (clean and Energy-Efficient Road Transport Vehicles (Regulations 2011.	New legislation	30 th June 2011	No	Short summary material was circulated to public sector procurers.
Italy	Implementation of Directive 2009/33/EC on the promotion of vehicles with reduced environmental impact and energy efficient road transport. (Decreto legislativo, no. 24; Gazzetta Ufficiale della Repubblica Italiana, no. 68. 24/03/2011.)	New legislation	24 th March 2011	Community Law n.96, June 4th, 2010 (Legge del 4 giugno 2010 n. 96)	Updated Green Public Procurement National Action Plan
Latvia	Not completely transposed into national legislative acts – only for the subjects mentioned in Article 3(a). At the moment amendments to the Law on Public Transport Services transposing Directive 2009/33/EC as for the subjects mentioned in Article 3(b) are ready and are being moved through the Cabinet of Ministers. It is planned that these	1. – amendments to existing legislation – Public Procurement Law. 2. – new legislation. 3. – new legislation, subordinate legislative act to those in points 1 and 2.	1. – on June 15, 2010. 2. – on September 4, 2010. 3. – on January 6, 2011. (Came into force: 1 and 2 – on December 4, 2010, but provisions could actually be applied only from January 6, 2011 when the regulations in point 3 came into force)	No	“Explanatory Note on how to Apply Article 46 of the Public Procurement Law and Article 19 of the Law on the Procurement of Public Service Providers and how to Apply the Methodology for Calculation of Road Transport Vehicle Lifetime Costs in Procurement Processes” Presentation “Application of Specific Regulations to

Member State	Main transposing legislation	Nature of legislation (e.g. new, amendment to existing)	Date of legislation (including date of entry into force and date to which it applies to procurement process if different)	Other legislation required to implement	Guidance documents
	<p>amendments could be adopted by the Parliament and come into force by the end of 2012.</p> <p>Article 3.(a) of Directive 2009/33/EC was transposed in the following legal acts:</p> <ol style="list-style-type: none"> 1. Law "Amendments to the Public Procurement Law" (see Article 18 that added Article 461 to the Public Procurement Law (law transposing Directive 2004/18/EC)), adopted on May 20, 2010; 2. Law on the Procurement of Public Service Providers (see Article 19) (law transposing Directive 2004/17/EC), adopted on August 25, 2010; 3. Regulation of the Cabinet of Ministers No 1184 "Regulation on Categories of Road Transport Vehicles Subject to Special Procurement Requirements and Methodology for Calculation of Road Transport Vehicle Lifetime Costs", adopted on December 21, 2010. 				Procurements in the Field of Road Transport"
Lithuania	Order number 3-100 of the Minister of Transport and Communications on regulations	Amendment to existing legislation (Public Procurement Act)	21 st February 2011 (25 th February 2011)	No	N/A

Member State	Main transposing legislation	Nature of legislation (e.g. new, amendment to existing)	Date of legislation (including date of entry into force and date to which it applies to procurement process if different)	Other legislation required to implement	Guidance documents
	for the procurement of vehicles for or by public authorities; Amendment to Public Procurement Act.				
Luxembourg	Grand Ducal Regulation of 17 th June 2011 on the promotion of clean road transport vehicles and energy.	New legislation, and modified law on public procurement to accommodate new Directive's requirements.	17 June 2011 (22 June 2011)	No	N/A
Malta	Financial Administration and Audit Act. LN. 175 of 2011. Cleaner and more energy efficient road transport regulations 2011.	New legislation	6 th May 2011	No	Malta has adopted a Green Public Procurement National Action Plan, setting out GPP targets for key product groups. Vehicles are among the plan's priority product/service group.
Netherlands	Promotion of the purchase of clean and energy efficient vehicles	New legislation	1 st June 2011	STB 13998, amendment to the Environmental Management Act (Wet milieubeheer) – Article I, D.	Not yet – plans to publish manual providing information about the regulation and examples of calculation costs.
Poland	Law on Public Transport - within which art 21 refers to public procurement vehicles Legal act: Act number: 2011/5/13; Official Journal of laws no 2011/5/13Reference: (MNE(2011)50188)	New legislation	16 th December 2010 (1 st March 2011 – entered into force, 25 th May 2011 – applies to procurement processes)	No	Tender evaluation criteria in public contracts – examples and application (2011); non-price tender evaluation criteria in contract award procedures (2011)
Portugal	Ministry of Transport and Public Works, Transport and Communications Decree-Law no. 140/2010 promotion of clean and energy efficient road transport.	New legislation	29 th December 2010	No	National Energy Strategy (ENE 2020).

Member State	Main transposing legislation	Nature of legislation (e.g. new, amendment to existing)	Date of legislation (including date of entry into force and date to which it applies to procurement process if different)	Other legislation required to implement	Guidance documents
Romania	Emergency Order Number 40. Official Gazette, Part 1, n 307	New legislation	20 th April 2011	No	Yes – guidance available online
Slovakia	158/2011 Coll. Of Laws on Public Procurement	Amendment of existing legislation	19th May 2011 (15 th June 2011)	Act no. 25/2006 Coll. Of Laws on Public Procurement; Act No. 168/1996 Coll. Of Laws on Road Transportation	N/A
Slovenia	Decree on Green Public Procurement (Official Gazette no. 102/11 and 18/12)	New legislation	8 th December 2011 (14 th March 2012)	No	N/A
Spain	Law 2/2011	New legislation	6 th March 2011	No	N/A
Sweden	Legislation regarding the environmental requirements for the procurement of cars and certain public transport services (SFS 2011:846)	New legislation	17 th June 2011 (1 st July 2011)	No	Yes, online guidance provided. Regulation SFS 2011:847, regulation providing guidance on how the legislation SFS 2011:846 should be followed.
UK	The Cleaner Road Transport Vehicles Regulation 2011. Statutory Instrument (SI): 2011 No. 1631. New legislation (Also: The Cleaner Road Transport Vehicles (Scotland) Regulations 2010, Scottish Statutory Instrument 2010 No. 390, entry in to force 04/12/2010; Gibraltar Gazette Extraordinary, Gibraltar Regulations, Government Notice No. 1631, publication date 12/04/2011, entry into force 12/04/2011), and Environment (Promotion of Clean and Energy-	New legislation	30 th June 2011 (31 st July 2011)	No	Guidelines for the Promotion of Clean and Energy Efficient Road Transport Vehicles (August 2011)

Member State	Main transposing legislation	Nature of legislation (e.g. new, amendment to existing)	Date of legislation (including date of entry into force and date to which it applies to procurement process if different)	Other legislation required to implement	Guidance documents
	Efficient Road Transport Vehicles) Gibraltar Regulations 2011 (publication date 12/04/2011, entry into force 12/04/2011)				

2.2 Entry into force of transposing legislation

The deadline for transposing the Directive into national legislation by Member States was 4th December 2010 (Article 11). Only three Member States met this deadline: the Czech Republic (September 2010), Denmark and Portugal (both December 2010). Table 2.2 summarises the Member States' transposition of the Directive along with the actions taken by the Commission regarding those Member States that failed to transpose the Directive by the deadline.

On 27th January 2011, 13 EU Member States received a formal letter of notice from the Commission due to the absence of a communication of national measures concerning the Directive to the Commission, thus suggesting that transposition might not be complete. These Member States included Belgium, Germany, Spain, Finland, France, Italy, Cyprus, Lithuania, Hungary, Malta, Netherlands, Poland and Romania.

Nearly five months later on the 16th June 2011, the Commission requested that 10 Member States (Austria, Bulgaria, Estonia, Greece, Ireland, Luxembourg, Slovenia, Slovakia, Sweden and the United Kingdom) implement Directive 2009/33/EC. This request took the form of a reasoned opinion under EU infringement procedures. Those failing to comply with this request within two months were to be referred to the EU Court of Justice.

A further reasoned opinion was sent to Finland on 25th November 2011 due to the absence of measures relating to the Province of Åland (measures had been adopted in mainland Finland). Finland indicated that it expected that the Directive would be fully adopted in June 2012. However, on the 22nd March 2012 the Commission decided to refer Finland to the EU's Court of Justice for failing to fully implement the Directive. The Commission asked that the Court impose a daily penalty payment of €13,277.25 until the adoption of all the necessary measures for a complete transposition. Legislation was fully in force in Finland (including the Province of Åland) by April 2012, so the case did not eventually come to court.

Although Latvia transposed the Directive in January 2011 for those entities covered by Article 3(a) (contracts for the purchase of road transport vehicles by contracting authorities and contracting entities), they are still in the process of transposing the Directive so that it applies to contracts for the purchase of road transport vehicles by public transport operators (Article 3(b)). It is anticipated that full transposition will be completed by the end of 2012.

Table 2.2: Member States' transposition and action taken by Commission regarding late transposition of Directive 2009/33/EC into national legislation

	Member State	Month legislation entered into force	Action taken by Commission
Deadline – 4 th December 2010	Czech Republic Denmark, Portugal	September 2010 December 2010	N/A
2011	Lithuania Bulgaria, Cyprus, Hungary, Italy, Spain Romania France, Germany, Poland, Malta	February 2011 March 2011 April 2011 May 2011	27.01.11 – Formal letter of 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)
	Greece, Ireland, Luxembourg, Netherlands, Slovakia, Sweden	June 2011	16.06.11 – Reasoned opinion sent to 10 EU Member States (Austria, Bulgaria, Estonia, Greece, Ireland, Luxembourg, Slovenia, Slovakia,

	Member State	Month legislation entered into force	Action taken by Commission
	UK	July 2011	Sweden and the United Kingdom)
	Belgium, Estonia	October 2011	25.11.11 – Reasoned opinion sent to Finland due to absence of measures relating to the Province of Åland
2012	Austria	February 2012	22.03.12 – Commission decision to refer Finland to EU's Court of Justice
	Slovenia	March 2012	
	Finland	April 2012	
	Latvia	End of 2012 (planned)	

2.3 Experience of transposing the Directive into national legislation

During the course of this study, Member States were asked about issues regarding the transposition process, including why they took the approach that they did (particularly referring to the approach to transposing Article 5(3)), and whether they experienced any problems transposing the Directive (e.g. lack of clarity of any of the provisions etc.). These views are explored in more detail in the following section. Not all Member States provided answers for these questions.

2.3.1 Additional actions taken by Member States to support the transposition of the Directive

A number of the Member States have produced (or are planning to produce) some form of guidance (explanatory notes, guidance documents, guidance on a ministry website etc.) alongside the transposing legislation, including Austria, Denmark, Finland, France, Greece, Ireland, Italy, Netherlands, Poland, Portugal, Romania, Sweden and the UK. In the case of France, it was identified that guidance may be required due to the difficulty in measuring the effect of the Directive. France recognised that there is currently no standard approach to measure CO₂ from heavy duty vehicles (whilst there is for light duty vehicles) for such vehicles, and therefore a lack of labelling on emissions (CO₂ and other gases). As a result it is difficult to specify minimum emission requirements in procurement exercises for HDVs. The only instrument currently in place is to set the maximum level of emissions allowed. However there is no way to verify if a vehicle states that it is emitting just a percentage of the maximum permitted. The guidance therefore aims to provide assistance when procuring vehicles despite the lack of labelling, and was produced following requests by professionals and buyers. In Latvia, it was felt necessary to produce a set of guidelines (an Explanatory Note) for contracting authorities and public service providers, as it was anticipated that they would not have a clear vision of how to apply the new provisions due to their complexity. The presentation helps authorities to understand the reasons behind legislation and improve the way it is applied. Poland also decided that a guidance document was necessary, in particular for those who conduct public procurement from time to time in small public organisations. The guidance provided is part of wider guidance for "green procurement" covering a variety of products, so therefore does not solely concentrate on vehicles.

Finland had existing green public procurement processes (GPP) that had been in place for some time that help to work towards the targets set by the Fuel Quality Directive (FQD) and Renewable Energy Directive (RED). The Finnish government has therefore used the CVD to push existing procurement and environmental legislation further, rather than introduce new policies. The pre-existing public procurement policies were very complex, with 370 municipalities making purchases, and a wide range of departments/people making the

buying decisions. Finland has opted to introduce the CVD legislation in support of existing legislation and then gradually ramp up criteria over time (this information is not contained within the legal text but has been released in guidance on the Directive to municipalities).

Hungary opted to make some modifications to the Directive due to a perceived lack of clarity in some areas. Hungary aimed to incorporate the most relevant and important elements of the Directive, but has not transposed it exactly in order to fit better with Hungarian conditions.

Romania saw the CVD as a significant piece of new legislation. It was recognised that the vehicle fleet needed to be refreshed with older vehicles being replaced by newer vehicles. However, public authority contracting bodies have, in the past, generally relied on the least cost approach to procurement with the Ministry for Environment demonstrating environmental criteria in procurement. Therefore implementation of the CVD is seen as a way to start refreshing Romania's vehicle fleet.

Finally, in the UK a mandatory regulatory approach was chosen over voluntary agreements in procurement and dissemination of information to purchasing authorities in order to meet policy objectives and deliver the greatest net benefits relative to other options.

2.3.2 Issues/difficulties identified relating to transposing the Directive in Member States

The majority of Member States stated that they did not have any specific issues or problems with transposing the Directive into national legislation. However, a few issues were raised by a small number of Member States, which are discussed in more detail below.

The lack of guidance or best practice examples was cited by a number of the Member States. For example, a couple of Member States stated that it would have been useful to have more supporting materials available that provide good examples of what is being done elsewhere in Europe in relation to the implementation of the Directive, as the subject is relatively new. For this reason, Member States and practitioners are likely to have a lack of practice and knowledge in this area.

The majority of issues/difficulties raised, particularly by the new Member States, related to the application of the option 2b in Article 5(3), where energy and environmental impacts are monetised (see Section 4 for more details):

- The lack of energy consumption/CO₂ data (as a result of an absence of a defined standardised Community or national test procedures) for N₂, N₃, M₂ and M₃ road transport vehicles was also raised as an issue when considering the monetisation of impacts. Where data has been provided by manufacturers, it has not been done so using a common methodology/test cycle (as has not yet been developed), so results are not comparable in the light of public procurement principles of fair and equal treatment for economic operators. As an example, there is no unified methodology of converting data of the mass of pollutant emissions from g/kWh to g/km and the calculation is confirmed only with the statement from the manufacturer or even only the dealer itself. Therefore a relevant explanation and guidance is required for such vehicles.
- Additional problems are caused by certain provisions of Article 6, in particular the following statement:
 - “(a) The operational lifetime cost of the energy consumption of a vehicle shall be calculated using the following methodology:
 - A single monetary value per unit of energy shall be used. This single value shall be the lower of the cost per unit of energy of petrol or diesel before tax when used as a transport fuel, (...)”.

- It was unclear as to how to apply the Directive, especially the methodology for calculation of road transport vehicle lifetime costs, in situations when a road transport vehicle is offered in the procurement procedure that uses two types of energy source.

The following text in Article 3 (b) was also thought to be unclear:

“...in excess of a threshold which shall be defined by Member States not exceeding the threshold values as set out in Directives 2004/17/EC and 2004/18/EC”.

It was unclear as to whether methods for calculating the estimated value of public contracts defined in Directives 2004/17/EC and 2004/18/EC must be used in cases when the purchase of road transport vehicles is made in accordance with Article 3(b) of Directive 2009/33/EC.

Some Member States have identified ways in which to overcome issues encountered with transposition or implementation of the Directive. For example, Hungary has made a couple of modifications. Firstly, a minimum requirement of a 10% weighting towards environment in procurement decisions (e.g. for any procurement decision made, the procurer must take environment into account as at least 10% of the decision making process). Secondly, Hungary has made it obligatory for the purchaser to submit a detailed description of the procurement process, indicating the way it has been designed to consider the energy and environment aspects relating to the vehicle's lifetime. It is anticipated that the Hungarian Government will be able to use these reports to conclude whether the requirements of the Clean Vehicle Directive are sufficient enough, and if not, how and in what way they need to be changed.

Rather than issues relating to transposition, selected Member States identified issues relating to the practical implementation of the Directive. Such issues included accessing vehicle pollutant/emission data. Stakeholders suggested that in order to assist purchase decisions based on environmental criteria, complete data sheets on vehicle emissions should be made available on the Clean Vehicle Portal website in addition to the total lifetime cost.

In Slovenia, it took a while to understand the formula in the Directive for operational lifetime costs due to the different regimes regarding fuel prices in the case of gasoline compared to diesel. This factor introduced additional complications to the calculation formula and may cause problems for the contracting authorities during the application. For this reason the Decree on Green Public Procurement provides an exact formula, which is based on the provisions of the Directive.

In the UK no major problems were experienced. However, during the transposition process, the UK Government found that the Directive was ambiguous. The sheer range of options and depth of implementation meant that they could choose to implement legislation that required everything, or implement it in such a way that very little change to the current situation was required. The UK did note that finding the most economical way to implement the Directive/transposing legislation was difficult.

2.4 Summary and conclusions

The majority of Member States did not meet the transposition deadline of December 2010. All but one Member State has now fully transposed the Directive into national legislation. Three Member States only completed the transposition in early 2012, while Latvia has still not completed the process of completing transposition, as national legislation does not yet apply to those entities detailed in Article 3(b) of the Directive. It is anticipated that the Directive will be fully transposed in Latvia by the end of 2012.

In a number of cases, this process has involved amendments to existing public procurement acts, rather than new legislation. A number of Member States have also prepared, or intend to prepare guidance documents related to the implementation of the Directive.

A small number of Member States raised a few issues/difficulties regarding the transposition of the legislation, the majority of which related to Article 5(3), in particular to the

understanding and applicability of option 2b), relating to the monetisation of impacts. Some Member States considered that more guidance on applying the options under Article 5(3), such as worked examples, would help to overcome these problems. Member States also suggested that best practice examples of implementation of the Directive in other Member States would also be beneficial.

It is important to see the request for more guidance and good practice by some Member States in light of the desire in the Council for flexibility in the Directive in relation to the options that are provided under Article 5(3). The Commission originally proposed allowing only one option to include the energy and environmental impacts of vehicles in procurement – the monetisation option – whereas the Member States (in the Council) wanted flexibility for public authorities to apply the option that was best suited to their local environmental issues and priorities (see Section 1.1.1). While the monetisation approach may provide some challenges, the concept is relatively simple in that it requires that the “operational lifetime cost of the energy consumption of a vehicle shall be calculated by multiplying the lifetime mileage ... by the energy consumption per kilometre ... by the cost per unit of energy”²⁰. As noted above, some Member States have provided guidance on the implementation of the Directive in their countries; other Member States may have benefited from doing the same (see Sections 5.4 and 9.3).

As noted in Section 1.3, delays in the transposition of the Directive are one of the contributing factors that limit the experience with the Directive to date and have therefore provided challenges for the assessment of its impacts for the first monitoring report. The fact that some Member States only completed the transposition of the Directive less than 12 months before the monitoring report highlights the challenges in this respect. Further reflections on the timing and content of the first monitoring report are provided in Section 5.4.

²⁰ Third indent of Article 6(1)(a) of the Directive

3 Additional measures that support the objectives of the Directive

Many EU Member States have implemented measures prior to the introduction of, or supporting the implementation of, the Clean Vehicle Directive. These aim to stimulate the public procurement of clean and energy efficient road vehicles. Such actions are focused on the organisations that are targeted by the Directive itself, rather than the private sector or private individuals, although there is likely to be some overlap with other policies that target consumers and commercial vehicle operators. Task 2 was focused on exploring these 'supporting measures' that have been implemented in EU Member States, and where possible, the anticipated or actual impact that such measures have had on the market development of clean and energy efficient vehicles. Supporting measures considered include:

- Programmes of support/fiscal incentives for the purchase of vehicles;
- Programmes of support/fiscal incentives for the development of infrastructure;
- Local access restrictions;
- Local demand management instruments;
- National, regional or local vehicle taxation; and
- Other supporting measures.

The information presented in this section was collated from Member States using the fiches presented in Appendix 1.

Whilst supporting measures were identified by Member States for the procurement of both public and private clean and energy efficient vehicles, the following sub-sections focus on those aimed primarily at the public sector. Full details of both public and private supporting measures can be found in the Member State fiche in Appendix 3.

3.1 Programmes of support/fiscal incentives for the purchase of vehicles

Programmes for support/fiscal incentives for the purchase of vehicles can help stimulate the purchase/up-take of clean and energy efficient vehicles through reducing the initial capital purchase costs incurred by the consumer. Whilst clean and energy efficient vehicles are typically cheaper to run in the operational phase of their ownership compared with their conventional counterparts, newer and alternative technologies/fuels often make the vehicles themselves more expensive to purchase in the first instance. Table 3.1 provides an overview of the programmes of support and fiscal incentives that have been provided by Member States for the purchase of vehicles.

Table 3.1: Supporting measures - Programmes of support/fiscal incentives for the purchase of vehicles

Member State	Details
Bulgaria	The Bulgarian Government announced plans to bring in measures to encourage domestic sales of electric vehicles. The planned incentives include tax breaks and free parking for electric vehicle owners. Investment in charging infrastructure and the production of parts and components will also be encouraged. There are currently 1,100 EVs registered in Bulgaria, and just ten charging stations, of which nine are located in

Member State	Details
	<p>the capital Sofia.</p> <p>A programme was introduced by the Sofia Municipality (1989) to support the uptake of natural gas vehicles, including the introduction of LPG and CNG into the bus fleet. The programme was carried out by the municipal company Sofia Autotransport EAD, with co-financing by the Bulgarian Ministry of Environment and Waters. The programme was implemented through a number of projects, including conversion of diesel engines to run on methane, purchase of new methane-fuelled buses, construction of natural gas distribution pipelines and compressor stations. There were 55 buses operating on diesel-methane and 13 buses operating on methane. In 2008, the use of these buses operating using cleaner fuels resulted in a reduced annual consumption of conventional fuel by 4.53%. Other support measures in place are EBRD/privately funded or funded by another organisation.</p> <p>There are different EU operational programmes for Bulgaria all managed by national institutions which in principle can be used for funding the purchase of environmentally friendly vehicles. The Operational Programme Regional Development is related to the European Reconstruction and Development Fund (ERDF) with an overall budget of €1.3 billion and has under Priority 1 / Operation 1.5 Sustainable Urban Transport System the target of increasing the use of renewable transport sources (co-financing volume of the ERDF is 85%).</p>
Denmark	<p>From 2008-2012 the Danish Energy Agency offered support (totalling €3.4m) for the testing and procurement of electric vehicles. The support was based on applications for funding and was open to public authorities as well as private companies. During the period 2009-2013 the Danish Transport Authority is offering support to "energy efficient transport solutions" (total approx. €24,160m), which may include support to the purchase of clean and energy efficient vehicles.</p>
Romania	<p>The Environment Operation Programme has made a budget of about €4.5 billion available. In Romania, the fund is managed by the Romanian Ministry of Environment and Sustainable Development allowing (among others) the acquisition of new waste transport vehicles by local authorities. The aim of this action is to encourage the introduction of the best available technology for SO₂, NO_x and dust reduction. There is a 95% financing of investments by EU funds and a 2-5% local co-financing obligation.</p>
Spain	<p>One of the basic measures of the Action Plan for energy saving and efficiency of Spain's 2008-2012 Energy Saving and Efficiency Strategy²¹ ("E4") is the promotion of the purchase of more energy-efficient vehicles through public incentives for acquisition. Through IDAE and their agreements with the autonomous communities, aid for the acquisition of electric, hybrid vehicles and gas (LPG/CNG, hybrids and BEVs) has been provided. IDAE is also supporting the renewal of transport fleets with more efficient vehicles through the channel of financing (leasing). In the period 2006 to 2011, €56m has been spent on these initiatives, supplying over 18,000 cleaner vehicles in the public sector (cars and commercial vehicles). Since the strategy was introduced, Spain has seen a consistent decrease in average CO₂ emissions from vehicles.</p>
UK	<p>In 2007, the Low Carbon Vehicle Public Procurement Programme (LCVPPP) was set up by the UK Department for Transport to help stimulate the market for lower carbon vans through procurement in the public sector. Funding of up to €2.1m became available after November 2011, which can be used by any public fleet buyers to purchase a further 500 vehicles (up to €4,249 per vehicle). Transport Scotland has also funded a procurement scheme to enable vehicle users to access grant assistance to buy low carbon vehicles. Similar schemes in Scotland have included the Electric Vehicle Procurement Support Scheme, where funding enabled local authorities and their partners to bridge the gap between the cost of petrol or diesel powered vehicles and their electric powered equivalents as well as to install charging points on public sector owned land to support the vehicles.</p>

²¹ Estrategia de Ahorro y Eficiencia Energética en España

3.2 Programmes of support/fiscal incentives for the development of infrastructure

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. However, it is fleet vehicles that are perhaps most suited to the majority of alternative fuels technologies, as they often return to a depot on a regular basis, where refuelling can take place. The provision of refuelling/recharging infrastructure varies greatly between and within Member States. It is expensive to install, so investors need to be sure of adequate usage. However, consumers need to be assured that adequate provision of infrastructure is provided before they invest in vehicles that use alternative fuels/technologies. Table 3.2 provides an overview of the programmes of support and fiscal measures that are available in Member States for the development of infrastructure.

Table 3.2: Supporting measures - Programmes of support/fiscal incentives for the development of infrastructure

Member State	Details
Bulgaria	See details in Table 3.1.
Denmark	Support for public transportation in the peripheral areas of Denmark was €88.5 million in 2009 and is estimated to be €57 million in each of the years 2013-2017.
Spain	Amongst the supporting measures of the Action Plan for the Energy Saving and Efficiency Strategy (PAE) 2008-2012, public incentives have been provided in Spain for the development of infrastructure for recharging of LPG/CNG and H ₂ , and networks of recharging points for plug-in and electric vehicles.
UK	Plugged in Places is a scheme part-funded by the Technology Strategy Board (TSB). It has over €62m of funding to support the building of charging infrastructure in eight locations throughout the UK. The infrastructure developments are led by consortia and three of them are led by the public sector. In addition, a toolkit to provide guidance on the development of public and workplace recharging infrastructure in the UK was launched at the end of July 2011, as part of the European funded ENEVATE project.

3.3 Local access restrictions

Local access restrictions for vehicles can be introduced for a variety of reasons, including safety and environmental (including air pollutant and GHG emissions, noise, etc.) concerns. Where access restrictions are in place, vehicles will usually have to adhere to a required standard/emissions level or other criteria to continue to gain entry. Therefore, those still requiring access to the restricted areas will have to ensure that their vehicles meet the required criteria, which can include replacing public fleet vehicles. So whilst aiming to improve environmental conditions in a localised area, the impacts may also become more widespread if the uptake of clean and energy efficient vehicles is stimulated as a result. Table 3.3 provides an overview of local access restrictions in place in Member States.

Table 3.3: Supporting measures - Local access restrictions

Member State	Details
Denmark	Low emission zones have been established for heavy duty vehicles in the four largest cities in Denmark: Copenhagen (1 September 2008), Aalborg (1 February 2009) Odense (1 July 2010) and Aarhus (1 September 2010). To access the low emission zone, heavy duty vehicles have to comply with Euro IV or Euro V standards. Older vehicles are allowed to access these zones if they are equipped with filters which reduce

Member State	Details
	particulate emissions by more than 80%.
Finland	Although there is currently no evidence of any Finnish Low Emission Zones (LEZs), access for HGVs has been restricted in Helsinki. However, this is less environmentally motivated (although has environmental benefits) but rather motivated by access/congestion and health and safety considerations.
France	A trial action recently started in 2012 for three years in France. 'Zones d'actions prioritaires pour l'air' (ZAPA) (Priority action Zones for Air) are to be trialled in Aix en Provence, Bordeaux, Clermont, Grenoble, Lyon, Nice, Paris and Saint Denis, which are cities suffering from excessive air pollution from vehicles. Entry criteria have been set by a decree which means that certain vehicles with high emissions (in particular older models) are banned from the roads. However, it is up to the local authorities to decide which criteria to apply within their authority and whether it is a temporary measure (e.g. due to high pollution levels on certain summer days).
Germany	Various low emission zones have been introduced in German cities during the last few years. Low emission zones are identified by traffic signs and additional signs. The Thirty-fifth Ordinance on the Implementation of the Federal Emissions Control Act (Ordinance on the marking of vehicles) stipulates that vehicles have to be marked with stickers (on the windscreen inside the vehicle) and lays down the criteria vehicles have to meet for the different kinds of stickers. Stickers are valid for all low emission zones in any city in Germany.
Hungary	LEZs are currently being planned for Hungary. Access to certain parts of Budapest is currently limited for HGVs. Freight vehicles over 3.5 tonnes are obliged to pay a fee to enter Budapest, except to the destination traffic areas that provide access to the industrial and commercial areas. There is a 10% discount for lorries that meet Euro III standard, 30% for lorries meeting Euro IV standard, 50% for lorries meeting Euro V.
Poland	Restrictions on HDVs prohibiting them from entering the historic areas of certain Polish cities currently exist. Entry criteria are based on the size of the vehicles rather than level of emissions emitted. There is a high possibility that low emissions zones will be created in cities as an implementation of programmes for improving the local air quality (effect of CAFE initiative and directives on air quality).
Spain	Selected cities such as Valencia (old town) and Madrid's neighbourhood of Letras have certain traffic restrictions driven by environmental reasons.
UK	<p>The London LEZ requires that specific types of vehicles entering the zone meet stringent requirements. Originally introduced in 2008 to ensure that HGVs entering the zone meet strict air and emissions standards, the standards became more stringent in January 2012, applying to more vehicles - now Euro IV for PM for lorries over 3.5 tonnes GVW, buses and coaches over 5 tonnes GVW. Other vehicles such as larger vans, minivans and specialist diesel vehicles are required to meet Euro 3 for PM for larger vans weighing between 1.205 tonnes unladen to 3.5 tonnes gross vehicle weight, minibuses weighing 5 tonnes or less gross vehicle weight plus other specialist vehicles (includes many public vehicles such as snow ploughs, gritters, and other vehicles such as break down vehicles and horse boxes).</p> <p>From 2008 Norwich introduced an LEZ that applied restrictions to buses - requiring that they meet Euro III standards (with retrofitting allowed). The percentage of vehicles required to comply with the LEZ targets is dependent on the number of services offered by the bus company within the LEZ and the start/ end terminals of the bus service provider. Restrictions (weighted according to terminals) started at between 20% and 40% of vehicle fleet (operators who have services with a terminal point outside the defined LEZ area and with both terminal points within the area respectively) which had to meet specific Euro standards from April 2008, increasing to 50% and 100% of the vehicle fleet from April 2010.</p> <p>Oxford has also implemented an LEZ with public transport buses affected. Any public transport bus with a route into the city centre is affected and the Oxford LEZ also allows</p>

Member State	Details
	<p>retrofitting of NO_x and PM limiting devices. The agreement is currently voluntary and will become enforced if the voluntary agreement does not work.</p> <p>Impacts - Air Quality and Health Impact Assessments have been carried out on LEZs to determine the quantitative impacts of the zones. Air Quality assessments consider the effects on particulates in the air and health impacts assess the effects on human health from the introduction of LEZs (e.g. respiratory health). In addition, a Monitoring report was produced by Transport for London with regard to the stringent emissions restrictions in place within London. The report looked at the air and health impacts of an LEZ in addition to economic, financial and traffic impacts.</p>

3.4 Local demand measures

Local demand measures, such as congestion and road charging, parking restrictions and charges etc. are usually aimed at reducing traffic demand in built up and urban areas, where congestion, pollution, noise or safety are key concerns. These demand management measures which are focused on objectives related to reduced pollution or noise can help to stimulate the uptake of clean and energy efficient vehicles. Owners/users of clean and energy efficient vehicles may be eligible for benefits (e.g. financial) or increased access to certain areas compared to conventional vehicles. Table 3.4 provides an overview of local demand management measures in place in Member States.

Table 3.4: Supporting measures - Local demand management instruments

Member State	Details
Finland	<p>Parking benefits are available in Helsinki for low emission vehicles - from April 2011 onwards low emission vehicles can park for a 50% reduced fee. In order to obtain a discount, motorists pay for parking by mobile phone. The discount applies in the Helsinki public transport pay-parking zones, which all contain toll-ticket machines. Residents are also required to pay for parking, but may also benefit from the discounts available depending on vehicle owned/used. The discount applies to road use registered L5e category vehicles (tricycles), L6e category vehicles (light four-wheeler) and L7e category vehicles (four wheels). The emission criteria will be reviewed on a regular basis. According to the criteria set by the city, CO₂ emissions from gasoline and diesel vehicles (including hybrids) must be less than 100gCO₂/km, and the gas and ethanol cars must have CO₂ emissions below 150 gCO₂/km. In addition, the regulated emission levels of vehicles to be Euro 5 levels.</p>
Romania	<p>Tariffs are imposed on goods vehicles above a certain size for the use of road infrastructure in Romania. For all HGVs with a total authorised Gross Vehicle Weight (GVW) of more than 12 tonnes, the tariffs for the use of the road infrastructure shall be applied according to the number of axles of the vehicle and according to the emission of pollutants. For HGVs with GVW of less than 12 tonnes and for all passenger transport vehicles (irrespective of weight), tariffs for the use of the road infrastructure are applied according to the type of vehicle and to the polluting emissions.</p>
Spain	<p>An example of these new instruments in certain public fleets (or undertaking a public service) is the introduction of the energy label IDAE (Directive 1999/94) in the scales of assessment of public tenders. Municipalities such as Pamplona and Madrid (EUROTAXI), grant greater appreciation to those offerings that offer vehicles with an A label.</p>
UK	<p>The London Road User Congestion Charging Scheme applies charges to users of particular zones around London and incurs a £10 (€12) daily charge for driving a vehicle within the Congestion Charging zone, 7.00am to 6.00pm, Monday to Friday, excluding public and bank holidays. Once paid, road users can enter and leave zones as many times as required throughout the day. Zones are signposted and monitored using video</p>

	camera equipment that reads licence plates to automatically check against a registered vehicles database. 'Greener' vehicles (vehicles which emit 100g/CO ₂ or less and that meet Euro 5 standard) and electric and plug-in hybrid vehicles qualify for a 100% discount when entering the congestion charging zone.
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3.5 National, regional or local vehicle taxation

Many EU Member States currently impose vehicle-related taxes (purchase or annual operation taxes), often based on the environmental performance of a vehicle. Where higher taxes are required for the most polluting of vehicles, it is anticipated that consumers will attempt to identify and purchase vehicles that incur less tax. Where taxes based on environmental performance are in place, it makes financial sense to purchase cleaner and more energy efficient vehicles. Table 3.5 provides examples from the Member States where national, regional or local taxation is in place that may stimulate the uptake of more clean and energy efficient vehicles.

Table 3.5: Supporting measures - National, regional or local vehicle taxation

Member State	Details
Austria	According to the Austrian Car Registration Tax (Normverbrauchsabgabegesetz, BGBl 695/1991), different tax rates apply depending on the CO ₂ emissions performance of any car. A tax reduction ("bonus") applies, if the emissions of NO _x are below a certain threshold. Another reduction applies for hybrid cars. This law applies to all motorised vehicles used for passenger transport. The differentiation in the tax rates and the bonuses do not apply to motorcycles.
Denmark	Vehicle taxation favours energy efficient vehicles in Denmark. Furthermore, electric vehicles are exempt from registration tax for vehicles until 2015. Impact - The differentiation of the taxation of cars depending on fuel consumption has contributed to an increase in the fuel efficiency of the Danish car fleet. It is however difficult to distinguish the effect of the differentiated taxes from the general decrease in the fuel consumption of new cars which has been driven by EU actions and regulation.
Finland	According to the reform of the Finish Vehicle Tax Act from late 2007 there was a revision to the car tax levied on passenger cars upon registration (registration tax) and to the annual vehicle tax levied on all registered vehicles (circulation tax). The revision set the tax rates relative to the CO ₂ emission resulting from the vehicle's specific fuel consumption. Every gram of carbon dioxide affects the rate of tax. The registration tax rate must not be less than 12.2% and not more than a maximum of 48.8% (registration tax formula is 12.2% + (x g/km)*0.122 and 48.8% for >360 g/km CO ₂) of the car's value. For light buses (M ₂ class) a lump sum registration tax of 31.7% was set without specific CO ₂ taxation. For the van tax rate there is a reduction mechanism related to the vehicle's load capacity. Also the annual circulation tax is based on CO ₂ emissions performance and varies between €20 and €605. The Finnish Ministry of Transport and Communications notes that fiscal incentives may be adopted if this softer approach does not work. Decisions will be made on this in 2012 to help make environmental improvements. Impact - The results of car tax differentiation are reflected well in the statistics, with the CO ₂ emissions down 20% from 2007 figures.
Hungary	The yearly tax amounts are based on the engine performance and vehicle age for passenger cars and on the vehicle weight and environmental performance for buses and commercial vehicles. According to the Vehicle Tax Act LXXXII of 1991 a bus or commercial vehicle can reach a 20% to 50% tax benefit depending on its environmental performance. According to the Registration Act CX of 2003, taxes must be paid for the first registration of a passenger car in Hungary. There are fixed tax amounts based on the type of the motor, cylinder capacity and environmental performance.

Member State	Details
	There is a uniform VAT rate of 27% on the purchase of vehicles. There is a fuel excise tax on fuel of €0.448/litre for unleaded petrol and €0.368 for diesel. From July 2007 a full tax exemption was established for biofuels blended up to 4.4% of the volume of gasoline and from January 2008 this tax exemption also applies to 4.4% of biodiesel blended into diesel. Fuel distribution companies not complying with the 4.4% regulation will have an extra tax burden of €0.03/litre of fuel at the wholesale level. In addition, as of January 2007 the bioethanol component of E85 fuel is exempted from excise duty too.
Ireland	<p>Although not confined to the purchase of vehicles by public authorities or public transport operators, the purchase of cleaner and more energy efficient passenger cars has been incentivised in Ireland through the national vehicle registration tax (applied on initial registration of a vehicle) and annual motor tax rates payable to the local authorities since July 2008. Passenger cars are classified into bands based on the rate of CO₂ emissions per kilometre with the lowest emitting vehicles paying the lowest rate of vehicle registration tax and motor tax.</p> <p>Impact - The measure has proved very successful with over 90% of passenger cars purchased in 2011 fall into the first two bands (of 6) i.e. with CO₂ emissions of less than 140g/km. The net energy saving in Ireland from the EU technology measures and the taxation rebalancing combined are estimated at 2,424GWhours and 3,797GWhours in 2016 and 2020 respectively. The combined effect of EU emissions standards and the motor taxation rebalancing is an estimated saving of 35kt in 2010 in Ireland. The projected saving due to the combined impact of technology improvement and taxation rebalancing (compared to static emissions technology in the light vehicle fleet) rises to over per annum 850 kt in 2020.</p>
Latvia	Electric vehicles are exempt from national annual road transport vehicle operating tax (applicable to passenger cars, trucks, buses and motorcycles).
Netherlands	National purchase taxes are based on CO ₂ emissions performance.
Poland	There is a scheme run by Local Authorities in Poland to tax HGVs, which is based on the size/weight of the HGV. There is also on-going work led by the Ministry of the Economy to create eco-tax based on Euro Standards for vehicles. Current tax is fuel based and everybody who purchases fuel pays tax, this does not differentiate between users depending on emissions.
Romania	In Romania there is a uniform VAT rate of 19% on the purchase of vehicles. As defined in law no. 50/2008 the registration tax for vehicles is based on cylinder capacity, emissions on pollutants and CO ₂ in compliance with Euro emission standards (hence it is called car pollution tax). The tax calculation also includes a progressive factor with regard to the age of a vehicle. There is a 25% tax deduction for diesel cars with a particulate filter. Electric and hybrid cars are exempt from the registration tax. In response to the economic crisis in 2009, new cars registered between 15 December 2008 and 31 December 2009 are exempt from this tax if their engine capacity is below 2,000 cc (2.0 litres) and if they meet Euro 4 or 5 standards. The tax on ownership (circulation tax) which has to be annually paid for passenger cars depends on cylinder capacity and for commercial vehicles on weight as well as the number of axles. The tax is payable by any person that owns a vehicle and it operates as a local tax. The tax is payable at two points during each year: on 31 st March and on 30 th September. The tax rate for vehicles varies from €1.5 to €27 for each band of cylinder capacity of 200 cc or fraction of it in accordance with the capacity of the engine. Until 1 January 2011, pollution tax was also applied to Euro 5 vehicles. Excise duty is also payable on fuel of €0.336/litre and €0.284/litre for diesel (2012). The fuel excise tax for natural gas is about €0.275/m ³ . Biofuels are almost fully exempt from the excise tax (tax reduction of approximately 95%).
Slovenia	There are different tax schemes depending on the engine capacity of the vehicle (higher tax on powerful and usually more polluting vehicles).

Member State	Details
Spain	Since 2008, vehicle registration tax has been calculated using the official CO ₂ emissions approved in Spain (zero tax for vehicles with less than 120 gCO ₂ /km emissions). This change resulted in a major shift in the purchase of vehicles to more efficient models energy. Local councils have the power to implement reductions in the annual fee of the road tax of up to 75% for low-emission vehicles, as do cities such as Madrid, Barcelona, Seville, etc. with electric, hybrid vehicles and LPG/CNG.
UK	CO ₂ -based taxation whereby cars are banded according to CO ₂ emission (g/km) into categories ranging from Band A (below 100 gCO ₂ /km emission) down to M (over 255gCO ₂ /km). Annual charges range from €0 (band A) to £170 (€204) (band G - middle) to £455 (€569) (band M). Alternative fuelled cars are subject to marginally different price ranges depending on vehicle CO ₂ emission (g/km). Incentives do exist particularly for business purchases. Different rates also apply to poor performing vehicles in Year 1 (year of purchase) to act as a deterrent to purchase, i.e., a Band M car has a first year charge of £910 (€1,138), compared to subsequent charges of £455 (€569).

3.6 Other supporting measures

This section considers any further supporting measures that may have been implemented by Member States to stimulate the uptake of clean and energy efficient vehicles in the public sector. An overview of these actions is provided in Table 3.6.

Table 3.6: Other supporting actions

Member State	Details
Finland	<p>The Finnish Government funds the National Multi-disciplinary Framework Research and Implementation Program for green vehicle technologies and fuels (TransEco). The TransEco research programme (2009-2013) develops, demonstrates and commercialises technology for improved energy efficiency and reduced emissions in road transport. There are 20 individual projects related to vehicle technology, fuels, policy making and guidance, international cooperation and networking coordination, dissemination and communication. The main financiers are Tekes – the Finnish Funding Agency for Technology, the Ministry of Employment and the Economy, the Ministry of Transport and Communication with its agencies and VTT Technical Research Centre of Finland.</p> <p>The Finnish government has undertaken a study into the feasibility of EVs for Finland - with some of the following conclusions:</p> <ul style="list-style-type: none"> • Deploying incentives with care. Incentives that could be in conflict with the development of public transport and its relative competitiveness should be avoided. This group includes measures such as opening public transport lanes to electric vehicles and offering them parking benefits in city centres. Favoured incentives include efforts to link EVs with public transport systems in a sound manner. A practical example could be the integration of EVs in park-and-ride areas. • The public sector should, in the spirit of the EU directive on promotion of clean and energy-efficient vehicles, purchase and use electric vehicles. The same will apply to certain companies. The replacement of combustion engine vehicles serving productive functions with EVs would not increase the number of cars; a genuine transition from internal combustion engines to EVs would follow instead. It is easier to plan and predict the use of vehicles used in a public capacity, rather than private car use. Technological risks of vehicles used in a public capacity will concern companies and communities, rather than individual consumers. • Public funding could be used to establish a number of rental EVs, where individual consumers as well as companies can rent EVs at an affordable price in order to

Member State	Details
	familiarise themselves with the vehicle and evaluate it for a period of time, for example for one week.
Poland	<p>There is a system of fees in Poland for environmental pollution which creates the funds for local, regional and national authorities to be spent on activities for protecting the environment. The charges are different for different Euro standards. There are two ways in which fees are levied for environmental pollution from road transport vehicles: either by assessing details of fuel use or based on the amount of pollutants emitted. Typically, charges are calculated based on the amount of fuel consumed.</p> <p>"Electronic charges for every km driven on certain roads" - The charges depends on Euro standards e.g. a Euro V user pays half than a Euro II user. Therefore for the companies which use the roads very frequently it make great sense to upgrade their vehicles. This will save money for charges and will also save on fuel costs.</p>

3.7 Summary and conclusions

Whilst a number of activities and supporting activities which aim to stimulate the purchase of clean and energy efficient vehicles have been implemented or planned in a large number of Member States, few have been identified that are aimed specifically at public procurement processes.

Access restrictions, local demand management and vehicle taxation measures will no doubt have impacts on vehicles operated and purchased by public entities/public transport operators, but are more likely to encourage the purchase of clean and more energy efficient vehicles in the private sector.

Member States were asked about the impacts of supporting measures, but very few had undertaken specific assessments to determine the effect that such measures had on stimulating the procurement of clean and energy efficient vehicles.

Demonstration projects, such as those supported by CIVITAS, could potentially promote interest in clean and energy efficient vehicles for the public sector, particularly where benefits are realised. However, the provision of appropriate supporting infrastructure is going to be extremely important when trying to increase the uptake of particular clean and energy efficient technologies, for both public and private sector.

Consequently, in spite of the delays in transposing the Directive, many Member States have various actions in place that could *inter alia* stimulate the procurement and use of clean and energy efficient vehicles. While not necessarily directly targeting vehicles used by the public sector, public authorities may well have been stimulated to procure clean and energy efficient vehicles for the same reasons as other vehicle users as a result of actions such as access restrictions and incentives.

4 Application of the Directive in procurement

Task 3 was concerned with analysing the way in which the Clean Vehicle Directive has been applied in each Member State in procurement processes, with a particular emphasis on the approach taken with respect to the application of Article 5(3).

4.1 Implementation of Article 5(3)

The options presented in Article 5(3) were not in the Commission's original proposal for the Clean Vehicle Directive, and therefore this is the first opportunity for assessment of the potential effects of these options. The key aim is to discover whether flexibility in the Directive with regards to Article 5(3) is useful or not for industry (Member States are able to select which of the options to transpose or to transpose all of them into national legislation). The text of Article 5(3) is presented in Box 4-1.

Box 4-1: Directive 2009/33/EC – Article 5(3) – Purchase of clean and energy efficient road transport vehicles

1. Member States shall ensure that, from 4 December 2010, all contracting authorities, contracting entities and operators referred to in Article 3, when purchasing road transport vehicles, take into account the operational lifetime energy and environmental impacts as set out in paragraph 2 and apply at least one of the options set out in paragraph 3.
2. The operational energy and environmental impacts to be taken into account shall include at least the following:
 - a) energy consumption;
 - b) emissions of CO₂; and
 - c) emissions of NO_x, NMHC and particulate matter.
3. The requirements of paragraphs 1 and 2 shall be fulfilled in accordance with the following options:
 - a) By setting technical specifications for energy and environmental performance in the documentation for the purchase of road transport vehicles in each of the impacts considered, as well as any additional environmental impacts' [referred to as 'Option 1' in this report] or
 - b) By including energy and environmental impacts in the purchasing decision, whereby:
 - In cases where a procurement procedure is applied, this shall be done by using these impacts as award criteria, [referred to as 'Option 2a' in this report] and
 - In cases where these impacts are monetized for inclusion in the purchasing decision, the methodology set out in Article 6 shall be used [referred to as 'Option 2b' in this report].

From reviewing the Member States' transposing legislation and discussing with implementing authorities, it has been possible to identify which Member States have retained all of the options in the Directive, and where limited options are allowed. Engagement with Member States' authorities also revealed reasons behind the decision-making process regarding the transposition of Article 5(3). It has been important to understand whether each Member State prefers a particular option over the other in either its legislation or guidance in relation to the application of this article.

Table 4.1 provides an overview of how Article 5(3) has been implemented in each of the Member States.

Table 4.1: 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

The most common approach has been for Member States to retain all three options set out in Article 5(3). When discussing the reasons behind this decision with Member States, the most frequently cited reasons included:

- Enabling greater flexibility for the purchasing authority;
- Giving purchasing authorities the ability to use the options best suited to their procurement needs / the ability to select options according to their individual circumstances;
- Best reflects existing sustainable procurement policy within the Member State.

Although the Netherlands has allowed all options, communications regarding the implemented Directive focus on Option 2a (where energy and environmental impacts are used as award criteria) and Option 2b (where energy and environmental impacts are monetised). Hungary has also allowed all options, but originally wanted to restrict the transposed legislation to Option 2b (where energy and environmental impacts are monetised). However, this was felt not possible due to the lack of data about fuel consumption. Hungary anticipates reviewing this decision in one or two years.

For the Czech Republic, the decision to limit choice to between Options 1 and 2a was made based on what was in current legislation (which was subsequently amended when transposing Directive 2009/33/EC).

Slovenia has limited the choice to just Option 2a, where energy and environmental impacts are used as award criteria. This was, in their opinion, to simplify the procurement process. The technical specifications would have to be amended regularly, which creates additional work for the Ministry in charge of updating standards and other green public procurement criteria in the Decree, difficulties for the contracting authorities and uncertainty for the suppliers due to the frequent amendments of legislation.

None of the Member States have limited the choice to just Option 1 (technical specifications for the energy and environmental performance of vehicles) or Option 2b (where energy and environmental impacts are monetised).

In Italy, under a forthcoming decree detailing the Green Public Procurement National Action Plan, specific arrangements with regards to the available options will be chosen for different

categories of vehicles. For M1/N1 vehicles (i.e. cars and vans), Option 1 will apply, and for M2/M3 and N2/N3 vehicles (trucks and buses) Option 2 will apply.

4.2 Provision of guidance on options presented in Article 5(3)

A minority of Member States have produced guidance with respect to the options presented in Article 5(3). The Netherlands intends to include guidance within a forthcoming manual providing information on the transposed legislation. There are also criteria documents supporting the Dutch green Public Procurement Programme, in which an explanation of the Clean Vehicle Directive and how it should be used in procurement projects is provided. In Latvia information is included in an Explanatory Note and Presentation. Both documents state and explain the options on how to determine the requirements to evaluate the energy and environmental impacts. The Danish Ministry has an area of their website dedicated to the Clean Vehicle Directive, which provides details regarding the legislation, who is affected, what is required, euro class, energy class, particle filters, etc. Guidance for the environmental and energy requirements for vehicles and instructions on the calculation of economic costs associated with emissions is provided.

French guidance was published during summer 2012. The guidance document clarifies the scope of the obligation and the nature of the impacts that need to be considered. It then presents the different approaches that can be used to comply with the regulation, and compares each of them, highlighting the fact that the means for assessing the impact are not the same depending on the type of impact and the type of vehicles. Finally further guidance is provided regarding the method for Option 2b, monetization of impacts, which is illustrated by examples that will later be updated and supplemented to be used by potential public buyers and provide the appropriate monetary value to be applied.

A minority of Member States replied that they did provide some form of guidance on relative weightings to be given to the provisions of the Directive when procuring road transport vehicles related to Option 2a) where energy and environmental impacts are used as award criteria. The Danish website provides guidance for setting award criteria for a range of sectors, including transport/cars, in particular providing draft text that can be used and adapted by local entities. In Latvia information is included in the Explanatory Note and Presentation. Both documents give a brief explanation and examples on how to set the relative weighting to evaluate the energy and environmental impact. In the UK, guidance on weightings is again included in a general guidance document on the implementation of the legislation. In Hungary, it has been made a requirement to ensure that weighting for environmental criteria is at least 10%.

City level stakeholders were also asked about the weightings applied to environmental criteria when using Option 2a. In **Copenhagen**, tenders from Movia Public Transport place a 15% weighting on the environmental element, which includes CO₂ emissions, air pollution, eco-driving and eco-certified workshops. So far Movia Public Transport has had good experiences with using the weighting systems and feel that it is a good way of selecting the best tender. Although the city of **Bologna** is yet to use Option 2a, contacts pointed out that the Italian Ministry of Environment foresees a minimum of 15 points out of a total of 100 points for environmental criteria. In **Ghent** and **London**, only vehicles meeting a minimum environmental standard are procured. **Barcelona** includes emission costs in its estimation of the life cycle costs of vehicles. These life cycle costs are given a 30% weighting in the evaluation process.

4.3 Retaining options within Article 5(3) and possible amendments

Stakeholders (including Member States and city level contacts within selected Member States) were asked whether they had an opinion regarding whether all of the options presented in Article 5(3) should be retained in the Directive, and whether any of the options should be amended. Due to the limited experience that many Member States have had with applying the options in procurement practice, it was obviously quite difficult for conclusive answers to be provided at this stage.

The city level stakeholders that were contacted were asked which of the options they had used to date and to share their experiences. At the national level, Germany provided anecdotal evidence as to the options that are most commonly used by purchasing authorities (all options are currently allowed in Germany's transposed legislation), with Option 1 considered to be the most popular option, followed by Option 2a. It was noted that Option 2b was probably the least used, mainly due to its application/calculation issues. Contacts from the city of **Hamburg** supported this view, stating that to date they have only used Option 1, mainly due to its ease of applicability. In **Copenhagen**, all of the options have been used by Movia, the public transport authority, and they reported good experiences with each of them. **Bologna** has used Option 2a and 2b, but evidence relating to positive or negative experiences of the methods is not available yet as the first procurements using the new criteria will take place in autumn 2012. Slovenia has used the methodology for operational lifetime costs, although they found 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 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, it simply specifies the technology that the vehicle to be procured should have (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**, the Directive 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 confirm to the national definition of a clean vehicle (see Box 5-2). Representatives of these two cities 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**²², the **Romanian public transport operators** and **Zagreb** all specify the environmental standards with which vehicles to be purchased have to comply, while **Barcelona** estimates the life cycle costs of vehicle along with other factors (see Section 4.2).

The majority of Member States were of the opinion that all options should be retained in the Directive. This was largely due to the limited experience they have had with the Directive since it has been transposed within the individual Member States. Opinions were also due to the lack of assessments that had been undertaken to date to determine the impacts of the Directive, including on the market development of clean and energy efficient vehicles. Some Member States also pointed out that national systems can differ across the EU, so retaining the choice between options will be important so as not to disadvantage certain Member States.

With regards to whether any of the options should be amended, again Member States felt that limited experience with the Directive 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.

²² Vienna was not a case study, but did provide some information in response to a brief questionnaire.

4.4 Summary and conclusions

Twenty four Member States have retained all of the options presented in Article 5(3) when transposing the Directive into national legislation. The main reasons for this were enabling greater flexibility for the purchasing authority and giving the purchasing authority the ability to use the options best suited to their procurement needs/select options according to their individual circumstances. Where a Member State limited the choice of options open to public authorities, this was in order to be consistent with the existing approach or because the retained option was considered to be the simplest. Consequently, many Member States considered that the flexibility within the Directive was considered important in transposing the Directive, as the Council had anticipated when it introduced this flexibility into the Directive (see Section 1.1.1).

In Italy, a decision has been made to apply different options to different categories of vehicles, with technical specifications (Option 1) being allowed for cars and vans, whereas Option 2 is retained for buses and trucks. Given that information on CO₂ emissions, which is required for Option 2b, is more readily available on a consistent basis for cars and vans than for buses and trucks, it would appear that applying Option 2 to cars and vans and Option 1 to buses and trucks might have been a more appropriate way of targeting the different types of vehicles.

Member State respondents generally agreed that at this stage all of the options presented in Article 5(3) should be retained, largely due to the limited experience that they have had with the implementation of the Directive to date and the lack of any evidence of the impact of the Directive. Once further experience had been gained and an indication of the potential impacts realised, a decision could be made as to whether all of the options should be retained.

Very few Member States had prepared specific guidance on the application of the options presented in Article 5(3), or had made an assessment of the impacts of the Directive to date (estimated or actual impact). Consequently, it appears that many Member States have effectively left the interpretation of the Directive in terms of its implementation to respective public authorities. This is in spite of the fact that several Member States considered that more guidance would be beneficial (see Section 2.4). This is discussed further below (see Section 9.3).

5 Analysis of the impact of the Clean Vehicle Directive

Whereas Tasks 1 to 3 (Sections 2 to 4) have focused on the implementation of the Directive, supporting actions and application in procurement, Task 4 is concerned with the collation of quantitative and qualitative information to assess the impacts that the Directive has had to date on the market development of clean and energy efficient vehicles at the EU level.

5.1 Approach and methodology

It was originally intended that the methodology for this task would rely heavily on engagement with national authorities and other stakeholders, such as vehicle manufacturers and trade associations, and the development of case studies. The aim of Task 4 was agreed to be to assess how the Directive has materially and quantifiably affected the rate and actual levels of deployment of cleaner vehicles. In order to achieve this, it was intended that the study team would compare the characteristics of vehicles bought by public authorities since the Directive came into force with:

1. The characteristics of vehicles bought by public authorities before the Directive came into force; and
2. The characteristics of vehicles bought in the wider market.

5.1.1 Methodology overview and data collection

For element 1 above, manufacturers and automotive trade associations were contacted with the aim to collect data on CO₂ and PM/NO_x/NHMC emissions performance of vehicles bought by public authorities²³ between 2007 and 2011. It was intended that this data would be used to calculate the sales-weighted average CO₂ and PM/NO_x/NHMC emissions for each year from 2007 and 2011. This would be done separately for passenger cars (M₁), light commercial vehicles (N₁), heavy goods vehicles (N₂ and N₃) and buses (M₂ and M₃). The change in average CO₂ and PM/NO_x/NHMC emissions over time would then be assessed to determine whether there was a significant fall in emissions in 2011 (the first year of implementation of the Directive).

For element 2, it was intended that data on CO₂ and PM/NO_x/NHMC emissions, of vehicles sold by manufacturers to all customers between 2007 and 2011 would be collected. This data would then be used to ascertain how the sales-weighted average CO₂ and PM/NO_x/NHMC emissions have changed over time in the wider market, and compare this trend to the trend in those vehicles sold to public authorities.

Ideally, comprehensive data for all public authorities would have been collected, to give a complete picture of how the lifetime energy and environmental impacts of the vehicles they purchase have changed as a result of the Directive. However in practice, this was not practical due to the very high number of public authorities.

Therefore the data required to perform the assessment described above was collected by contacting the following sources:

²³ As defined in Article 4 of Directive 2009/33/EC.

- Vehicle manufacturer trade associations (ACEA, JAMA and KAMA) were contacted to see whether they hold information on who vehicles are sold to, to establish the average CO₂ and PM/NO_x/NHMC emissions of the vehicles sold to public authorities.
- Individual vehicle manufacturers were also contacted to see whether they hold information on who vehicles are sold to, to establish the average CO₂ and PM/NO_x/NHMC emissions of the vehicles sold to public authorities. The following vehicle manufacturers, picked to ensure a range of responses from different types of manufacturers, were contacted:
 - Toyota (cars and vans);
 - VW (cars and vans);
 - Ford (cars and vans);
 - PSA (cars and vans);
 - Fiat (cars and vans);
 - Scania (HDVs and buses);
 - Iveco/Irisbus (HDVs and buses); and
 - Alexander Dennis (buses).
- National automotive trade associations were also contacted in order to identify whether they hold any appropriate data, including those in Germany (VDA), France (CCFA), Italy (ANFIA), Spain (ANFAC), UK (SMMT), and Poland (PZPM).
- Publicly available data was collected on average CO₂ and PM/NO_x/NHMC emissions of all vehicles sold over the period 2007-11.
- Representatives from Member States were asked a series of qualitative questions regarding the impact of the Directive through the contact in Task 1 to 3 (see Section 2).
- A small number of cities/local authorities were contacted to develop a series of case studies on the various aspects of implementing the Directive and their experience of the Directive in practice.

5.1.2 Challenges and limitations

A key limitation to this work was the lack of comprehensive data. Firstly, data on PM/NO_x/NHMC emissions is not well suited to this kind of analysis. Unlike regulatory test cycle CO₂ measurements, the measurements of PM/NO_x/NHMC emissions are not undertaken with the intention of reporting a specific emissions value, but are carried out to assess compliance with the relevant Euro standard legislation, so emissions need to be less than a certain threshold. Hence, while the emissions of such pollutants are measured, the actual emissions performance is not made publicly available – just whether the vehicle meets the standard. However, often there are vehicles on the market which meet forthcoming Euro standards ahead of schedule – e.g. Euro V is the current standard for heavy duty vehicles, but there may be some vehicles already on the market that meet Euro VI. Such Euro VI vehicles would perform better under the life-cycle emissions calculation assessment (the relevant Euro standard limit values would be used for this analysis rather than actual values for individual vehicles).

Data is publicly available on CO₂ emissions of passenger cars and vans up to the year 2011²⁴ (but this data is not available for heavy duty vehicles). This data can therefore give us a general trend in CO₂ emissions for passenger cars and vans. However without more detailed information on the CO₂ emissions of those vehicles sold to public authorities, this

²⁴ http://ec.europa.eu/clima/news/articles/news_2012062002_en.htm

data does not provide a useful comparison. One could in theory assess the trend in CO₂ emissions from cars and vans and look for a noticeable change in that trend around the time that the Directive came into force. This data is shown in Table 5.1 below. However this is unlikely to be of use for a number of reasons:

- There are many factors affecting car and van CO₂ and the effect of the Directive is small in comparison so therefore difficult to discern.
- Any change in trend will not show causality, so a change around the time of implementation of the Directive may well be attributable to a very different underlying factor.
- Any impacts of the Directive are likely to be overwhelmed by the steeper reductions in emissions from 2009 associated with the EU passenger car CO₂ regulation.
- Qualitative data elsewhere on the date of implementation of the Directive and the impacts thus far suggest that the Directive has not had time to have a discernible impact on emissions yet (at least not one that can be identified amongst the wider 'noise' of other factors).

Table 5.1: Average car CO₂ emissions from new passenger cars in the EU (source: EEA)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU27								158.7	153.6	145.7	140.3	135.7
% change year on year									3.21	5.14	3.71	3.28
EU25					163.4	162.4	161.3	158.7	153.4	145.6	140.3	135.7
% change year on year						0.62	0.68	1.64	3.46	5.36	3.78	3.39
EU 15	172.2	169.7	167.2	165.5	163.7	162.6	161.5	158.8	153.3	145.2	139.9	135.1
% change year on year		1.45	1.47	1.02	1.09	0.67	0.68	1.67	3.46	5.28	3.65	3.43

A further limitation was the availability of data held by manufacturers on whether or not the vehicles have been sold to public authorities. Without this information it is not possible to see whether numbers of clean vehicles sold to public authorities have changed since the introduction of the Directive.

Due to the limitations mentioned above, a quantitative analysis of the impacts of the Directive was not possible. To counter this, the study team carried out qualitative analysis of the impacts.

For future assessments of the impact of the Directive, it is recommended that discussions are held with manufacturers and trade associations on the viability of collecting this data. Some manufacturers indicated that they do have information on the purchasers of their vehicles which could potentially be used to identify whether it was a public authority or not. Furthermore, it might be that small changes to the reporting systems of manufacturers and their associated dealerships may allow for easier collection of this data. However it would not be appropriate to recommend that they collect this information without a more detailed analysis of the likely impacts and cost, a task that is beyond the scope of this report. We therefore recommend that discussions are initiated by the Commission in the appropriate forum, for example in the CARS 21 stakeholder group or the appropriate Commission working group. These discussions should also consider whether collection of data on PM/NOx/NHMC emissions for this kind of analysis would be appropriate, bearing in mind the point made at the start of section 5.1.2 above. Furthermore, such analysis may not be

meaningful for an emissions limit value policy such as the Euro standards, compared to, for example, the sales-weighted average targets in the car CO₂ regulation.

5.2 Qualitative assessment of the impacts of the Directive

Due to the difficulties mentioned above of collecting quantitative data on impacts of the Directive, qualitative information on impacts has been gathered from a number of sources, including manufacturers, trade associations, Member States representatives, and cities/local authorities.

5.2.1 Manufacturers and trade associations

A questionnaire was sent out to a selection of manufacturers and trade associations asking for their views on a number of issues (see Appendix 2 for full list of questions).

5.2.1.1 Feedback

Substantive responses were received from four respondents, a European-level trade association, one national-level trade association and two heavy-duty vehicle manufacturers. Responses were also received from a number of passenger car manufacturers, but only to report that they had no reactions at the moment and did not hold data on the impacts on uptake of cleaner vehicles.

All the substantive responses commented on how the Directive has had little impact on the market for clean and efficient vehicles to date and none of the respondents have any evidence that the Directive has influenced the market. One respondent felt that the impact had been especially small on heavy duty vehicles because of a lack of information about CO₂ emissions and fuel consumption for these vehicles. The same respondent also argued that environmental factors are only a small part of a large range of factors taken into consideration during the procurement process. The fact that the Directive does not require a weighting to be applied to environmental factors, means that in theory one could give weightings of 1% to environmental considerations and 99% to price, for example.

However it is important to also note the relatively small proportion of sales to public authorities from the manufacturers that responded. For example, one heavy-duty vehicle manufacturer sells only around 3% of their total vehicles to public authorities, mainly N₁ and N₂/N₃ vehicles but some minibuses as well. Such small percentages, combined with the fact that the Directive has not been in force for very long, suggests that it should not be surprising that the automotive industry is not seeing noticeable impacts.

Furthermore, all of the respondents felt that the Directive has not made a difference to the types of vehicles which are sold to public authorities.

One respondent commented that France has seen increased demand from public authorities for clean vehicles and another that this had been the case EU-wide, as a result of the ongoing economic crisis.

In terms of the options in the Directive for taking account of lifetime impacts, one respondent felt that the options should be amended as the required data is not available for heavy duty vehicles, whilst another responded that it is difficult to comment on the options as no one is yet using the calculation.

5.2.1.2 Case study on heavy duty vehicles

From discussions with heavy duty manufacturers it was clear that there are some quite specific issues regarding the Directive in relation to heavy duty vehicles, in particular regarding the current lack of approved test cycle data. A phone interview was held with Iveco to get more information on these concerns. Details are provided below in .

Box 5-1: Case study on Iveco's experience with the CVD

As mentioned in section 5.2.1.1 above, Iveco did not feel that the Directive has had much impact on the market for cleaner vehicles at this stage. Their general view was that whilst the Directive was in principle a positive development, it was complex and is likely to be difficult to apply by public authorities, at least in terms of the purchase of heavy duty vehicles. Iveco felt that it would be hard to discern any impacts of the Directive, partly because it had not been in force for long, partly because it is difficult to pick out impacts from the 'noise' (i.e. impacts from other factors, including other policies), but also because the levels of public procurement had dropped so much in recent years due to public spending cuts, meaning that the vehicles they are selling now are probably not typical. Public authorities will only be spending on essential replacements.

In the last year Iveco has not sold any electric vehicles to public authorities and has sold only two gas-powered vehicles (to Camden Council in the UK). Iveco felt that the Directive may have had some benefits in terms of awareness-raising of green issues amongst public authorities, and they had anecdotal evidence of public authorities asking more consistently for emissions information from manufacturers. However Iveco was not aware of any public authorities having developed methodologies for assessing the vehicles they procure from a lifecycle emissions perspective, and they have not been approached by any public authorities asking for assistance in carrying out these calculations. They felt that the Directive may be well suited to passenger vehicles, but it is not so well suited to heavy duty vehicles. The key limitation is the lack of approved test cycle data.

Iveco has recently completed an internal exercise to review the lifecycle emissions of their different vehicles. This was very complex and difficult for them to carry out, so they could only assume that it would be even more difficult for public bodies to carry out the analysis. For the CO₂ emissions of their vehicles they used fuel efficiency data in litres per 100km, and used this to calculate the CO₂ g/km figure (assuming a conversion factor of 2.63 kg of CO₂ per litre of diesel). For CNG vehicles they did the same although the conversion factor was obviously different. However calculation of a g/km figure for local air pollutants was much more challenging. Iveco only hold data on these emissions in g/kWh, derived from their engine tests, and they needed to convert this data into g/km (to allow for the calculation under the Clean Vehicle Directive to be made) by making a series of assumptions, for example on the kW of power needed to move a certain load at a certain speed etc. This calculation was complicated and often gave inconsistent results. For the Directive to be more widely applied to heavy duty vehicles, it would be important for clear methodologies to be developed for such calculations.

For biomethane Iveco made an assumption that NO_x and PM emissions from this fuel were the same as for fossil methane, and that (WTW) CO₂ emissions were half that of fossil methane (tailpipe CO₂ would be the same). However, this was not necessarily a robust assumption and would need further testing. Iveco carried out a trial with Cenex (the UK's Centre for Excellence for Low Carbon and Fuel Cell Technologies) and Coca Cola on biomethane which found that they could get a 60% improvement in WTW CO₂ emissions compared to fossil methane. Again, the lack of an agreed methodology for such calculations makes this type of analysis difficult.

For electric vehicles, in their internal exercise, Iveco assumed the electricity consumption of vehicles per km, and then made an assumption about the average grid emissions intensity. This was relatively easy for CO₂, but they had problems getting an appropriate assumption for particulate matter. Sources for such assumptions were publicly available, but different sources often use different figures.

Generally, Iveco felt that their experience pointed to a lack of guidance on how heavy duty vehicle manufacturers should calculate the lifetime impacts of their vehicles. They felt that the whole process is so complex and time consuming that there was a risk that many public authorities would not carry out the assessment. The representative from Iveco also referred to the well-documented concerns over the extent to which the test cycle is representative of real-life for HDVs. He also reported that based on Iveco's experience, public authorities tended to focus more on CO₂ and less on local air pollutants. Finally, they also commented that if further guidance and methodologies for the lifetime impacts calculations were developed then it would be important to tie this in closely to data from manufacturers.

5.2.2 Member States - National Governments/ministries

Member State authorities were asked a number of questions regarding the impact of the Directive. These are outlined in Appendix 1 (see questions related to Task 4). The key issues covered included opinions on the impact of the Directive on the market for clean and energy efficient vehicles to date, effects of the options presented in Article 5(3), and views on whether the methodology set out in the Directive leads to implicit technology selection.

Member States were asked what impact the Directive has had on the market for clean and efficient vehicles to date. The majority of those Member States who answered this question were in agreement that there had been little or no impact. Some Member States acknowledged that due to the small number of vehicles procured publicly compared to the private vehicle fleet, the impact of the Directive is likely to be very small. However, those few Member States where a high volume of vehicle purchases are made in the public sector are anticipating a significant impact on the market.

A number of Member States had existing 'green' public procurement requirements relating to the procurement of vehicles prior to the introduction of the Directive, and therefore the impact has been minimal. 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 will certainly benefit.

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 impacts of the global recession.

Some Member States acknowledged that the Directive has had an impact in terms of public authorities being required to evaluate a road transport vehicle's life-time costs and environmental/energy impacts rather than just focus on purchase costs. However, with regards to the wider impacts, it was felt that it would be extremely difficult to assess the impacts of the Directive as similar anticipated impacts can be stimulated by other policy measures. Although the market for low emission vehicles is expanding, it is difficult to attribute this to the implementation of the Directive, and it is more likely to be due to other factors (including technological developments, other EU legislation, national vehicle taxation policies, market conditions, existing government incentive schemes etc.).

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, but probably valid more widely. 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.

5.2.2.1 Effects of the options presented in Article 5(3) on the future market

Member States were asked how the Directive's options for the way in which energy and environmental considerations can be taken into consideration in the purchase decision are likely to affect the market in the future, and whether they had any evidence or data relating to the estimated or actual impacts of the options presented in Article 5(3). Few Member States responded to this question. Of those who did, the following views were expressed.

The service providers/vehicle sellers will start to identify ways to benefit from the criteria set out in the Directive. Manufacturers are likely to be innovative around the criteria, so that the retailer is not selling only the immediate solution to a procurement need but also thinking about the wider context of vehicle benefits.

The German representative identified Option 1 (setting technical specifications for the energy and environmental performance of vehicles) as likely to have the largest impact on market transformation due to clear standards that need to be met by manufacturers. Option 2 (where energy and environmental impacts are used as award criteria) was considered likely to have less effect due to the relative influence of different criteria.

The options could be responsible for stimulating the market to create and produce a greater variety of energy efficient road transport vehicles with less impact on environment. If there is a demand for these types of vehicles, then there is likely to be a supply. This could lead to a decrease in the price of clean and energy efficient road transport vehicles and make them more attractive and more available. In Latvia in particular, contracting authorities and public service providers have identified that lower prices of road transport vehicles, a wider choice of products and national environmental policies are the most important factors for stimulating the take-up of cleaner vehicles.

Environmental education and awareness-raising are likely to have impacts on the future choices people make. Green procurement in the public sector is promoted by the Public Procurement Office in Poland, but this also has impacts on the private sector. The Public Transport Act requires that public authorities (i.e. those responsible for public transport) include technical requirements in contracts with operators (could be private or public sector) for vehicles used for public transport, and conditions for the purchase of these vehicles. If the contract value is above €14,000 when the operator buys the vehicle to be used for public transport, the life-time energy and environmental performance have to be taken into account.

With regard to the potential estimated impacts of the options presented in Article 5(3), very few Member States have undertaken an assessment. In the UK, an Impact Assessment (IA) for the transposing legislation has been undertaken, but did not look specifically at the options, but the Directive in its entirety. It concluded that there would be €27 million worth of economic benefits associated with implementing the Directive in the UK.

An impact assessment was carried out in early 2012 in Hungary following transposition of the Directive. No procurement data is available yet for a post-implementation assessment of the impacts of the Directive. An Impact Assessment of the potential implications of the Directive was undertaken in Hungary²⁵. The IA was carried out looking into the bus sector in the year 2007. As a first step the Hungarian bus fleet was defined according to annual road transport emissions. This formed the basis of the two possible scenarios in the impact assessment. In the first scenario, it was assumed that the oldest, most polluting vehicles can be replaced by more modern second-hand vehicles and in the second scenario the most polluting buses can be replaced by totally new vehicles. A simple calculation was performed after this initial national vehicle fleet assessment whereby only the vehicles operated by public bus transport companies were taken into account. In this case two assumptions were tested within both scenarios. In one case, only the oldest, so-called pre-Euro I vehicles were replaced, and in the other both the pre-Euro I and the Euro I vehicles were replaced. Consequently, four different scenarios were tested using this calculation. The results of the calculations clearly showed that if the operators chose to purchase used buses or new ones, replacing the numerous old and high polluting vehicles would cause a significant decrease for most of the exhaust gas components. The calculations also indicated that where existing vehicles are being replaced, vehicles that comply with emissions standards that are at least two stages better should be purchased (e.g. a Euro II vehicle should be replaced with an equivalent vehicle that complies with Euro IV as a minimum). Otherwise it is also possible that the net effect would be negative regarding some pollutant emissions. The model also showed the CO₂ growth which comes from the higher consumption of the modern buses. In extreme cases it can reach up to 10 %.

5.2.3 Local/city level – case studies

As the requirements of the Directive typically affect procurement decisions made at the local level, a series of city level case studies were developed in order to further understand what the potential impacts of the Directive have been to date in practice. Member States were initially asked to suggest potential case study cities which could be contacted who may have had experience with dealing with the requirements of the Directive to discuss the impacts.

²⁵ Elaboration of a program to facilitate the implementation of the Directive 2009/33/EC on the promotion of clean and energy-efficient road motor vehicles. Available at: www.iitte.com

Cities were also identified through exchanges with city networks (including Eurocities, ICLEI and ECMT), and through contacting demonstration projects such as those within CIVITAS. Whilst only a small number of case studies could be included in the scope of this study, attempts have been made to include a good geographical spread across EU Member States, and a variety of organisations.

5.2.3.1 Approach to procuring public vehicles prior to Directive 2009/33/EC in case study cities

City contacts were asked about their approach to procuring public sector vehicles prior to the introduction of Directive 2009/33/EC. As well as providing insight into what cities were doing at the time, this information also provides the context for understanding the city's views on the impact that the Directive has had to date, which are discussed in section 5.2.3.2. An overview of the approach taken by case study cities is provided in . Additionally, the Austrian capital Vienna provided a response via a questionnaire.

Box 5-2: Case study city approaches to procuring public vehicles prior to implementation of Directive 2009/33/EC

Bologna, Italy²⁶: Since 2001, the city of Bologna, Italy, and its public transport authority (TPER Spa, previously ATC Spa) has had in place a policy to only to purchase 'clean' vehicles for its urban fleets, in particular trolley buses, natural gas buses, hybrid buses and electric buses. The reasons behind this approach were to aim to minimise the environmental impact of public transport in urban areas. In recent years diesel-fuelled buses ceased to be procured for the urban fleet, and positive impacts have been realised in terms of reducing air pollutant emissions from the transport fleet. Between 2005 and the beginning of 2012, the following reductions in air pollutants from the TPER Spa fleet have been achieved through employing this approach:

- Carbon monoxide (CO): -52%;
- Nitrous oxides (NO_x): -61%;
- Hydrocarbons (HC): -65%; and
- Particulate matter (PM): -47%.

The fleet is made up of the following vehicles (buses, including 50 trolley buses):

Vehicle type	2005	2009
Diesel - Pre Euro standards	308	181
Diesel - Euro 1 and 2	395	282
Diesel – Euro 3 and CRT (particulate filter)	379	422
Diesel – Euro 4	0	49
Natural Gas	122	206
Hybrid vehicle (electric and diesel)	55	51
Electric (includes 50 trolley buses)	64	60
TOTAL	1,323	1,251

Hamburg, Germany²⁷: The city of Hamburg, Germany, currently has 60 electric vehicles in use. There are 17 hybrid buses are also in use. It is anticipated that there will be more in the future. From 2013, all buses in use in the city will need to comply with the Euro IV emissions standard as a minimum, with zero emission buses being the minimum criteria from 2020 onwards. Fuel cell buses have been trialled within the city since 2003. The main reasons for taking this approach to clean and energy efficient vehicles has been to achieve climate protection aims, and those related to the achievement of the EU air quality objectives. The main impact of this approach on the types of vehicles that have been purchased has been the timely preparation of new bus technologies and the early testing of innovative technologies. It is thought that through the use of these vehicles in the public transport fleet, reductions in air pollutants/CO₂ emissions have been realised, but only by a small amount due to the small proportion of the vehicle fleet that it applies to. For example, it is estimated that as a result of using nine hydrogen fuel cell buses in the city, savings of CO₂ have been achieved as followed: 2008 – 144 tonnes; 2009 – 94 tonnes; and 2010 – 205 tonnes.

Copenhagen, Denmark²⁸: Movia Public Transport is Copenhagen's public transport authority responsible for procuring the city's bus fleets. Their policy with regards to procuring clean and energy efficient vehicles is not to specify a particular type of technology, but rather to specify maximum emissions limits for vehicles to be procured (limits are set by the Procurement Office). This approach was taken as Movia did not want to specify or select a certain technology over other available technologies. The vehicles that are procured have to fulfil certain requirements for emissions. In some cases certain technologies cannot fulfil these requirements and these will therefore be

²⁶ The authors would like to thank Daniela Cocchi, TEPR – Trasporto Passeggeri Emilia-Romagna for this and other contributions relating to Bologna.

²⁷ The authors would like to thank Sebastian Henn, hySOLUTIONS GmbH for this and other contributions relating to Hamburg.

²⁸ The authors would like to thank Jesper Petersen, Movia Public Transport for this and other contributions relating to Copenhagen.

excluded from the potential procurement. Private bus operators are invited to tender and then purchase the vehicles. The requirements are specified by the public authority (Movia), but are not purchased directly by them.

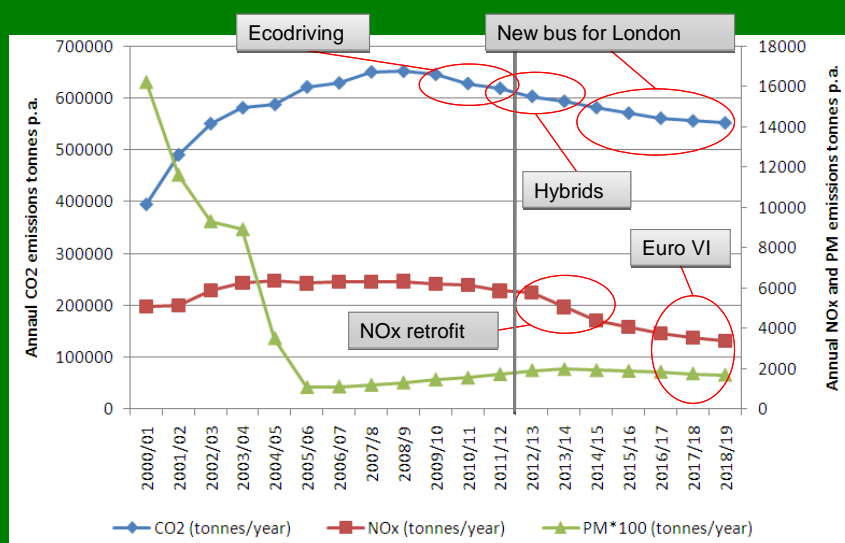
Ten years ago, bus operators were purchasing LPG buses because they were cleaner than diesel buses, and these have run for approximately 10 to 15 years in Copenhagen. However, there are currently diesel buses that comply with relevant Euro standards that are considered to be clean and energy efficient. Through purchasing these cleaner and more energy efficient vehicles, CO₂ emissions have been reduced by 6% over the period 2008 to 2011 from the Movia fleet. However, Movia Public Transport would like to see further CO₂ reductions by 2020, specifically to achieve a 20% reduction against 2008 levels.

London, UK²⁹: With respect to buses, London's procurement of clean vehicles is driven by a number of policies and the emission performance data that London Buses hold. The Mayor's Air Quality Strategy is the main driver, while other policies such as the Low Emissions Zone also affect the type of buses used. This is complemented by the detailed information that they have on the environmental performance of the different bus types, all of which they have already tested against a standard "London bus" test cycle. The Mayor's Transport and Air Quality Strategies are translated into targets for the environmental performance of the bus network as a whole. Procurement policy is then designed to meet these targets across the network, rather than on a route-by-route basis. This approach allows for flexibility to take account of route-specific circumstances and, to some extent, operators' requirements, for example fleet replacement programmes.

It is worth noting that generally bus operators run routes using their own buses; London does not own, or therefore, directly procure buses. London Buses use their knowledge about the environmental performance of the buses on the market in procurement. This can be prior to actual procurement, e.g. to engage with a manufacturer if the environmental performance of its buses is significantly lower than that of its competitors. The new buses that operators are proposing to run on any route they tender for have to meet environmental criteria that have been set in the call for tender, i.e. the latest Euro standard although alternatives are also considered. In the evaluation process, the environmental benefits of new buses along other passenger benefits are balanced against their higher purchase costs (but not in a monetised way).

Over the last 15 years, the focus has been on air quality although more recently increasing attention is being paid to CO₂ reduction. This has led to an increasing number of hybrid buses being used. However, resource constraints need to be taken into account, so procurement also has to consider the higher purchase costs of cleaner vehicles. The previous version of the Mayor's strategy proposed that all new buses in London would be hybrid buses from 2012; this aspiration has been delayed due to financial constraints. The impact of London's approach to procuring clean and energy efficiently buses can be seen in Figure 5-1.

Figure 5-1: The impact of London's strategy on bus emissions (Source: London Buses)



²⁹ The authors would like to thank Mike Weston of London Buses for this and other contributions relating to London.

Stockholm, Sweden³⁰: Nearly all of the light duty vehicles bought by the city authority of the Swedish capital, Stockholm, comply with the national definition of a clean vehicle. This definition was adopted in 2005, before which Stockholm used its own, slightly stricter, definition. The only vehicles that are bought that do not have to comply with this definition are specialist vehicles for which a clean alternative is not yet available; any exceptions have to be approved by the Director of the Department. There is, as yet, no national clean vehicle definition for heavy duty vehicles, so Stockholm uses its own, recently-adopted, definition, which includes hybrids, but excludes diesels. It was the definition of a clean vehicle that really started the development of the clean vehicle market in Sweden. This meant that everyone was applying the same standard.

The focus of Stockholm's clean vehicle policies is the same as the Directive, i.e. the development of a market for clean vehicles. However, the city authority itself is only about 1% of the market and the city also tends to buy niche vehicles that are not necessarily appropriate for the mass market. Hence, it was considered important to also encourage the large fleets of private companies to purchase clean vehicles, as they focus on the economics of the vehicles much more than private citizens do. Developing a definition of a clean vehicle was considered to be an easy way of communicating to such companies the difference between low carbon vehicles and others. The definition can be used in other types of incentive, such as reduced parking charges and company car taxation, as well as in all types of procurement, e.g. of vehicles and transport services. Following the lead of the city, and then the national government, the approach has been taken up in Sweden by many private companies in their procurement of vehicles and transport services.

The approach taken by the city of Stockholm probably had a minimal impact on its own, but the impact on the market of adopting the approach more widely has been significant with Sweden making the largest reduction in average new car CO₂ emissions in the EU in recent years. The environmental impact of the wider shift to cleaner vehicles – i.e. not just the impact of the city's own clean vehicles – has been an annual reduction of 300,000 tonnes of CO₂ in the Stockholm area (i.e. 10% of traffic emissions) and 80 tonnes of NO_x.

Ghent, Belgium³¹: Ghent's procurement of clean vehicles is based on using energy/environmental impacts as both technical specifications and in award criteria. The monetisation methodology allowed by the Directive is not used. In relation to the use of technical requirements, the type of vehicle that is explicitly specified with reference to particular characteristics, e.g. electric vehicles, CNG vehicles, vehicles that can use B30 or have a minimum fuel economy. When using energy/environmental impacts as award criteria, for cars and light commercial vehicles (less than 3.5 tonnes) a minimum Ecoscore that vehicles have to meet is specified³², while for heavier vehicles (which are not in the Ecoscore tool) they specify the Euro emissions standard that vehicles are required to meet. They have been taking this approach for the last five or six years.

This approach is driven by the Council's guidelines that the city should take action to improve air quality and reduce greenhouse gas emissions and emissions of particulate matter, as well as acting as an example to citizens and businesses in this respect. Hence, the aim is to deliver the city's transport needs in as clean and energy efficient way as possible. There are ongoing reviews of the city's vehicle fleet and each year the vehicle market is reviewed to identify whether there are cleaner/more efficient vehicles available on the market that can deliver the same performance (carrying loads, reliability, etc.) as vehicles in their existing fleets. If these are identified, they will aim to replace the more polluting/less efficient vehicles in their next procurement (within the constraints of the budget). This approach is likely to lead to the purchase of electric cars and CNG-powered vehicles, where the movement of heavy freight is required.

Slovenia³³: The Slovenian Public Procurement Agency was abolished at the beginning of July 2012 and its duties were taken over by the Ministry of Finance, Directorate for Public Procurement. The Agency and Ministry do not have a policy for procuring vehicles, although for the last few years, green criteria and energy efficiency were considered in joint public procurement procedures for Central Government. In the most recent tenders, operational lifetime costs were applied according to the methodology set out in Directive 2009/33/EC. Before this, the maximum allowed emissions were

³⁰ The authors would like to thank Jonas Ericson of the City of Stockholm for this and other contributions relating to Stockholm.

³¹ The authors would like to thank Lies Helsloot of the City of Ghent for this and other contributions relating to Ghent.

³² www.ecoscore.be/

³³ The authors would like to thank Matjaž Uhan, Slovenian Ministry of Finance for this and other contributions relating to Slovenia.

applied as selection criteria. Vehicles with lower emissions were also given additional points within award criteria. This approach was taken as the Agency wanted to achieve environmental goals whilst ensuring as much competitiveness as possible. By taking this approach, the Slovenian Ministry has been able to take into consideration the environmental impacts of different technologies, available infrastructure in Slovenia and the needs of individual contracting authorities, which were included in joint public procurement. Most of the vehicles that were purchased were fuelled by diesel. In terms of the impacts of this approach on the vehicle fleet, the Slovenian Ministry have reported a reduction in CO₂ emissions.

Barcelona, Spain: The city's clean vehicle procurement policy is driven by the need to comply with EU and national air quality legislation and the belief that the public sector should be lead by example as a promoter of the latest technologies. In this respect, the city focuses on procuring vehicles using clean technologies, such as hybrid and CNG vehicles. This approach has led to a significant reduction in NO_x and PM emissions. As a result of the Directive, Barcelona now includes emissions costs in its estimation of the lifecycle costs of the vehicles that it procures; the lifecycle cost counts for 30% of the overall evaluation score.

Romanian public transport operators³⁴: In Romania, public transport operators tend to use technical specifications when procuring cleaner vehicles, either by procuring vehicles with a particular technology or by only buying vehicles that comply with specific emissions limits, e.g. those meeting particular Euro standards. The UITP's SORT test cycles are also used as part of the evaluation of fuel consumption (see Section 6.3). This approach was taken prior to the implementation of the Directive, and so operators consider that the Directive had little direct impact on their procurement of vehicles. Additionally, few vehicles have been bought since the Directive was transposed in Romania. However, some operators considered that the approaches contained within the Directive would be a potential useful tool that might be used in the future, e.g. the use of energy and environmental impacts as award criteria is already being considered by some operators.

Zagreb, Croatia³⁵: The Croatian capital Zagreb uses Euro norms as a technical requirement for the procurement of buses. It has been taking this approach for 20 years, while progressively tightening the Euro norms applicable. Currently, the new buses that it procures have to be Euro V. In 2009, the city also procured 60 CNG buses as well as 139 Euro IV buses. The Directive will not have an impact on the approach taken to the procurement of buses in Zagreb, as it enables the continuation of the existing approach, i.e. the technical specification of the Euro norm in the procurement procedure.

5.2.3.2 Impact of the Directive following transposition in case study cities

As the majority of cities had existing policies on procuring clean vehicles prior to the introduction of the Directive, many have not reported a significant impact on the purchase of clean and energy efficient vehicles as a result of the implementation of the Directive. For example, the city of **Hamburg**, Germany, stated that the introduction of the Clean Vehicle Directive has not led to any changes to the way in which they procure clean and energy efficient vehicles, although there have been very few direct experiences to date in using the Directive to procure vehicles. Movia, **Copenhagen's** public transport authority, have also not had to change the way they procure clean and energy efficient vehicles, as the criteria were already in use. A similar response came from **Stockholm**, **London** and **Ghent**, as the Directive allows the approach that the city authorities were already taking. Interestingly, a similar response was also received from **Romanian public transport operators** and **Zagreb**, as the Directive allowed for technical specifications to require the procurement of buses meeting particular Euro emission standards. Having said that, recent procurement of vehicles has been limited, and some interest has been expressed by **Romanian operators** in using energy and environmental impacts as award criteria in the future. **Barcelona** also noted that the Directive has enabled it to include the cost of emissions in the estimation of a vehicle's life cycle costs that is used to evaluate suppliers.

³⁴ The authors would like to thank Doina Anastase of the Romanian Union of Public Transport (URTP) for coordinating the responses of Romanian public transport operators.

³⁵ The authors would like to thank Zvonko Biloš of the Zagreb Holding Company for the information relating to bus procurement in Zagreb.

Bologna, Italy, reported that the introduction of the Directive is likely to lead to changes in the way that the city procures clean and efficient vehicles, mainly through the introduction of energy and environmental impacts as one of the award criteria. It is anticipated that the first call for tender for TPER Spa using the full provision will be in autumn 2012, therefore experience with using this option of Article 5(3) of the Directive is forthcoming. With regards to option ii) of Article 5(3) (selection criteria), the Italian Ministry of Environment foresees the application of a minimum of 15 points out of 100 for the relative weightings for energy and environmental criteria compared to other selection criteria. With regards to the impact that the Clean Vehicle Directive has had on the market for clean and energy efficient vehicles to date, Bologna sees it as a further incentive for bus manufacturers to invest in innovation for the development of clean vehicles.

The **Slovenian national public procurement agency** also stated that they have changed the way in which they procured public vehicles as a result of Directive implementation. Tenders no longer include requirements to use specific technologies, but instead include the methodology for quantifying operational lifetime costs as a means of stimulating the take-up of new, cleaner technologies. However, the Slovenian contacts did not feel that the market had been influenced much yet by the introduction of the Directive.

5.2.3.3 Wider impacts of the Directive

The existence of the Directive has been useful in other ways to other stakeholders. For example, an energy agency has used the existence of the Directive to motivate the national transport ministry, as well as other public bodies, to put a greater emphasis on the procurement of clean and energy efficient vehicles in order to try to develop the market for such vehicles. Hence, the existence of the Directive has been useful, as it has helped to reinforce the message that the agency had already been communicating nationally about the need to take action to stimulate the market for clean and energy efficient vehicles. One city respondent also reported that the existence of the Directive has been another justification in requests for more funding from national government for the purchase of clean and energy efficient vehicles. Additionally, ICLEI is co-ordinating a project funded by Intelligent Energy - Europe that aims to assist with the implementation of the Directive (see Box 5-3). However, as the Directive enabled a continuation of the existing approach in many Member States, there was a concern that it would have little impact in its current form.

Box 5-3: Overview of the Clean Fleet project

In September 2012, a three-year project "Clean Fleets" began to assist public authorities and fleet operators with the implementation of the Directive. The project, which is coordinated by ICLEI, is funded by Intelligent Energy – Europe and involves city authorities or public transport operators from seven EU cities (the German cities of Bremen and Freiburg, London, Rotterdam, Sofia, Stockholm and Vitoria-Gasteiz in Spain), plus the Romanian public transport union (URTP) and the Croatian capital of Zagreb, as well as a number of consultancies. The project aims to assist implementation by:

- Building capacity for the implementation of higher standards of energy and environmental performance in road transport vehicles. This will include a needs assessment, structured interaction between purchasers and suppliers and the development of guidance and training material.
- Supporting specific procurement actions will be supported through market consultation, specification development, competitive tendering and contract management; and
- Promoting knowledge transfer using practical tools for implementation, training modules, good practice examples and specific content and functions on the Clean Vehicle Portal.

Source: ICLEI; see www.cleanfleets.org (provisional)

The procurement of cleaner and more energy efficient products can also be undertaken and stimulated by other EU funds. For example, the "promotion of clean urban transport" is one of

the funding categories to which funding can be allocated under the 2007-13 programming period for the EU's structural funds, specifically the European Regional Development Fund (ERDF), and the Cohesion Fund³⁶. While the proportion of the total funds allocated to this category within the various regional funding programmes (known as Operational Programmes) is relatively small, it still amounts to €6.1 billion (out of a total of €81.7 billion)³⁷. It is clearly possible that such funds, particularly those allocated under this category, might have been used for the promotion and/or procurement of clean road transport vehicles.

However, a search of the Commission's structural fund project database and a review of relevant evaluations only revealed a handful of projects that included the purchase of clean vehicles. Many of the urban transport projects instead focused on road or rail projects. However, two relevant projects were identified, both of which included the purchase of cleaner buses. First, under the 2000-06 programme, the purchase of four mini electric buses in Funchal, the capital of the Portuguese Autonomous Region of Madeira, was co-financed by the ERDF³⁸. Second, in the 2007-2013 programming period, the ERDF also co-financed a project that included the purchase of 67 new buses, all meeting at least Euro V emission standards, in the Bulgarian municipality of Burgas³⁹. Green procurement activities can also be supported under the Commission's Competitiveness and Innovation Framework Programme. These have been used to focus on more specialist vehicles, e.g. one project (FIRED-UP) focused on improving the awareness of the environment impacts of fire service vehicles and the procurement of "more innovative" vehicles for London and Ghent⁴⁰.

5.2.3.4 Role of demonstration projects in the procurement of clean and energy efficient vehicles

Case study cities were also asked about the role that demonstration projects had within their cities with regards to the procurement of clean and energy efficient vehicles. Demonstration projects have played an important part in **Bologna** in terms of allowing the city to analyse and compare the different available and mature technologies in order to identify the next available technical/economical solutions for application in the Bologna urban area. The use of demonstration projects has also led to the provision of resources to purchase two innovative hybrid vehicles. For **Barcelona**, demonstration projects were important as they always led to a qualitative improvement in the understanding and application of the technology. In **London** demonstration projects have proved to be important in preparing the ground for their procurement of hybrid buses; they are currently also trialling hydrogen fuel cell buses.

Demonstration projects were also reported to play an important role in **Copenhagen**, as it has been found beneficial to use demonstration projects prior to introducing new technologies into full-scale operation. This approach has helped to build confidence amongst bus operators with regards to the new technology if it is unfamiliar or perceived to be too high a risk. There are currently hybrid bus and electric bus demonstration projects being undertaken in Copenhagen. They are considered to be an important step prior to these new technologies being introduced more widely.

In **Stockholm**, demonstration projects have been crucial in the development of the city's policy towards clean vehicles. Such projects have helped to overcome an initial reluctance to use new technologies, such as the first hybrids and biogas, as well as to break the "chicken-and-egg" problem that exists between manufacturers and fuel providers. In **Ghent**, trials and demonstration projects have also been useful. In this respect, the additional funding from

³⁶ Category 52 of Annex II, Part A of Regulation (EC) No 1828/2006

³⁷ van Essen, H., Brinke, L., Bain, R., Smith, N. and I. Skinner (2012) *Financing instruments for the EU's transport infrastructure* Report IP/B/TRAN/FWC/2010-006/LOT4/C2/SC1 for the European Parliament's Transport and Tourism Committee.

³⁸ Appendix E of SDG (2009) *Ex post evaluation of Cohesion Policy Programmes 2000-2006 co-financed by the ERDF (Objectives 1 and 2) – Work Package 5A: Transport* Report for the European Commission, DG REGIO

³⁹ http://ec.europa.eu/regional_policy/projects/stories/details_new.cfm?pay=BG&the=60&sto=2285&lan=7®ion=ALL&obj=ALL&per=2&defL=EN

⁴⁰ European Commission (2012) "Industrial innovation: Public procurement of innovation – 2nd Generation of Public purchasers as launching customers of innovative solutions"

European sources (e.g. under CIVITAS), particularly for the newest technologies, is important to cover the costs of undertaking such trials. The city will only adopt new technologies if they prove to be reliable and such projects are a good way of testing this.

5.2.3.5 City case studies overview

From the city case studies that were undertaken, it is clear that the majority of cities had existing initiatives in place regarding the promotion of clean and energy efficient vehicles in public procurement prior to the introduction of Directive 2009/33/EC. The majority had environmental criteria as a requirement for the purchase of public vehicles. Although this led to an improvement in the environmental impacts of the public fleet, this also meant that the Directive is thought to have had little or no impact beyond these realised benefits following transposition in the respective Member States.

This was even the case in cities that are not generally known for their clean vehicle policies. Having said that, it is worth noting that some cities, generally those that would be considered to be more active in clean transport such as Stockholm, Hamburg and London, are actively engaged with testing and procuring vehicles that use alternative technologies and that would be considered to be more energy efficient, such as hybrids. In these cases, climate change concerns are clearly having an impact on vehicle procurement policy, in addition to air pollution. Elsewhere, e.g. in those cities that are less known for clean vehicle policies such as in Romania and Zagreb, the focus still appears to be primarily on air pollution and procuring buses that meet a particular Euro standards, although there is some interest in applying other approaches outlined in the Directive.

However, it should be noted that only a small number of cities were contacted, and in particular, those who were known to be active in the area of clean and energy efficient vehicles. Therefore, if further cities were to be contacted who did not have policies relating to the procurement of 'green' vehicles prior to the implementation of the Directive, it is possible that they could identify many more changes in the way they procure public vehicles, including more positive impacts on the market for clean and energy efficient vehicles. Having said that, the lack of an impact to date for Romanian transport operators and in Zagreb, which is at least partially linked to there being few vehicle purchases since the transposition of the Directive, supports the conclusion that there appears to be little impact from the Directive to date.

However, it is clear from the case studies presented in Box 5-2 that even though all of the cities are taking some account of the environmental performance of vehicles in their purchasing decision, the approach varies between those that are generally known for their proactive clean vehicle policies, such as Stockholm, Hamburg and London, and those that are not. In this respect, it was interesting to note that some Romanian public transport operators were considering using other options set out in the Directive to take account of the environmental and energy impacts of procured vehicles, and also that the monetisation methodology has enabled Barcelona to include emissions costs in its estimation of the lifecycle costs of procured vehicles.

5.3 Assessment of whether the technology neutral approach has led to implicit technology selection

The responses received to the questionnaire sent out to representatives of the automotive industry did not suggest any implicit technology selection.

Of those Member States that had an opinion on whether the requirements of the Directive lead to implicit technology selection, all of them replied that it did not. It was felt that the Directive provides sufficient flexibility and will not lead to implicit technology selection. A major factor in choosing the technology will be costs and reliability/technical strength. For example, the National Procurement Agency in Germany confirmed that in their procurement

processes, 14 car classes/categories are procured on a regular basis. For each class, emissions norms/standards are adopted hence no class is advantaged in the selection. Criteria are generally technology neutral. However, based on a strategic decision to support electric mobility the option of electric cars to be procured has been introduced recently (no further information was provided).

The Polish contact replied that it is not the case that this Directive leads to implicit technology selection as the comparison is conducted between vehicles already available on the market (which could use the same or different technologies), so the fact that not all technologies currently exist on the market does not lead to technology selection.

Whilst no stakeholders raised this point, in theory if a contracting authority uses the operational lifetime costs approach, it might be expected that the prices of new technologies (e.g. prices of electric vehicles) will go down in the future and they may go down faster than the rates at which other technologies will improve. This may cause preferential treatment of certain technologies, if a wider range of operational costs (e.g. maintenance costs) are not included in calculation.

Some Member States identified that it is more likely to be economic incentives that have the impact on technology selection rather than measures such as the Clean Vehicle Directive, but it is too early to answer this question for certain.

Few other stakeholders or contacts had any views about the potential for there to be an implicit technology selection as a result of applying the Directive. One stakeholder pointed out that, even using the approach to the monetisation of lifetime costs contained within the Directive, the lifetime costs of a hybrid bus are still higher than those of conventional buses. Hence, the costs of procuring alternatively-fuelled buses might still be prohibitive for many local authorities. This point was also taken up by a representative from **Stockholm**, who was concerned that applying the monetisation methodology in the Directive to vehicle procurement would lead to the procurement of diesel vehicles. Table 5.2 demonstrates this calculation using differently fuelled versions of the VW Passat, the different models of which are similar in relation to the important characteristics. This shows that when monetising the impacts from energy use and the emissions of CO₂ and local air pollutants, the diesel version of the vehicle comes out as having the least environmental cost. As can be seen from the costs associated with the air pollutant emissions of the respective vehicles, if a city wanted to choose a vehicle to address air pollution problems only, its choice would have been different, as any of the other vehicles have lower costs for this one element. One of the reasons why some stakeholders may have identified this as an issue is that many cities in the EU have urgent air quality problems (see Section 5.4 for further discussion).

Table 5.2: Total lifetime costs for similar models of the VW Passat using different fuels

	Diesel	E85	Biogas	Petrol
Fuel consumption (litres/100km)	4.6	9	6.7	6.9
Energy content (MJ/litre)	36	21	33	32
Lifetime distance (km)	200,000	200,000	200,000	200,000
Energy cost (€/MJ)	0.023	0.023	0.023	0.023
Energy cost (€)	7,624	8,701	10,179-11,721	10,165
CO ₂ tailpipe cost (€)	714-952	888-1,184	714-952	960-1,280
Air pollutant emission cost (€)	88	32	29	69
Total cost (€)	8,426 – 8,664	9,621 – 9,917	10,921 – 12,702	11,194 – 11,514

Source: City of Stockholm, personal communication

One city contact also noted that the Directive is not able to deal well with emissions from electric vehicles and other alternatively-fuelled vehicles. The approaches contained within Article 5(3) do not include the full lifecycle emissions of fuels, and associated costs, but only the operational lifetime tailpipe emissions and costs. However, it is worth pointing out that this is a recognised issue with respect to many pieces of legislation that target CO₂ emissions from road transport. Another city contact noted that the complexity of some of the provisions, particularly the monetisation option, would be difficult for many cities to understand and therefore implement properly. Additionally, they did not consider that the monetisation approach was the most appropriate for the environment. This option also appears to run counter to a principle of procurement proposed by another city contact, i.e. that procurement processes should be simple.

From the study team's own experience with using the tool on the Clean Vehicle Portal, it presents some challenges and can be viewed as confusing in some cases, which could be the source of the difficulties of users in Member States. For example, there is no explicit mention of whether lifetime costs should include the purchase price of vehicles (which is, in itself, an important factor in considering lifetime costs). However, the 'LTC Calculator' description on the Portal states that the user should input the purchase cost of the vehicle, although it is not possible to do this in the tool. The tool also does not provide clarity for alternatively fuelled vehicles, such as natural gas, ethanol, biodiesel, electric or hydrogen – for example, users have to separately undertake calculations using spreadsheets, negating the use of the tool.

Another point worth noting is that the majority of vehicles being procured by public entities are likely to be used in an urban environment (e.g. buses, refuse trucks etc.). The cost of emissions does not factor in that they will be used there. The cost of emissions varies significantly between urban and non-urban areas for particulate emissions, with urban emissions having a considerably higher value than non-urban emissions (IER, 2006). Clean vehicles such as hybrid and electric vehicles have a much more superior performance in urban environments compared to conventional vehicles. Table 5.3 reflects this superior relative fuel consumption.

Table 5.3: Fuel consumption differential for urban, non-urban and combined (l/100km)

Driving cycle	Toyota Yaris 51kW (Petrol)	Toyota Prius 73kW (Hybrid Petrol)	Difference
Urban	5.7	3.9	-32%
Non-urban	4.2	3.7	-12%
Combined	4.8	3.9	-19%

Source: Clean Vehicle Portal

5.4 Summary and conclusions

The consensus amongst stakeholders is clearly that the Directive has had little impact on the market for cleaner vehicles at this stage. This is not surprising for a number of reasons, not least that the Directive has only been in force for a short period of time, with implementation in a number of Member States being delayed beyond late 2010. Indeed in some Member States it may not be possible to notice a discernible impact even after a longer period of time, due to the relatively low numbers of vehicles being purchased by public authorities in those countries. However in other Member States where purchases by public authorities made up a larger proportion of total sales, noticeable impacts might be expected in future years (for example, Germany stated that a high proportion of vehicle sales were for public purposes). Some stakeholders commented that certain Member States were doing more on green procurement than others and increased uptake of cleaner vehicles by public authorities might be expected regardless of how they have implemented the Directive. A number of respondents also commented on how the current situation in the vehicle market meant that it

was harder than normal to identify impacts of the Directive, with many public authorities cutting back radically on the numbers of vehicles bought due to on-going public spending cuts.

Notwithstanding the late transposition of the Directive in some Member States and the difficult economic conditions that have existed since its transposition, it would still have been very unlikely that a significant impact from the Directive would have been identified at this stage, i.e. after two years of its application. Even if all Member States had transposed the Directive on time, the provisions would only have applied to procurement procedures that started after the transposition date. Hence, only new procurement procedures, which can be lengthy, would be subject to the new rules. Additionally, any information would need to be collated and reported, thus further reducing the amount of time in which an impact might occur, say to around one year. As a typical working life of a road transport vehicle is 10 to 15 years, even in the best scenario, only a small proportion of publicly-procured vehicles could have been subject to the Directive within two years, i.e. the time period that the first monitoring report covers. The actual proportion would depend on how long public authorities keep vehicles for – for some vehicles, such as buses, this might be near their full life time, whereas for cars it might be only a matter of a few years. Although in times of economic difficulties, it is likely that authorities own vehicles for longer than they might otherwise have done. Given the relatively small proportion of road transport vehicles that are procured by the public sector, even in this best scenario it would have been unlikely that an impact on the market would have been detected after only two years. An impact on the EU market for clean and energy efficient vehicles would only be felt in the longer term. In this respect, five years might have been a more suitable time period between the transposition of the Directive and the first assessment of its impact.

Despite there being little impact so far on the market for clean vehicles, there was some evidence (mainly anecdotal) of the Directive having an impact on public authorities, by requiring them to evaluate a road transport vehicle's life time costs and impacts, rather than just focusing on purchasing costs. This could clearly lead to a change in culture over time in how public authorities make procurement decisions.

Another challenge in identifying the impacts of the Directive lies in the fact that it puts no requirements on Member States with respect to the monitoring, reporting and evaluation of the operation and impacts of the Directive in their respective countries. At this point in time – for the reasons discussed above – the inclusion of such requirements on Member States would have made little difference to identifying information about the impact of the Directive. However, it did mean that there was no established communication between the Commission and Member States, which meant that it has proved to be time consuming in some cases to find the appropriate contact in some Member States. For future monitoring reports, the absence of any requirements on Member States in relation to the monitoring, reporting and evaluation of the impact of the Directive, will prove challenging, as such information is a good starting point in assessing the impact of a piece of EU legislation in a Member State, as these are undertaken with a good understanding of local issues. Collecting new data for each monitoring report is likely to prove time consuming and resource intensive and will not provide as good information on the Directive's impacts compared to the results of separate national evaluations (see Section 9.2).

The feedback received from manufacturers suggests some specific issues relating to heavy goods vehicles. One of the main issues that was raised concerned the lack of a common agreement on the measurement of CO₂ emissions of such vehicles, which, it was suggested, could be addressed by the production of guidance on appropriate methodologies for calculations. Action to develop a consistent means of measuring the CO₂ emissions from heavy duty vehicles is being developed in the context of other policy developments. However, in the context of the Clean Vehicle Directive, it is worth noting that the UITP and ACEA have worked together to agree on how operators and procurers should apply the provisions of the Clean Vehicle Directive in bus tendering (see Section 6.3). A similar

approach could have been taken forward by operators and manufacturers of other heavy duty vehicles used by public authorities for the same reasons that a common approach was agreed for buses, i.e. to prevent a proliferation of different approaches. Given that lifetime fuel costs are generally a significant cost for such vehicles, perhaps even larger than the purchase cost, it could be considered to be surprising that no example of collaboration between potential purchasers and the industry was identified that aimed to develop a common approach to applying the Directive for heavy duty vehicles, other than for buses. It is also worth noting that a calculation methodology that could be applied to heavy duty vehicles is set out on the Clean Vehicle Portal. In this respect, it is important to note that from 2013, all HDV engines complying with Euro VI standards will be tested according to the Worldwide Harmonized Heavy-Duty transient Cycle. Hence, such measurements will then be taken on a consistent basis. The information generated on pollutant emissions, including that on CO₂ emissions, and fuel consumption could, therefore, be used as the basis of information that could be used for the monetisation option of the Clean Vehicle Directive. It will be important to investigate the potential for this.

The case studies showed that many cities in the EU have established policies in place to procure cleaner and more energy efficient vehicles. These policies have often been driven by policy objectives other than the Clean Vehicle Directive, such as the need to meet EU air quality standards. For many of the cities contacted for this report, therefore, the Directive has had little impact on their existing approach. This was even the case in cities that are not generally known for their clean vehicle policies. However, it is worth noting that some cities, generally those that would be considered to be more active in clean transport such as Stockholm, Hamburg and London, are actively engaged with testing and procuring vehicles that use alternative technologies and that would be considered to be more energy efficient, such as hybrids. In these cases, climate change concerns are clearly having an impact on vehicle procurement policy, in addition to air pollution. Elsewhere, e.g. in those cities that are less known for clean vehicle policies such as in Romania and Zagreb, the focus is still primarily on air pollution and procuring buses that meet a particular Euro standard, although there is some interest in applying other approaches outlined in the Directive. The Directive also had a minor impact in Barcelona, where the monetisation methodology had enabled the city to include emissions costs in its assessment of a vehicle's lifecycle costs, which makes up 30% of the final evaluation score. Consequently, over time it might be expected that more cities will pay more attention to the options allowed for by the Directive, as the familiarity with these increases, and take these on board to some extent, if not necessarily in full.

In relation to technology selection, most Member States, industry and other stakeholders believed that there was no evidence of technology selection to date and that there was sufficient scope within the Directive for technology selection not to be an issue, although there was little experience with some of the methods to confirm this in practice. However, a couple of stakeholders raised a concern that the monetisation methodology favours diesel vehicles as opposed to vehicles that would generally be considered to be cleaner (see Table 5.2). The inclusion of the monetisation of energy and environmental impacts in the Directive was in line with calls at the time for public procurement to take account of the full life costs of vehicles (see Section 1.1.1). The Directive's monetisation methodology ensures that arguably the most important environmental impacts of road transport vehicles – their use of energy and their emission of air pollutants and greenhouse gases – can be included in the calculation of lifetime costs in a consistent manner in all Member States. In this respect, it could be argued that if this monetisation favours one technology over another, then it is favouring the cleanest, most energy efficient and most cost effective technology.

However, in this respect there is a difference between a “cleaner and more efficient vehicle” and simply a “cleaner vehicle”. As was shown in some of the city case studies undertaken for this report, air pollution has been a long-term concern for cities that has led to an interest in the procurement of clean vehicles, with climate concerns being a more recent consideration (see Box 5-2). Given the current difficulties of many cities in meeting EU air quality targets – accompanied by the threat of a potential fine from the European Commission – it is not

surprising that in many cities it would be air quality that is a more pressing concern than climate change. This might be one factor behind the concern that applying the monetisation methodology contained within the Directive led to the purchase of diesel vehicles, as opposed to other types of vehicles. As can be seen in the example provided in Table 5.2, diesel vehicles can come out as the preferred option when energy efficiency and pollution is considered. However, where a city's main priority is to address air pollution that city might prefer to procure "clean" vehicles, as opposed to "clean and energy efficient" vehicles, in which case the application of the monetisation methodology might not be the best option to address local priorities.

6 Analysis of the take-up of the approach in private vehicle purchases⁴¹

The Clean Vehicle Directive only applies to a minority of the new vehicles purchased annually in the EU, as it focuses on the purchase of road transport vehicles by and for public authorities. If the approach set out in the Directive was also applied to the purchase of vehicles by the private sector, the market for clean and energy efficient vehicles would be further stimulated.

The aim of Task 5 was to identify:

- Examples where approaches similar to those in the Directive, i.e. where environmental and energy consideration are taken into account in the purchase of road transport vehicles have been applied in the purchase of road transport vehicles by the private sector.
- The extent to which such approaches in the private sector have been influenced by the Clean Vehicle Directive.

As part of the task, the role of dissemination, particularly in communicating the approaches of the Directive to the private sector, was also examined.

6.1 Task method

As it was considered unlikely that it would be possible to identify much documented evidence on the take up of the approaches of the Clean Vehicle Directive in the private sector and the role of dissemination activities in communicating these approaches, evidence for Task 5 was gathered from engaging with various stakeholders. Hence, the text that follows is drawn from available literature and internet sites, as well as engagement with:

- **Member States' national authorities**, which was undertaken as part of the engagement that informed other tasks (see above);
- **EU-level stakeholders**, including EU-level city networks, which also informed other Tasks, notably Tasks 3 and 4 (see above);
- **Private fleet operators**;
- Selected **national automobile associations**⁴²; and
- Selected organisations that are **members of the Transport Working Group of the EnR European Energy Network**⁴³.

In spite of engagement with a wide selection of stakeholders, few were able to provide much additional information. Only one Member State provided additional information and few EU level stakeholders (see Table 1.1 for the list of stakeholders contacted) were able to

⁴¹ The authors would like to thank the representatives of the EU level stakeholders to whom we spoke, as well as Jorge Castellano (RACE, Spain), Dirk Peters (DENA, Germany), Andrea Muenzinger (ADAC, Germany), Caroline Watson (EST, UK), Vesa Peltola (Motiva, Finland) and Simon Graham (Commercial Group) for their contributions to this chapter.

⁴² A member of the FIA, the international automobile association, from each of the largest five EU vehicle markets – France (ACA), Germany (ADAC), Italy (Confedcampeggio), Spain (RACE) and the UK (AA) – was contacted.

⁴³ <http://www.enr-network.org/transport.html> (accessed 27 August 2012); representatives from organisations representing five Member States were contacted (Austria, Finland, Germany, Netherlands and the UK).

contribute to this research, in spite of several of them undertaking a survey of their members in response to an enquiry from the project team. Similarly, engaging with fleet operators proved challenging even after having contacted the respective European (Eurolease) and some national organisations. In spite of some suggestions as to fleets to contact from these organisations, it still proved difficult to identify fleet operators who were prepared to be interviewed. The response from the other organisations contacted (i.e. the automobile associations and environment/transport agencies) was better, which provided more information on dissemination activities in particular.

6.2 Possible assimilations of the Clean Vehicle Directive approach in private vehicle purchase decisions

While no evidence was found of the Directive 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 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 and UPS, manage their fleets to reduce energy 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 (see Box 6-1 for some examples).

Box 6-1: Examples from UNEP of clean vehicle procurement as part of fleet management good practice

The United Nations Environment Programme has developed a toolkit to assist organisations to develop a strategy to reduce the environmental impacts of their fleets. This includes a step-by-step actions plan, as well as case studies of good practice. The case studies cover a range of actions that might be undertaken to reduce the environmental impacts of fleets, including the trialling and procurement of clean vehicles. Relevant actions relating to vehicles include:

- DHL/Deutsche Post has introduced hybrid delivery trucks in Germany and Japan, biogas vehicles in Sweden and Switzerland and has tested fuel cell vehicles in Japan.
- In collaboration with an environmental organisation and a vehicle manufacturer, FedEx has developed a hybrid delivery truck, which has subsequently been tested and put into service in various locations in the US, including California and New York.
- TNT has introduced hybrid vehicles into its vehicle fleet in Turkey.
- UPS has the largest fleet of CNG vehicles in the US, and has tested fuel cell and electric vehicles.

Source: UNEP/TNT Toolkit for Clean Fleet Strategy Development; see <http://www.unep.org/tnt-unep/toolkit/> (accessed 27 August 2012)

Other companies with large fleets, e.g. car rental firms such as Europcar, Avis and Hertz, have also adopted various clean/energy efficient policies in relation to their fleets, for reasons of corporate social responsibility and consumer demand (see Box 6-4).

Only one Member State representative of those contacted as part of this project indicated that they were aware of the approaches included within the Directive being taken up within the private sector. This was in Finland, where 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.

Box 6-2: Examples of the adoption of clean vehicle practices by car rental companies

Many of the major car rental companies have “green fleets” that allow customers to choose cleaner and energy efficient vehicles, as part of wider strategies to reduce the company’s environmental impact. Europcar’s Green Fleet includes:

- Electric cars, i.e. the Peugeot iOn;
- Hybrid cars, e.g. Mercedes S400 hybrid, Smart Micro Hybrid Drive and the Toyota Prius; and
- “CO₂ fuel efficient” cars, including the VW Polo BlueMotion Efficiency, Renault Clio ECO2 and the Volvo S40 Drive.

Avis has a range of cleaner and more energy efficient cars in its Green Fleet, such as the Toyota Prius in the UK, Honda Civic hybrids in Portugal and Toyota Priuses, ethanol-powered Saabs and flex-fuel Fords in Scandinavia. In its Green Collection, Hertz has low CO₂ emissions cars, such as the Seat Ibiza Ecomotive and the VW Passat BlueMotion.

Sources: <http://microsite.europcar.com/green/green-fleet.shtml>;

<http://www.avis-greenerworld.com/what-we-do/our-green-fleet>;

<https://www.hertz.co.uk/rentacar/car-hire/green-car-hire>

Feedback from other stakeholders and experts suggested that there are many examples from the private sector where companies are adopting low carbon vehicle policies, e.g. by applying maximum emission thresholds for the vehicles that can be purchased, purchasing a particular type of alternatively-fuelled vehicle, or, in rental and leasing companies, ensuring that they have low carbon vehicles in their fleet in order to meet consumer demand for these vehicles. However, it was questioned whether these approaches had been influenced at all by the Clean Vehicle Directive. Rather than private companies assimilating the approaches of the Directive, it was suggested that private companies take-up such approaches for a range of reasons, including high fuel prices, national policies, such as CO₂-based company car taxation (e.g. in the UK), and company objectives that encompass wider sustainability concerns (e.g. see Box 6-4). Additionally, it was suggested that many large fleets already undertake whole life costing when purchasing their vehicles (e.g. see). However, again this could not be attributed to the Clean Vehicle Directive, but was part of the business practices of such organisations.

Box 6-3: Vehicle procurement policy of the Sussex Community NHS Trust

The Sussex Community NHS Trust is a national health service provider operating over 860 square miles of southern England. The Trust operates its own vehicles as well as leased vehicles. The former are procured via NHS framework agreements and procurement is based on whole life costs. The CO₂ emissions of vehicles are taken into account in the procurement process, as the Trust has an internal target of reducing these emissions by 15% by 2015. There is also the need to reduce running costs as a result of reductions to their budget. Hence, the approach has been chosen to meet financial and environmental targets. The emissions of leased cars are capped at 140gCO₂/km, while the use of vehicles with CO₂ emissions lower than 120g/km is incentivised. Where funds have allowed, the Trust has switched to the most efficient engine in each range and has ensured that the smallest option is used; the Trust has also reduced the size of its total vehicle fleet. As a result, the average CO₂ emissions of all types of vehicles have reduced each year since 2003.

Source: Jim Thomas, Head of Logistics, Sussex Community NHS Trust

Box 6-4: Vehicle procurement policy of the Commercial Group

The Commercial Group is a company of €50 million turnover, based in South West England, providing business services (i.e. IT services, office supplies, interiors and printing) to companies in the UK and Ireland. The company is a responsible company – responsive to the needs and wishes of wider society, in addition to those of its shareholders, staff and customers. Its strategic goals include commitments to the environment and wider social issues, including limiting its air pollutant and climate change emissions. The Commercial Group believes such an approach to be ethically right and the best way to achieve a more efficient and sustainable business in the long-term.

The company has a fleet of 60 vehicles – both vans and cars; in addition, more vehicles are operated under the “Commercial” name under various types of arrangement. The company aims to have dynamic and flexible policies that aim to meet *inter alia* ambitious environmental targets, but still enable the company to take account of the needs of its staff and customers. Its vehicle policy, of which procurement is a part, applies to both its own fleet, as well as to other vehicles operated under the company name, has three strands:

1. The first strand is to set the appropriate decision-making framework within the company so that the right thing to do is the default option. Rather than impose solutions on their staff, the company works with their staff, including through education and training, to ensure that the decisions that are made at all levels are consistent with the wider objectives of the company.
2. The company has not taken a technology-neutral approach, rather it chooses to focus on a technology that it knows will work for its purposes. In this way, they work with a particular technology for a number of years with the aim of focusing on improving the environmental performance as much as they can. Currently, its vehicles operate with biodiesel. The company has invested in a biodiesel system by working with suppliers to ensure a good quality product that has been sustainably sourced and produced. The result has been CO₂ emissions reductions of up to 88% along the lifecycle. Focusing on a particular technology has not prevented the company from taking the opportunity to test other types of technology, such as electric, hybrid, hydrogen and natural gas-powered vehicles.
3. The company takes a holistic approach to its vehicle fleet policy of which procurement is only a part. The way in which vehicles are used is also important, both with respect to driving style, reducing unnecessary journeys and maximising loads. Training is a crucial part of this, but so is providing sufficient flexibility to enable staff to enable them to use their own knowledge to make the right choices. Hence, the approach does not necessarily entail procuring the lowest emission vehicles on the market, but the vehicles that can deliver the best overall environmental performance when in operation.

Source: Simon Graham, Environmental Strategist, Commercial Group

6.3 The role of information dissemination

Some of the Member State representatives that responded as part of this project reported various forms of dissemination activity that have been undertaken in their respective countries to relevant stakeholders. Such activities include:

- Active engagement with stakeholders in the development of the relevant national legislation (e.g. in Germany and the UK);
- Dissemination of information on the Directive to local authorities (e.g. in Romania) and to public sector procurers (Ireland);
- Presentations about the Directive at relevant workshops and meetings (e.g. in Slovenia and Austria);

- Holding training events on green procurement generally (e.g. Poland and Slovakia) or for vehicle sellers in particular (e.g. Finland); and
- Putting information on the Directive on the respective Ministry's website (e.g. Poland, Finland, Slovenia and Sweden).

In some countries, information on the Directive has also been disseminated by non-governmental actors, e.g.:

- Non-governmental websites in Poland on general green procurement.
- The Dutch sustainable procurement website, which contains information about the Directive, is visited by private sector procurers, as well as the public sector.
- Finnish municipalities and private organisations have been spreading information on the Directive to clients.
- There have been articles in the media in Finland when the legislation transposing the Directive was being prepared.

In this respect, it should also be noted that the Commission's Clean Vehicle Portal is an important dissemination tool, in relation to the Clean Vehicle Directive, information on clean and energy efficient vehicles and relevant news, as well as for putting procurers in touch with each other to facilitate joint procurement (see the overview in Section 1.1.2). The Commission has held events to promote the Portal, including a workshop in Brussels on 6 December 2011. The Commission is planning a number of activities to further develop and promote the Portal (see). If undertaken appropriately, these actions could address some of the issues that have been raised by city respondents in relation to the Portal about its usability and relevance.

Box 6-5: Commission's plans relating to the development and promotion of the Clean Vehicle Portal

The Commission has a number of planned actions to develop the Portal and to promote it more widely. The structure of the Portal will be assessed and improved where necessary, while measures will be taken to improve the user-friendliness of the Portal for its target users. More attention will be given to national contexts, including potentially using different languages. The revamped website will be launched on the Europa website in 2013. The Portal will be maintained on a regular basis with information on new vehicles being available no later than six weeks after the vehicle has been put on the market in the EU. 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.

Additionally, more elements will be developed for the Portal with the aim of facilitating its promotion. A short video clip will be uploaded to the Portal that could be used to raise awareness, a new leaflet will be developed to promote the Portal (both of these will be in German and French, as well as English), and a tutorial will be developed to guide users through the developed Portal. The Portal will also be presented to two large events and relevant news items will also be published. Finally, at least 25 best practice case studies will be developed (again in French and German, as well as in English) and added to the site to provide examples of various aspects of the procurement of clean and energy efficient vehicles.

Source: European Commission, DG MOVE

Member States with national portals felt that these would be an important means of disseminating information on the Directive, and on green procurement more generally, to public sector procurers. However, some cities felt that while the existence of the Directive and the Commission's Clean Vehicle Portal had been communicated, more information on how to apply the Directive and on using the Portal would be beneficial. Some other organisations have also undertaken dissemination activities in relation to the Directive. For

example, the international association of public transport operators (UITP) has been active in informing its members, first of the possibility of the Directive when it was first discussed and subsequently in the course of the development of the Directive. Once the Directive had been agreed, UITP held a conference on the Directive and its potential application in its sector; the Directive has also been discussed at various UITP meetings and workshops.

The UITP has also produced a report on bus tendering, which included specific information on how to take the provisions of the Directive into account in bus tenders⁴⁴. This builds on earlier UITP work in this area, which included the development of test cycles for buses. These drive cycles were developed in the SORT project, which began in 2003. The SORT project was undertaken in response to the recognition that the results of emissions tests carried out on engines on test benches were not giving sufficiently good information on fuel consumption to its members, who wanted more accurate information. Since the publication of the Directive, UITP and ACEA worked together to agree on how operators and procurers should interpret the requirements of the Directive when calculating the external costs using values from the certified SORT cycles; this approach is presented in an Annex to the UITP's report on bus tendering. Otherwise, there was a risk that a range of different test cycles would have been developed in the context of the Directive for buses.

Some of UITP's national member associations, e.g. ASSTRA in Italy, VDV in Germany, ATUC in Spain and UTP in France, have also undertaken dissemination activities within their respective Member States, which were often jointly undertaken with UITP and at which the UITP's recommendations, e.g. on bus tenders, were often presented. The dissemination activities undertaken by the UITP have been very important in making their members aware of the Directive and its implications.

In different Member States there are various types of organisations that *inter alia* communicate information more widely on clean and energy efficient vehicles. In Germany, ADAC, the German Automobile Association, has developed "EcoTest", which is proving to be an important means of providing advice to consumers. A similar tool, "Ecoscore", has been developed in Belgium (see Box 6-6 for an overview of both tools). In Germany, the increasing profile of sustainable mobility has resulted in an increasing level of interest in the results of EcoTest amongst the media and consumers. Enquiries from members of the public about mobility and the environment are higher now than they were a few years ago, and the EcoTest is frequently referred to in such enquiries. Additionally, ADAC continually informs consumers about eco-driving, alternative fuels and alternative vehicle technologies through events, information to the press and articles in its own monthly magazine, *ADAC Motorwelt*, which is distributed to its 17 million members. In Spain, another automobile association, RACE, has undertaken a campaign to promote electric vehicles. The campaign targeted private users and vehicle fleets and included a road show that visited 20 Spanish cities. This has complemented other actions taken by cities, such as the alternative vehicle show in Valladolid⁴⁵ and an electric fleet's day in Madrid⁴⁶.

⁴⁴ UITP (2009) UITP Tender Structure for the tendering of buses and related services; see <http://www.uitp.org/publications/index2.cfm/index2.cfm?id=6>

⁴⁵ <http://www.feriavalladolid.com/vehiculoalternativo/>

⁴⁶ http://sponsorship-group.com/aegfa/news/Modelos_Marcas_FE2012_web.html

Box 6-6: Communicating the environmental impacts of vehicles to the public

There are a number of approaches in the EU that have been developed to provide more comprehensive environmental information and easily understandable information to potential vehicle buyers on the benefits of cleaner and more energy efficient vehicles.

In Germany, ADAC has developed EcoTest, which aims to provide consumers with information on the environmental performance of vehicles. ADAC evaluates vehicles according to its own criteria and measurements. Setting up an independent test procedure, which is stricter than the existing legislative criteria, has meant that the club does not have to rely on data provided by the automobile manufacturers. To date, more than 1,300 types of vehicle have been tested. The EcoTest covers *inter alia* CO₂ emissions and air pollutant emissions, such as hydrocarbons, carbon monoxide and NO_x. Energy consumption is considered from the perspective of a 'well-to-wheel' assessment in order to provide a more comprehensive result with respect to CO₂ emissions.

In Belgium, VITO and VU maintain a database for the three Belgian regions called Ecoscore, which aims to provide information to vehicle users on the environmental performance of vehicles. The database relies on data provided by the relevant federal authorities. The Ecoscore of the vehicles contained in the database is presented in the form a single value between 0 and 100; the higher the score, the better the environmental performance of the vehicle is judged to be. The score takes a 'well-to-wheel' perspective and takes account of the contribution of the pollutants emitted from a vehicle to global warming and air pollution (covering both health effects and the impacts on ecosystems), as well as noise. Ecoscore is also used by local authorities (see Box 5-2).

Sources: ADAC (personal correspondence) and www.ecoscore.be

Actions have been also taken by members of the EnR European Energy Network, which consists of independent national energy agencies. In the UK, the Energy Saving Trust (EST) provides independent advice on a range of actions that could reduce the energy consumption of private companies and households, including information relating to transport. The latter includes information on eco-driving, as well as on alternative fuels and vehicle technologies. EST also delivers tailored advice to fleets via a telephone advice line, webinars, dedicated fleet "health checks" and via a monthly newsletter. It is also currently running a "Plugged in Fleets Initiative" in which it is working with 20 private and public fleets to provide an independent assessment of the benefits of using plug-in electric vehicles in fleets, which will lead to a series of case studies on the lessons learned. In Germany, the national energy agency DENA has issued a Declaration of Intent with relevant industry stakeholders, which will lead to actions with industry to increase the use of natural gas and biomethane in fuelling vehicles covering both infrastructure and vehicles. DENA is also planning to work with public authorities in relation to the implementation of the appropriate provisions of Article 5(3).

6.4 Summary and conclusions

Rather than undertake an extensive analysis of the take-up of the approach in private vehicle purchases, this task focused on the identification of examples of approaches where clean and energy efficient vehicles have been actively procured for private fleets. However, we have not been able to identify an example of where the Directive has directly influenced the procurement policy of a private sector organisation, and those who had a view felt that the Directive was unlikely to have had much direct impact on the private sector, as private sector procurement policy is influenced by a wide range of factors. In relation to vehicles, these include high fuel prices, national policies such as taxes, customer demands and the integration of wider sustainability considerations into company strategies. Such policies range from trialling alternative vehicles, which could of course lead to a more extensive deployment, to integrating sustainability concerns into the company strategy.

At the basic level, responding to high fuel costs and incentives provided by taxation policies is simple economic sense, particularly for companies for which fuel costs are a high, or

significant, proportion of total costs. From a wider perspective, responding to customer concerns, as well as wider societal issues, could also be seen as good business as consumers and other stakeholders pay more attention to a company's wider environmental and social performance. Hence, it is probably not that surprising that there appears to be little direct impact of the Clean Vehicle Directive on procurement policies in the private sector. In the longer-term, however, there could potentially be synergies between the Directive and private sector vehicle procurement. For example, the development of a market by focusing on the public sector could stimulate manufacturers to integrate the new technologies developed for the public sector into vehicles purchased by the private sector in order to maximise the returns on their investments. This could lead to improved environmental performance in vehicles procured by the public sector.

Many Member States have undertaken dissemination activities, or have directly engaged with local authorities and other relevant stakeholders when transposing the Directive. Additionally, the UITP has been active in informing its members of the Directive and its implications for them. These dissemination activities are clearly linked directly to the Directive. Many of the stakeholders contacted believe that dissemination is important, although some cities felt that more information could have been provided on the application of the Directive within some countries and on the use of the Portal.

Other organisations have engaged with private users and private fleets with respect to cleaner and more energy efficient vehicles, including eco-driving and alternative energy sources and propulsion systems, if not about the Directive explicitly. We did not identify active dissemination to private users that was directly linked to the Directive. Instead, such activities were usually linked to lowering costs for members, e.g. drivers, or linked to an organisations wider objective, e.g. of reducing energy consumption. Over time, however, the various dissemination activities are likely to reinforce each other. Hence, in this respect, the dissemination activities inspired by the Directive to the public sector could be seen to complement the various dissemination activities that aim to target private users and fleets.

7 Analysis of the take-up of the approach in other sectors

The aim of this task was to undertake a 'stock-take' of the influence of the Clean Vehicle Directive and the use of similar approaches in other sectors rather than a comprehensive assessment of the extent to which the approach used in the Clean Vehicle Directive has been adopted in other sectors. . In this respect, the research methods used in this task were:

- Undertaking a high-level review of approaches used in other sectors, identifying those which may have been influenced by the approaches used in the Clean Vehicle Directive; and
- Engagement with other DGs (including ENTR, INFSO, MARKT etc.) to identify and explore further the approaches that have been used in other sectors.

7.1 Background: Green Public Procurement (GPP) policy and legislation framework in Europe

Over the past few years, public procurement in the EU has been undergoing some changes. In 2010, the European Commission published its Europe 2020 strategy for smart, sustainable and inclusive growth. Europe 2020 sets out a vision of Europe's competitive social market economy over the next decade that rests on three key priorities:

- Developing an economy based on knowledge and innovation;
- Promoting a low-carbon, resource efficient and competitive economy; and
- Fostering a high-employment economy delivering social and territorial cohesion.

One of the market-based instruments that could be used to achieve the Europe 2020 strategy objectives is public procurement. In the context of the Europe 2020 strategy, public procurement has the potential to:

- Improve framework conditions for business to innovate, making full use of demand side policy measures;
- Support the shift towards a resource efficient and low-carbon economy (e.g. through encouraging wider use of green public procurement (GPP)); and
- Improve the business environment, especially for innovative SMEs.

In a period of budgetary constraints and economic difficulty in a number of EU Member States, it is more important than ever to achieve optimal procurement outcomes through efficient procedures. The Europe 2020 strategy therefore also requires that public procurement policy must ensure the most efficient use of public funds and that procurement markets must be kept open EU wide. Stakeholders expressed a need for existing public procurement legislation to be revised and modernised to ensure that it is better suited to deal with the evolving political, social and economic context.

In January 2011, the Commission issued a Green Paper on the modernisation of EU public procurement policy – *Towards a more efficient European Procurement Market*⁴⁷. The Green

⁴⁷ EC (2011) Green Paper on the modernisation of EU public procurement policy – Towards a more efficient European Procurement Market, COM(2011) 15 final, Brussels. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0015:FIN:EN:PDF>

Paper aimed to contribute to revisions of EU public procurement rules, leading to a proposal for legislative reform. It also presented the opportunity to identify a number of key areas for reform and ask stakeholders for views on concrete options for legislative change.

The Commission adopted a revised framework for public procurement in December 2011. This comprised of:

- Proposal for a general Directive on public procurement to replace Directive 2004/18/EC⁴⁸
- Directive on procurement by entities operating in the water, energy, transport and postal services sectors (the 'utilities Directive') replacing Directive 2004/17/EC⁴⁹
- Directive on the award of concession contracts⁵⁰

The proposal has two key objectives, to:

- "Increase the efficiency of spending to ensure the best possible procurement outcomes in terms of **value for money**. This implies in particular a simplification and increase in the flexibility of the existing public procurement rules. Streamlined, more efficient procedures will benefit all economic operators and facilitate the participation of SMEs and cross-border bidders; and
- Allow procedures to make better use of procurement in support of common societal goals, such as **protection of the environment, higher resource and energy efficiency, combating climate change, promoting innovation**, employment and social inclusion and ensuring the best possible conditions for the provision of high quality social services".

It is intended that the new public procurement Directive and utilities Directive will replace Directives 2004/17/EC and 2004/18/EC. The main aim of the proposal is to simplify the rules and procedures relating to public procurement, making them more flexible. In particular, the Commission has proposed:

- The possibility of increased recourse to negotiation, thus enabling the contracting authorities to purchase goods and services which are better tailored to their needs at the best price;
- The extension and generalisation of electronic communication in public procurement (offering an essential means of simplifying public tendering; and
- Major cuts in the administrative burden, including the number of documents required from economic operators.

The proposal aims to encourage access to public procurement for SMEs through measures aimed at reducing the administrative burden and incentives to divide tenders into lots and limit the financial capacity requirements for the submission of a tender.

It also aims to facilitate a qualitative improvement in the use of public procurement through ensuring greater consideration for social and environmental criteria, including life-cycle costs or the integration of vulnerable and disadvantaged persons (aiding the achievement of Europe 2020 strategy objectives). It considers that it would not be appropriate to set general mandatory requirements for environmental, social and innovation procurement. It therefore recommends instead to leave it to sector-specific legislation (for example, the Clean Vehicle Directive or Energy Performance of Buildings Directive – see below) to set mandatory

⁴⁸ EC (2011) proposal for a Directive of the European Parliament and of the Council on public procurement, COM(2011) 896 final, Brussels.

⁴⁹ EC (2011) Proposal for a Directive of the European Parliament and of the Council on procurement by entities operating in the water, energy, transport and postal services sectors, COM(2011) 895 final, Brussels. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0895:FIN:EN:PDF>

⁵⁰ EC (2011) Proposal for a Directive of the European Parliament and of the Council on the award of concession contracts, COM (2011) 897 final, Brussels, http://ec.europa.eu/internal_market/publicprocurement/docs/modernising_rules/COM2011_897_en.pdf

objectives and targets on one hand, and on the other, to promote the development and use of European approaches to life-cycle costing as further underpinning the use of public procurement.

The proposed Directive explicitly gives public purchasers the possibility to base their award decisions on the life-cycle costs of the products, services or works to be purchased. It defines life cycle costing as covering all life-cycle stages of a product or works or provision of a service, from raw material acquisition or generation of resources through to disposal, clearance and finalisation. It also defines costs as taking into account not only monetary expenses but also external environmental costs, if they can be monetised. The proposal also dictates that where a common European Union methodology for the calculation of life-cycle costs has been developed, contracting authorities have to make use of it.

Finally, the proposal reforms include improvements to existing guarantees aimed at combating conflicts of interest, favouritism and corruption to better ensure the integrity of procedures, given the financial implications; and appointment of a single national authority by Member States to be responsible for monitoring, performing and checking public contracts to ensure that the rules are properly applied in practice.

The proposals have been transmitted to the Council of the European Union and the European Parliament, with the aim of adopting the legislation before the end of 2012.

7.2 Take-up of the Clean Vehicle Directive approach in other sectors

The Clean Vehicle Directive came into force prior to the development of the recent proposals for public procurement in Europe. Its approach is therefore innovative in that it sets out a mandatory requirement for public entities to take account of energy and environmental impacts when purchasing road transport vehicles. The new framework for public procurement as set out in the Commission's proposal of December 2011 aims to allow procedures to make better use of procurement in support of societal goals, including protection of the environment, higher resource and energy efficiency, combating climate change and promoting innovation (amongst others), all of which are relevant to Directive 2009/33/EC.

The main approaches that are referred to in this section in relation to the Clean Vehicle Directive are identified in Article 5(3) of the Directive:

- **Option 1:** Set technical specifications for energy and environmental performance
- **Option 2a:** Where energy and environmental impacts are used as award criteria; and
- **Option 2b:** Where energy and environmental impacts are monetised.

Through reviewing current legislation for other sectors and engagement with various Directorate Generals, it was revealed that very few sectors are using similar approaches to those taken by the Clean Vehicle Directive (or are planning to). In particular, those sectors identified to be using similar approaches include office equipment, buildings, and all sectors when considered in a voluntary context (see Table 7.1 for more detail).

Table 7.1: Legislation requiring public authorities to purchase green products

Regulation	Requirements
Clean Vehicles Directive 2009/33/EC⁵¹	Public authorities must take energy consumption and emissions into account in procurement of vehicles above the EU threshold. A common methodology for calculating

⁵¹ 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

	lifetime operational costs is provided.
Regulation on a Community energy-efficiency labelling programme for office equipment (No 106/2008) ⁵²	Requires minimum energy efficiency to central government authorities purchasing office IT equipment, under the EU Energy Star Regulation.
Energy Performance of Buildings Directive (2010/31/EU)	From 2014 at the latest, minimum energy performance requirements must be applied in all new build and major renovation projects. All new publicly owned and occupied buildings must be “nearly zero-energy” by 2019.
Energy Efficiency Directive, the final version of which was endorsed by the Council in October 2012 and supported by the European Parliament in September 2012 ⁵³ .	Annex III of the proposed Directive includes some rules for procurement by central government, including that energy consuming products purchased comply with the standards in various EU pieces legislation, such as only buying tyres with highest fuel energy efficiency class, as defined by Regulation (EC) No 1222/2009.

7.2.1 Office equipment

There are currently regulations in place concerning office equipment (covering all types of office equipment, including computers, printers etc.), which use a similar approach to Option 1 in the Clean Vehicle Directive, where technical specifications for energy and environmental performance are set.

The “**Energy Star**” **energy efficiency programme** commenced in 2001 and previously ran for two consecutive five-year periods, the latest being 2006 to 2011 (supported by Regulation no. 106/2008). The aim of the programme is to promote the manufacturing of energy-efficient office equipment. Consumers are able to identify low energy consumption appliances which play a part in ensuring security through the display of the Energy Star label. Manufacturers, assemblers, exporters, importers and retailers willing to place the Energy Star label on products meeting or exceeding energy-efficiency guidelines are invited to register with the European Commission (EC). Products can earn the Energy Star label by meeting the energy efficiency requirements set forth in Energy Star product specifications. These specifications based on the following set of key guiding principles:

- Product categories must contribute significant energy savings nationwide;
- Qualified products must deliver the features and performance demanded by consumers, in addition to increased energy efficiency;
- If the qualified product costs more than a conventional, less-efficient counterpart, purchasers will recover their investment in increased energy efficiency through utility bill savings, within a reasonable period of time;
- Energy efficiency can be achieved through broadly available, non-proprietary technologies offered by more than one manufacturer;
- Product energy consumption and performance can be measured and verified with testing; and
- Labelling would effectively differentiate products and be visible for purchasers.

All products that earn the Energy Star are certified by independent organisations to ensure that they deliver the energy savings promised by the label.

⁵² Relevant legislation for several products can be found in <http://www.eu-energyvstar.org/en/254.shtml>

⁵³ The final version of this Directive had not been published in the Official Journal at the time of writing.

An agreement is in place between the US and the European Commission⁵⁴, whereby there is mutual recognition of the US EPA and the European Commission as partners in the Energy Star programme. Both parties use the same guidelines for the use of the level and the procedure for revising Energy Star criteria for office equipment. Both parties use a common set of specifications and common logo when establishing consistent targets for manufacturers, with the aim of maximising the effect of their individual efforts on the supply and demand for such products.

A Regulation was adopted in December 2007 for implementing the EU-US Energy Star Programme in the EU. The Regulation required that all EU institutions and central Member State government authorities should use energy efficiency criteria no less demanding than those defined in the Energy Star programme when purchasing office equipment.

A proposal has been put forward for a Council Decision on a further five-year period for the programme (COM(2012) 108 final). Analysis supporting this proposal has revealed that Energy Star has been effective in improving energy efficiency in the office equipment market. Electricity consumption of office equipment sold in the past three years has been reduced by approximately 11 TWh (16%). This equates to more than €1.8bn saved on energy bills and avoidance of 3.7 Mt of CO₂ emissions. The requirement for EU institutions/central government authorities to purchase office equipment at least as efficient as laid down by the Energy Star provisions has been indicated as one of the drivers for many manufacturers taking part in the voluntary scheme. The Impact Assessment and accompanying proposal for an Energy Efficiency Directive include further arguments for strengthening the provisions for public procurement.

7.2.2 Buildings

The buildings sector uses a similar approach to option 1 in the Clean Vehicle Directive, where technical specifications for energy and environmental performance are set. The **Energy Performance of Buildings Directive (2010/31/EU⁵⁵)** which is the main legislative instrument setting out the requirement to reduce the energy consumption of buildings. Member States are required to:

- Establish and apply minimum energy performance requirements for new and existing buildings;
- Ensure the certification of building energy performance; and
- Require the regular inspection of boilers and air conditioning systems in buildings.

Member States are required to adopt, either at national or regional level, a methodology for calculating the energy performance of buildings which takes into account certain elements, specifically:

- the thermal characteristics of a building (thermal capacity, insulation, etc.);
- heating insulation and hot water supply;
- the air-conditioning installation;
- the built-in lighting installation; and
- indoor climatic conditions.

Minimum requirements for energy performance need to be put in place by Member States in order to achieve cost-optimal levels. The level of these requirements is reviewed every five years. When setting requirements, Member States may differentiate between new and

⁵⁴ EC (2006) Council decision of 18th December 2006 concerning conclusion of the Agreement between the Government of the United States of America and the European Community on the coordination of energy efficiency labelling programmes for office equipment (2006/1005/EC) <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:381:0024:0025:EN:PDF>

⁵⁵ Directive 2010/31/EC of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings aims to promote the energy performance of buildings and building units. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:153:0013:0035:EN:PDF>

existing buildings and between different categories of buildings. New buildings need to comply with these requirements and undergo a feasibility study before construction starts, looking at the installation of renewable energy supply systems, heat pumps, district or block heating or cooling systems and cogeneration systems. When undergoing major renovation, existing buildings need to have their energy performance upgraded so that they also satisfy the minimum requirements.

The following may be exempt from the application of the minimum requirements:

- officially protected buildings (for example, historic buildings);
- buildings used as places of worship;
- temporary buildings;
- residential buildings intended for a limited annual time of use;
- stand-alone buildings with a total useful floor area of less than 50 m².

Member States need to implement a system for certifying the energy performance of buildings, including providing information on the energy performance of a building and recommendations for cost improvements. When a building or building unit is offered for sale or for rent, the energy performance indicator of the energy performance certificate needs to be included in advertisements in commercial media. When buildings or building units are constructed, sold or rented out, the certificate is to be shown to the new tenant or prospective buyer and handed over to the buyer or new tenant. Member States are responsible for putting in place a system of regular inspections of heating and air-conditioning systems in buildings.

Regulation no. 244/2012⁵⁶ establishes a comparative methodology framework to be used by Member States for calculating cost-optimal levels of minimum energy performance requirements for new and existing buildings and building elements. The regulation is to apply to all buildings occupied by public authorities from 9th January 2013.

7.2.3 Proposed Energy Efficiency Directive

A proposal for an Energy Efficiency Directive was published by the Commission in June 2011⁵⁷. After much discussion in the Council and the European Parliament, a final version of the Directive was agreed by both institutions in autumn 2012. The Directive aims to transform certain aspects of the Energy Efficiency Plan, which was launched in March 2011 and set out measures to achieve further savings in energy supply and use. The proposed Directive aimed to make many of these measures binding on public authorities, but the eventual Directive is not as stringent as that proposed by the Commission. Still, it is anticipated that the proposal will make a contribution to meeting the EU's 2020 energy efficiency targets.

7.2.4 Other sectors

Options 1, 2i) and 2ii) are used to varying degrees within each of the other sectors covered by the EU GPP voluntary initiative (technical specifications for energy and environmental performance are set, where energy and environmental impacts are used as award criteria and/or are monetised).

In 2008, the Commission published a Communication on 'Public Procurement for a better environment'⁵⁸, which aimed to provide guidance on reducing the environmental impacts of

⁵⁶ Commission delegated Regulation (EU) No. 244/2012 supplementing Directive 2010/31/EU of the European Parliament and of the Council on the energy performance of buildings by establishing a comparative methodology framework for calculating cost-optimal levels of minimum energy performance requirements for buildings and building elements. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:081:0018:0036:EN:PDF>

⁵⁷ EC (2011) Proposal for a Directive of the European Parliament and of the Council on energy efficiency and repealing Directives 2004/8/EC and 2006/32/EC, COM(2011) 370 final, Brussels. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0370:FIN:EN:PDF>

⁵⁸ European Commission (2008) Communication on Public Procurement for a Better Environment, COM(2008)400, Brussels.

public sector purchases. A number of specific policy outcomes were realised as a result of the publication of the communication. An indicative target was set that 50% of all public tendering procedures should be green by 2010. A set of pan-European GPP criteria (voluntary) for a range of products were developed. These products/sectors are as follows:

- Copying and graphic paper
- Cleaning products and services (updated in 2012)
- Office IT equipment (updated in 2012)
- Construction
- Transport (updated in 2012)
- Furniture
- Electricity (updated in 2012)
- Food and catering services
- Textiles (updated in 2012)
- Gardening products and services (updated in 2012)
- Windows, glazed doors and skylights
- Thermal insulation
- Hard floor coverings (updated in 2012)
- Wall panels
- Combined Heat and Power
- Road construction and traffic signs
- Street lighting and traffic signals (updated in 2012)
- Mobile phones
- Indoor lighting (published in 2012)

The Communication also led to the publication and dissemination of information on life-cycle costing (LCC) of products and legal and technical guidance on the possibilities to include environmental criteria in tender documents.

The development of the EU GPP criteria in particular has led to a substantial alignment of GPP criteria in the EU Member States. A recent study revealed that of the 22 Member States for which data are available for, 14 are using the EU GPP criteria (or similar). Seven more Member States recommended in their National Action Plans both nationally developed and EU GPP criteria. Four of the countries have recommended using GPP criteria for all of the existing product groups, whilst other Member States have recommended this approach for between two and fourteen of the product groups. Whilst engagement with other Directorate-Generals (DGs) within the European Commission revealed that further legislation with similar approaches to the Clean Vehicle Directive is not planned for the near future, a number of the DGs mentioned that they were working on voluntary approaches and methodologies related to lifecycle costing (LCC). DG Enterprise and Innovation (DG ENTR) has recently been supporting the development of a methodological framework for LCC in construction projects and will be investigating the framework of forthcoming communication on sustainable construction measures to ensure a more systematic recourse in GPP. DG Environment (DG ENV) also stated that whilst there is not any current LCC legislation or any planned in the near future, they may be working on tools in the future that could be used on a voluntary basis.

7.3 Summary and conclusions

This high-level stock-take of the potential influence of the Clean Vehicle Directive and the use of similar approaches in other sectors has revealed that similar approaches are being taken in a limited number of sectors, including office equipment, buildings and energy efficiency. The approach taken by these sectors is the mandatory setting of environmental criteria in the public procurement process. Whilst this is a similar approach used to Option 1 in the Clean Vehicle Directive (Article 5(3)), it is unlikely that the Clean Vehicle Directive has directly influenced the methods used in these sectors.

The revised framework for public procurement, proposed by the Commission in December 2011, will see the updating and replacement of existing Directives on public procurement processes. Importantly, the changes that the revised framework will bring about include greater consideration for social and environmental criteria, including life-cycle costs, and recommending that sector-specific legislation sets its own mandatory objectives and targets whilst developing and using approaches to life-cycle costing as further underpinning the use of public procurement. Although some of these elements were possible under existing legislation, the proposal aims to provide a more coherent framework within which such approaches can be applied in the future. The development of this legislation has benefited from the experience gained with the development of the Clean Vehicle Directive, as the respective Commission DGs engaged with each other in the course of the development of the new framework proposal.

Similar voluntary approaches have become more widespread since the introduction of GPP criteria for 19 sectors. As time goes on, Member States will become more familiar with such requirements in procurement processes.

Further monitoring and promotion of the Clean Vehicle Directive and its approaches over the next few years (i.e. future monitoring reports, the Clean Vehicle Portal, etc.) may encourage more widespread use of similar approaches in other sectors as potential positive impacts are realised by public authorities affected by the Directives requirements.

Hence, the approaches taken in some EU legislation targeting other products is consistent with those of the Clean Vehicle Directive. Additionally, some of this legislation pre-dated the Clean Vehicle Directive suggesting an evolution of policy over time. Further evidence for such an evolution can be seen in the December 2011 proposals for a revision of the EU's public procurement legislation. This foresees many of the same approaches contained within the Clean Vehicles Directive, but would provide a framework in which these approaches could be more coherently applied to a wider range of products.

8 Analysis of replications of the approach outside the EU

The vehicle manufacturing industry is increasingly a global industry. Hence, if requirements similar to those set for EU public authorities in the Clean Vehicle Directive are in place elsewhere in the world, the signal to industry with respect to the development and marketing of cleaner and more energy efficient road transport vehicles could be even stronger.

Consequently, the focus of the research within Task 7 was on the public procurement of road transport vehicles in the USA, China and India, i.e. the largest single markets in the world outside of the EU. Examples of approaches in other countries are also reported upon where these were identified as a result of the general work on this task.

8.1 Task method

As with other tasks in the project, the research was a combination of a review of existing sources, including on the internet, and engagement with relevant stakeholders. In this respect, all stakeholders that were interviewed in other parts of the project were asked whether they were aware of any examples of similar approaches implemented in relevant countries outside of the EU, if it was considered that they might be aware of such policies.

In this respect, the research methods used in this task were:

- **Existing reviews of public procurement**, particularly that which can be considered to be “green” or “sustainable”.
- **Engagement with stakeholders and experts**, including those in international bodies and initiatives.
- **Engagement with selected officials in non-EU Member States** in order to identify the details of the approaches taken.

The study team carried out a literature review and internet search, which has included the following:

- OECD’s website and reports;
- EEA/OECD’s database on relevant instruments;
- UNEP’s Global Clean Vehicles and Fuels Database;
- Global Fuel Economy Initiative (GFEI) website and database; and
- General searches for documents.

EU-level stakeholders (see Table 1.1) were also asked about action outside of the EU, while contacts were made with relevant experts and officials in the USA, China and India. Relevant actions in the USA, China and India are reported upon in Sections 8.2 and 8.4, respectively, while similar approaches elsewhere in Europe and the world more generally are reported upon in Section 8.5.

8.2 Clean vehicle procurement policies in the USA⁵⁹

At both the Federal and the State levels, fleets operated by state entities are covered by the requirements of the Energy Policy Act of 1992 (EPAct 1992), as amended. This requires that, as of model year 2001, state entities covered by the Act ensure that at least 75% of LDV acquisitions must be Alternatively Fuelled Vehicles. A state entity is covered by the requirements of the Act in this respect if:

- It owns, operates, leases or otherwise controls more than 50 light duty vehicles (other than excluded vehicles, which includes law enforcement vehicles);
- At least 20 of these vehicles are used primarily within a single (Consolidated) Metropolitan Statistical Area; and
- These same 20 vehicles are centrally fuelled, or at least capable of being centrally fuelled, i.e. if they can be fuelled at least 75% of the time at a location that is owned, operated or controlled by the fleet^{60,61}.

Section 301 of the EPAct 1992, as amended, also defines what is meant by an “alternative fuel vehicle” (AFV) in the Act and in subsequent clean vehicle legislation (see Box 8-1)⁶².

Box 8-1: Definition of alternatively fuelled vehicle in US legislation

The definition of “alternative fuel vehicle” relevant to the US green procurement legislation for vehicles covers dedicated and dual-fuelled vehicles. “Alternative fuel” explicitly includes pure methanol and denatured ethanol, blends containing at least 85% of these fuels, natural gas, LPG, hydrogen, fuels derived from biological material and electricity. For federal fleets, a 2008 amendment added the following vehicles to the definition of an AFV:

- “new qualified fuel cell motor vehicle”, i.e. a motor vehicle that is propelled by power from one or more cells that convert chemical energy directly into electricity by combining oxygen with hydrogen stored on board the vehicle.
- “new advanced lean burn technology motor vehicle”, i.e. a car or light truck weighing less than 6,000 pounds that has an internal combustion engine, is designed to operate using more air than is necessary for complete combustion, incorporates direct injection and meets or exceeds the relevant emissions standards established under the Clean Air Act (see below).
- “new qualified hybrid motor vehicle”, i.e. a motor vehicle that has an internal combustion or heat engine and a rechargeable energy storage system. Cars and trucks weighing less than 8,500 pounds also have to meet or exceed the “equivalent qualifying California low emission vehicle standard and meets or exceeds the relevant emissions standards” established under the Clean Air Act (see below).

Sources: US Department of Energy (2011); www.law.cornell.edu/uscode/text/42/13211; www.law.cornell.edu/uscode/text/26/30B#b_3

At the federal level, additional requirements were put on federal agencies and departments by President Obama’s Executive Order 13514 from October 2009. This Order was part of a sustainability strategy for the Federal Government and builds on a previous Order (that contained environmental and energy reduction requirements) by making reducing

⁵⁹ The authors would like to thank Aleka Seville and Ed Pike of The International Council on Clean Transportation for their assistance with and comments on this section.

⁶⁰ US Department of Energy (no date) “Standard Compliance: Guidelines to help State and Alternative Fuel Provider Fleets meet their Energy Policy Act Requirements”; also see http://www1.eere.energy.gov/vehiclesandfuels/epact/pdfs/standard_compliance.pdf (accessed 28 August 2012)

⁶¹ US Department of Energy (2011) “Executive Order 13514 – Executive Leadership in Environmental, Energy and Economic Performance: Comprehensive Federal Fleet Management Handbook”; also see http://www1.eere.energy.gov/femp/pdfs/eo13514_fleethandbook.pdf (accessed 28 August 2012)

⁶² White House (2009) “Federal Leadership in Environment, Energy and Economic Performance”; Executive Order 13514, 5 October 2009; see http://www.whitehouse.gov/assets/documents/2009fedleader_eo_rel.pdf and <http://www.whitehouse.gov/administration/eop/ceq/sustainability> (both accessed 28 August 2012)

greenhouse gas (GHG) emissions a priority of the Federal government. The 2009 Order noted the importance of the Federal Government leading by example in promoting energy security, protecting the interests of tax payers and safeguarding the health of the environment. In response, the Order requires Federal Agencies to take action to measure, report and reduce their environmental impacts, including their GHG emissions. The Order also noted that the approach should be used to “leverage agency acquisitions” to develop markets for sustainable technologies. As part of the approach, agencies should prioritise actions based on “a full accounting of both economic and social benefits and costs”.

In order to implement the “Strategic Sustainability Performance Plan” called for by the Order, each federal agency had to propose an agency-wide GHG reductions target for 2020 compared to a 2008 baseline to the Council on Environmental Quality for review and approval. In establishing this target, it was explicitly noted that each agency should consider reducing fossil fuel use by:

- Using low GHG emitting vehicles, including those using alternative fuels;
- Optimising the number of vehicles in the agency’s fleet; and
- Reducing the agency’s fleet consumption of petroleum products by 2% annually to 2020 compared to 2008, where the fleet has more than 20 motor vehicles.

Within six months of the date the order was introduced, the policies and practices associated with *inter alia* the use of alternative vehicles in Federal shuttle bus fleets were to be reviewed to see how they could support the objectives of the Order. Guidance on the acquisition and use of alternatively-fuelled vehicles was to be produced by the Department of Energy within the same timescales.

Overall, by 2020 the Order aims to deliver *inter alia* a 30% reduction in petroleum use from the 600,000 vehicles operated by the Departments and the Agencies of the Federal Government. It notes that, in addition to the environmental and energy benefits, meeting the Order’s targets would also reduce costs⁶³. The second scorecards of the Departments and Agencies covered were released in June 2012, following the first release in April 2011. In both 2010 and 2011, the US Environmental Protection Agency was on course to meet its target to reduce the petroleum used by its fleet, unlike both the Departments of Energy and Transportation, which were not⁶⁴.

In May 2011, the President published a Presidential Memorandum noting that it was the responsibility of the Federal Government, as the operator of the largest fleet of light duty vehicles in the country, to lead by example and to contribute to delivering the national goals of reducing oil imports by one third by 2025 and putting one million advanced vehicles on the road by 2015. The Memorandum aimed to provide guidance to the agencies covered by Executive Order 13514 in relation to reducing the petroleum use of their vehicle fleets. With this in mind, the Memorandum stated that, by the end of 2015, **all** new light duty vehicles leased or purchased by the agencies concerned must be AFVs (as defined in Box 8-1) and that these vehicles must be operated using the alternative fuel for which the vehicle was designed. Previous legislation had already required that motor vehicles in executive fleets should be limited in body and engine size to what is essential to meet the respective agency’s mission and be mid-size or smaller except when larger vehicles are essential to meet the agency’s mission. The Memorandum required that, where agencies retain larger vehicles, or where vehicles do not meet the alternative fuelled requirements, the details of these vehicles had to be disclosed on the websites of the agencies concerned. The Memorandum also covered optimal fleet size and fleet management⁶⁵.

⁶³ White House (2009) “Federal Leadership in Environment, Energy and Economic Performance”; Executive Order 13514, 5 October 2009; see http://www.whitehouse.gov/assets/documents/2009fedleader_eo_rel.pdf and <http://www.whitehouse.gov/administration/eop/ceq/sustainability> (both accessed 28 August 2012)

⁶⁴ <http://www.whitehouse.gov/administration/eop/ceq/sustainability/omb-scorecards> (accessed 28 August 2012)

⁶⁵ Presidential Memorandum “Federal Fleet Performance”, 24 May, 2011; see <http://www.whitehouse.gov/the-press-office/2011/05/24/presidential-memorandum-federal-fleet-performance> (accessed 28 August 2012)

8.3 Clean vehicle procurement policies in China

In its 2009 survey, the OECD did not identify any explicit public procurement policies in China to support cleaner and more fuel efficient vehicles. However, there were some initiatives to increase the use of cleaner vehicles, such as an agreement between the Chinese Ministry of Science and Technology and the US Department of Energy to promote the large scale deployment of more energy efficient vehicles, e.g. electric, hybrid and fuel cell vehicles⁶⁶.

Elsewhere, it has been reported that China began setting standards for the vehicles that can be procured by public offices in 2004. At that time, cars procured for officials at ministerial level were not allowed to have an engine size greater than 3 litres and were not allowed to cost more than 450,000 Yuan (US\$71,400), while for ordinary officials, cars could not have an engine size of more than 2 litres and had to cost a maximum of 250,000 Yuan (US\$39,700)⁶⁷.

In February 2012, China's Ministry of Industry and Information Technology published a proposed revision of the rule for comment. This would lower the maximum engine size to 1.8 litres that cost no more than 180,000 Yuan (US\$28,600). Alongside the proposed change, MIIT also published a reference catalogue of 412 models developed by domestic manufacturers that are eligible for public procurement, thus apparently excluding foreign manufacturers from selling vehicles to Chinese authorities. Additionally, in order to qualify as a vehicle supplier, companies will have had to spend at least 3% of sales revenue on research and development for two consecutive years. Together, one of the aims of these measures is to increase the proportion of domestically-produced cars used by senior officials and civil servants. The proposed approach has been subject to criticism from the EU^{68,69}.

8.4 Clean vehicle procurement policies in India

To date, no policies that require the procurement of clean or low carbon vehicles have been identified for India, although it has not yet been possible to confirm that this is the case. There are air pollutant emissions standards in India for all road transport vehicles, known as "Bharat Stages" (BS). For LDVs and HDVs, Stage III (equivalent to Euro III) applied to the 11 major cities from 2005 and the whole country from 2010; Bharat Stage IV (equivalent to Euro IV) applied to the 11 main cities from 2010⁷⁰. However, there does not appear to be any minimum fuel efficiency/CO₂ standards in India, e.g. a recent ICCT report on reducing emissions in India did not mention a public procurement policy on clean vehicles in India⁷¹. However, a 2011 report to advise the government in the preparation of the next Five Year Plan proposed that "minimum efficiency standard for the country's vehicle fleet" be defined⁷². There are Guidelines for the application of government financial assistance for Bus procurement, but these only refer to the need to meet the Bharat Stage III standards in relation to pollution and exhaust gases; there is no reference to CO₂ emissions or other environmental impacts⁷³.

⁶⁶ OECD (2009), "Eco-Innovation Policies in The People's Republic of China", Environment Directorate, OECD.

⁶⁷ "New procurement policy to benefit Chinese automakers", Watch China Times; see <http://www.wantchinatimes.com/news-subclass-cnt.aspx?cid=1201&MainCatID=&id=20120228000058>

⁶⁸ "China sets curbs on official cars" Wall Street Journal, 28 February 2012; see <http://online.wsj.com/article/SB10001424052970204520204577248930079358066.html> (accessed 28 August 2012)

⁶⁹ "New procurement policy to benefit Chinese automakers", Watch China Times; see <http://www.wantchinatimes.com/news-subclass-cnt.aspx?cid=1201&MainCatID=&id=20120228000058>; and Caixian; see http://english.caixin.com/2012-04-01/100375749_all.html (both accessed 28 August 2012)

⁷⁰ Ministry of Petroleum and Natural Gas, Government of India (2003) "Auto Fuel Policy"

⁷¹ ICCT (2012) "The Potential of Lower Vehicular Emissions in Indian Cities" ICCT Briefing, February 2012

⁷² Ministry of Road Transport and Highways, Government of India (2011) "Report of the Sub-Group on Policy Issues of the WG on Road Transport of the in preparation for the 2012-17 Five Year Plan"

⁷³ Ministry of Urban Development, Government of India (2012) "Transforming City Bus Transport in India through Financial Assistance for Bus Procurement under JnNURM"

8.5 Clean vehicle procurement policies elsewhere

There is awareness of the Clean Vehicle Directive in European countries other than those in the EU. The UITP, which has been relatively active in disseminating information on the Directive to its members (see Section 6.3), reports that many of its European members from outside of the EU (e.g. in Russia and Ukraine) will be aware of the Directive, as a result of attending the various groups and meetings where the Directive has been discussed. However, for most countries, it is not known whether these discussions have influenced any domestic approaches. However, the UITP recommendations on bus tenders, which are based on the Directive, are being used by cities in Switzerland and Norway. For example, Geneva applies the UITP bus tendering recommendation (particularly lifecycle costing) and the Swiss UITP representative has recommended that other Swiss cities do the same.

A 2008 OECD review of Korean “eco-innovation policies” identified that under a five year Hybrid and Fuel-Cell Powered Vehicles Plan of the Korean Ministry of the Knowledge Economy, government agencies would purchase hybrid cars for official use. It did not state whether this was a requirement or a voluntary measure. The same plan also offered various incentives, including tax breaks and discounted parking, to those who purchase hybrid vehicles. Additionally, one of the measures identified in the context of addressing Seoul’s air quality problems was the wider supply of low emission vehicles⁷⁴. For procurement, the Korean government has a mandatory green public procurement scheme called “Minimum Green Standard”, which applies to 821 public institutions, including state organisations, local government and public enterprises. Under this legislation, standards were introduced for 31 products, including cars, in September 2010⁷⁵.

An OECD review for Japan noted that green public procurement has been mandatory in Japan since 2001. All government institutions are required to develop green procurement policies and set targets. Efforts are also required from local government and the private sector. From the perspective of vehicles, all general official vehicles are required to be low emission vehicles, while targets are set for official vehicles (other than general official vehicles) for switching to low emission vehicles⁷⁶. The Japanese legislation applies to the national government and specified “Independent Administrative Institutions” and applies to a wide range of products, including light and heavy duty vehicles. Each institution covered by the legislation is required to establish annual procurement targets for the products that qualify under the legislation as eco-friendly products, i.e. which meet specified criteria. For vehicles, the criteria have been designed to deliver “significantly less environmental impact”. The criteria are effectively a list of technologies with some specified environmental performance standards. Many alternatively-fuelled vehicles are included on the list of eco-friendly vehicles, e.g. vehicles powered by electricity, natural gas and hydrogen, as well as hybrid, plug-in hybrid and fuel cell vehicles. The cleaner and more efficient conventionally-powered vehicles are also classified as eco-friendly vehicles, as long as they meet specified emission and/or fuel efficiency standards⁷⁷.

8.6 Summary and conclusions

Of the policies that have been identified that were implemented in countries outside of the EU, the only example of policies being directly influenced by the Directive was in cities in Switzerland and Norway, where the UITP’s recommendations on bus tenders, which are based on the Directive, have been implemented. Elsewhere, e.g. in the USA and Japan, clean vehicle procurement policy predates the Directive. In both these countries, clean vehicles are effectively defined and then targets are set for their purchase. A similar approach – i.e. defining what a “clean vehicle” is – has been used in the EU. In Sweden, the

⁷⁴ OECD (2008), “Eco-Innovation Policies in the Republic of Korea”, Environment Directorate, OECD

⁷⁵ OECD Development Centre (2012) “Korea’s Low-Carbon Green Growth Strategy” Working Paper 310

⁷⁶ OECD (2008) “Eco-Innovation Policies in Japan”, Environment Directorate, OECD

⁷⁷ <http://www.env.go.jp/en/laws/policy/green/index.html>

Stockholm city authority agreed on a definition of a clean vehicle in 2002 that could be used for a range of policies, such as reduced parking charges and company car taxation, as well as for procurement (see Box 5-2), while Gothenburg also had a definition. A national definition was first introduced in Sweden in 2005, which has been progressively tightened and is still used for the purpose of *inter alia* clean vehicle procurement⁷⁸. Such an approach is consistent with Option 1 allowed by Article 5(3) of the Directive, i.e. the use of environmental and energy criteria in technical specifications.

The clean vehicle policies in China are simpler, in that they specify a maximum engine size and a maximum cost for the cars procured by the public sector, as well as potentially specifying a list of qualifying vehicles, as in the proposals from early 2012. However, it is important to note that this does not necessarily lead to improved environmental performance, as cars with smaller engines can have higher environmental impacts than those with larger engines. It has not been possible to identify any additional action in other countries, e.g. India, even though several international organisations have been contacted. In this respect, it should be remembered that action in other countries is often behind that in the EU and North America, e.g. the focus in many countries is still on setting standards for fuel quality and emissions limit values for vehicles at levels that were implemented in the EU and North America many years ago. Consequently it might be the case that public procurement policies have not generally been considered, as yet, as other policies that the EU has already implemented are the current focus.

Consequently, the approaches of policies that aim to stimulate the procurement of clean vehicles in other countries around the world do not appear to be more advanced than the Clean Vehicle Directive as these would probably be consistent with, and therefore allowed by, the provisions of the Directive. Additionally, without a more complete evaluation of the impact of both the policies in other countries and the Clean Vehicle Directive itself, which this report has not been able to do for reasons discussed elsewhere, it is difficult to identify lessons for the EU and the Clean Vehicle Directive of actions undertaken elsewhere in the world.

⁷⁸ City of Stockholm (2010) "*Clean Vehicles in Stockholm: Historic retrospect 1994-2010*" Environment and Health Administration in the City of Stockholm

9 Conclusions and recommendations

9.1 State of play

At the end of 2010, the date at which the Directive should have been transposed, only three Member States had put in place the necessary legislation to implement the Directive. Eighteen Member States completed their respective transpositions in the six months that followed, with three countries only completing their transposition in the first four months of 2012, more than a year after the date set by the Directive. The final Member State to complete its transposition will be Latvia, where it is hoped that this will be complete by the end of 2012. In some cases, the transposition was achieved by amending existing procurement legislation, while several Member States have developed, or intend to prepare, guidance documents on the application of the Directive. Consequently, there has been little time for the Directive to have a significant impact.

However, this does not mean that there has been no action in relation to the promotion of clean and energy efficient vehicles in the EU. The review of supporting measures that Member States have implemented showed that many countries had measures designed to promote the uptake of clean vehicles in place that pre-date the implementation of the Directive, some of which target vehicle purchasing by the public sector specifically, while others target vehicle purchasing more generally. These include some incentives for, and the active promotion by public authorities of, cleaner and more energy efficient vehicles. More generally, low emissions vehicles are often exempt from, or benefit from lower, vehicle taxes or benefit from the removal of access restrictions; alternatively, purchasers can benefit from grants to help with the increased costs of purchasing such vehicles. These measures often support other European legislation, such as the passenger and van CO₂ Regulations, or aim to assist countries with meeting other European and national objectives, such as targets relating to GHG reduction or air quality.

In addition, as can be seen from the case studies undertaken for this report, many cities have been taking action for some time to procure clean and energy efficient vehicles for their vehicle fleets. Some of these actions began more than a decade ago, so have already had impacts on the vehicles used in cities, as well as more widely in some cases, e.g. in Sweden. This was even the case in cities that are not generally known for their clean vehicle policies, such as in Romania and in Zagreb. However, there were distinct differences between the approaches in those cities more known for their clean transport policies, such as Stockholm, Hamburg and London, and those that are not. The former appear to be more influenced by climate change in addition to air pollution as they are more actively engaged with testing and procuring vehicles that use alternative technologies and that would be considered to be more energy efficient, such as hybrids, whereas the latter still focus primarily on air pollution. Having said that the Directive has still had some minor impact on the approaches taken, e.g. enabling the inclusion of emissions costs in Barcelona, and some public transport operators expressed an interest in applying other options in the Directive in the future. Consequently, the impact of the Directive is likely to grow.

Of the options contained within Article 5(3) of the Directive for the inclusion of energy and environmental impacts in the vehicle procurement decisions of public authorities, 24 Member States have allowed all of these. The reasons for doing so included: that this provided the purchasing authority with the greatest flexibility; that it enabled each purchasing authority to use the option that was best suited to its needs and circumstances; and that this approach best reflects existing sustainable procurement policy in the Member State concerned. Of the other countries, Slovenia allows only the use of the energy and environmental impacts as

award criteria, as it was considered that this was the simplest approach, while the Czech Republic does not permit the monetisation option, as the other two options fitted best with existing practice in the country. In Italy, while all options are applied, option 1 (i.e. technical requirements) will apply to light duty vehicles, while option 2 will apply to heavy duty vehicles, which appears to be counter-intuitive as the information required for option 2 is more readily available in a consistent format for light duty vehicles, i.e. cars and vans, than it is for buses and trucks.

9.2 Impact of the Directive

The Directive has the potential to have a range of different impacts. The most obvious, and the intended, direct impact is the impact on the purchasing decision of public authorities. The hope is that, as a result of the Directive, public authorities procure higher numbers of clean and energy efficient vehicles, which would increase the market for such vehicles and thus stimulate manufacturers to further develop the necessary technologies. Prior to the Directive, various public authorities in the EU were procuring clean vehicles, but this was being undertaken in an uncoordinated fashion that risked fragmenting the market and not delivering the economies of scale required to bring down the costs of cleaner and more energy efficient vehicles. Hence, the Directive aims to provide a harmonised approach to the public procurement of clean vehicles throughout the EU, although Member States (in their discussions in the Council) added more flexibility to the Directive than had existed in the Commission's original proposal.

Within cities, there should also be a direct impact on the emissions from the vehicle fleets of public authorities, which should have benefits for national GHG reduction targets, as well as on pollution levels, particularly in the more polluted urban areas, some of which are struggling to meet EU air quality targets. Additionally, it is hoped that the increased market for clean and energy efficient vehicles will have a knock-on effect on the private vehicle market, as manufacturers aim to increase the return on their investment by offering such vehicles to the private market. In the longer-term, there would also be a knock-on benefit for all private drivers, as the clean and energy efficient vehicles originally procured by public authorities reach the second hand market.

However, none of the stakeholders to whom we spoke was able to identify any direct impacts that the Directive has had to date. This was largely down to two factors: first, it is very early in the implementation of the Directive; and second, no evaluations have yet been undertaken by Member States. It is also important to note that the eventual impact of the Directive is likely to vary significantly between countries. This is due to the fact that some countries, and cities, have been taking action to procure clean vehicles in the public sector for many years. In these countries, where the Directive effectively allows for the continuation of pre-existing policies, arguably the Directive will have no impact. On the other hand, in Member States and cities that previously took less action to encourage the public procurement of clean and energy efficient vehicles, there is more likely to be an identifiable impact as a direct result of the Directive. However, as a result of a more coordinated approach, the fact that, as a result of the Directive, more public authorities throughout the EU will be taking account of energy and environmental impacts when purchasing vehicles should contribute to the development of an EU market in such vehicles.

In relation to the first point, it is worth recalling that the Clean Vehicles Directive requires the Commission to produce a report on the application of the Directive every two years from December 2010, which was the month of the deadline for Member States to transpose the Directive. On paper, this provides the Commission with two years' worth of experience on the basis of which to prepare the first report, which is to be published in December 2012. However, in practice, there is much less than two years' worth of experience to draw upon, as is evident from the information and analysis presented in this report. Even if all of the Member States had implemented the necessary legislation on time, there would still have

been a delay between the date on which the legislation came into force and its application by public authorities. Additionally, the evidence on the implementation and impact of the Directive has to be collated and analysed in reports such as this, which need to be prepared and finalised in time for the Commission to prepare and publish its own report in December. Hence, in practice, perhaps only one year's worth of evidence could have been collated for the Commission's first report. However, the fact that many Member States were late in transposing the Directive – some by more than 12 months – further reduces the amount of time from which evidence can be taken. At the current time, there is the additional problem that Member States' ability to procure vehicles has been reduced as a result of the reduced budgets that many public authorities are facing, which further reduces practical experience with the provisions of the Directive. Even under healthy economic conditions, leaving only two years between the transposition of a Directive and the first implementation report seems to be too short a time period in which to gain enough information on the application and impact of the Directive.

In this respect, it is worth considering when a measurable impact of the Directive might be expected. Typically, road transport vehicles have a lifespan of 10 to 15 years, although public authorities may not own a vehicle for its full lifetime. The length of time that they do own a vehicle may well be extended in times of financial restrictions. Even in the best scenario, it seems likely that only a small proportion of publicly-procured vehicles could have been subject to the Directive within the first two years of its application. Given the relatively small proportion of road transport vehicles that are procured by the public sector, even in this best scenario it would have been unlikely that an impact on the market would have been detected after only two years. An impact on the EU market for clean and energy efficient vehicles would only be felt in the longer term. In this respect, five years might have been a more suitable time period between the transposition of the Directive and the first assessment of its impact.

Recommendation:

In developing new legislation, the EU institutions should ensure that the reporting requirements, be they on the Commission or Member States, provide enough time for there to be sufficient experience with the application of the legislation in order to enable a proper assessment of its impacts. In this respect, it is important to consider in what period it might be possible to identify a measurable impact. This appropriate time period for the first monitoring or evaluation report will vary depending on the focus of the legislation. In the case of the procurement of road transport vehicles, five years might have been a more appropriate time period. For other legislation, the appropriate time period might be significantly shorter.

A further challenge in identifying the impacts of the Directive faced by the project team was the lack of comprehensive evaluations that have been undertaken by other stakeholders, particularly Member States. At this stage in the application of the Directive, it is probably too early for Member States to have commissioned any evaluation of the impacts of the Directive, for the reasons given above. However, for future reports under the Directive, it is worth underlining that Member States are not required to evaluate the impact of the Directive or undertake any reporting to the Commission of the impacts of, or issues with, the Directive. Hence, such information will need to be collated within reports such as this. Even then, the absence of a requirement on Member States to evaluate the impact of the Directive in their respective countries poses challenges, as it would be necessary to undertake this evaluation in the course of the preparation of the report. A full evaluation of the Directive in each Member State is not possible within the scope and timescales of projects such as this. While it is possible to design a project to evaluate the impact of the Directive to some extent, such as the approach that has been taken within this project, the quality, and therefore accuracy, of the evaluation would always be better if this was supported by evaluations undertaken by

other stakeholders, particularly Member States. On the other hand, particularly in times of constrained budgets, it is necessary to take account of Member States' concerns about the associated administrative (and resource) burdens of undertaking such evaluations.

Recommendation:

In developing new legislation, the EU institutions should consider requiring Member States to undertake some form of monitoring, if not fully evaluating and reporting, of the impacts of legislation, in order to facilitate the Commission's own reports on the application of the Directive. Any future amendment to the Clean Vehicle Directive should consider placing some reporting requirements on Member States.

In order to facilitate better evaluation of the impacts of the Clean Vehicle Directive in future monitoring reports, Member States and potentially other stakeholders, should undertake evaluations of the impact of the Directive in their respective countries, or from the perspective of their member organisations. This would significantly improve the amount of information that could be analysed for the next monitoring report, which is due in December 2014, as well as the depth of the subsequent analysis. Such monitoring should cover, at the minimum, the impact on the market, energy savings and emissions reductions resulting from the application of the various options allowed.

As part of the assessment of the impact of the Directive, this report has also looked at the potential wider impacts of the Directive. This was undertaken by, for example, assessing whether similar approaches have been used in: private sector vehicle procurement; procurement in other sectors of the economy; and in public sector vehicle procurement in countries outside of the EU.

No direct impact on procurement in the private sector, either by fleets or by private users, was identified. However, many private fleets are procuring more energy efficient vehicles, as these can be cheaper over the lifetime of the vehicle, and hence their purchase makes economic sense from a wider business perspective. Additionally, such purchases are driven by high fuel taxes and national policies, such as that relating to vehicle taxation, which also improve the economic case for more energy efficient vehicles. On the other hand, some companies procure cleaner and more efficient vehicles as a result of customer concerns or demands, or as a result of more general sustainability commitments. Several organisations – e.g. national automobile associations and energy agencies – also actively inform private fleets and individuals about clean and more energy efficient vehicles, as well as associated driving practices, as these can be beneficial to drivers, in terms of lower costs of use, and the environment.

The assessment of similar actions in other sectors focused on the respective EU policies. This found that while the approaches taken in some relevant legislation were consistent with those of the Clean Vehicle Directive, some of this legislation pre-dated the Directive. More recently, the proposed revision to the EU's public procurement legislation does foresee some of the same approaches, including a proposal to give greater consideration to the social and environmental considerations in wider public procurement policies. The development of this new proposed framework was influenced by, and benefited from, the development of the Clean Vehicle Directive as the respective Commission DGs engaged with each in the course of its development.

Elsewhere in the world, several of the EU's major economic competitors, and potential markets, have also introduced policies that will lead to the procurement of clean and energy efficient vehicles. Many of these approaches were also initiated prior to the Clean Vehicle Directive, although several, such as the relevant policies of the USA and China, have been updated more recently. However, the range of approaches allowed by the Clean Vehicle

Directive is wider than the approaches generally taken elsewhere. One example of an indirect impact of the Clean Vehicle Directive on the development of policies and approaches in other countries was identified. The UITP actively engaged with its members, who are public transport operators, in the course of the development of the Directive, and has subsequently developed guidelines for bus tenders, which are based on the provisions of the Directive. While this is clearly useful for the UITP's members within the EU, the association also has members outside of the EU, and they are aware of the guidelines on bus tendering being adopted in cities in non-EU countries, such as Geneva in Switzerland; cities beyond the eastern borders of the EU will also be aware of the Directive, as these cities had representatives at UITP meetings where the Directive was discussed. Hence, the Clean Vehicle Directive can have wider impacts as a result of being discussed in such stakeholder organisations that have a membership beyond the borders of the EU's Member States. The Directive also stimulated an agreement between UITP and ACEA on how operators and procurers should interpret the requirements of the Directive when calculating the energy and environmental using certified test cycles, which is presented in an Annex to the UITP's guidelines on bus tendering.

Similarly, the Directive could have indirect impacts through other organisations, such as city networks and even vehicle manufacturers, that have members and/or activities in countries outside of the EU. Additionally, an increased EU focus on clean and energy efficient vehicles as a result of the Clean Vehicle Directive provides a further rationale for and stimulation of clean vehicle procurement in other EU policy areas, as consistency with other EU policies is always sought. In particular, support for the purchase of clean vehicles could be supported through EU funds, such as the Structural Funds and the Cohesion Fund, while other EU funds could support the understanding and application of the Directive, as can be seen by the ICLEI co-ordinated Intelligent Energy project that aims to help public authorities and fleet operators to implement the Directive. The existence of the Directive has also assisted other stakeholders, such as energy agencies and cities, in arguing for more relevant national action or funds from other stakeholders, such as national administrations.

9.3 Issues arising

Given that the experience with the Directive is not yet sufficient to evaluate the impact of the various provisions within the Directive, few issues were identified with the Directive as it stands. Two issues that did arise that are worth discussing are: i) that the monetisation methodology appears to favour diesel-fuelled vehicles rather than vehicles that would generally be considered to be cleaner is a concern that could undermine the objective of the Directive; and ii) various requests for additional guidance from Member States and other stakeholders, in particular in relation to the application of the monetisation methodology of Article 5(3).

In relation to the first point, it must be remembered that the original proposal for the Directive was designed to ensure that the energy, CO₂ and air pollution impacts of road transport vehicles were monetised in the procurement of such vehicles. This was consistent with wider EU policy advocating the internalisation of external costs, as well as a recommendation from a High Level Group. In this respect, the Directive does provide a consistent methodology for monetising arguably the three main external costs of road transport vehicles, i.e. energy use, and emissions of CO₂ and air pollutants. Hence, applying the methodology would monetise these costs and thus would lead to the procurement of the vehicle that could be considered to be the cleanest, most energy efficient and most cost effective. However, the priority of many city authorities is to procure clean vehicles to address the city's air pollution problems. This is not to ignore the climate impacts; it is just that there are more urgent policy targets for air quality than for CO₂ emissions for cities that are not being met. As illustrated by the calculation in Table 5.2, applying the monetisation option might not lead to the procurement of the best vehicle if air quality is a priority issue for a city.

Additionally, although the monetised costs for emissions are established values, it is noted that the majority of the purchased vehicles will be utilised in urban environments, and so the cost for emissions should be based on this zone. The cost of emissions varies significantly between urban and non-urban for particulate emissions; urban emissions have considerably higher costs than non-urban emission (IER, 2006). Clean vehicles such as hybrid and electric vehicles have a superior performance in urban environments than compared to conventional vehicles. Therefore to encourage electric and hybrid vehicles in urban environments, the methodology could include the option of choosing urban fuel consumption figures in their calculations if the vehicle is to be used in that environment.

Even though the Clean Vehicle Portal has a tool that enables the calculation of lifetime costs for vehicles for which the results of emissions measured by harmonised test cycles exist (i.e. vans and cars), as well as a calculation methodology that could be applied to heavy duty vehicles, there seems to be a lack of understanding on the part of some Member States and other stakeholders, e.g. cities and manufacturers, of how the monetisation methodology should be applied. Some Member States have produced guidance for the application of the Directive within their country, but other stakeholders, such as cities, noted that information on the Directive had not been well communicated in their respective countries. As there are concerns about the application of the monetisation methodology, the Commission might consider whether the information on the Clean Vehicle Portal about applying this methodology might be made easier to understand. There might also be a need for additional guidance. Some Member States and EU-level stakeholder organisations have produced guidance that reflects national circumstances or the needs of their members. While the Commission could produce additional guidance, it may be more appropriate that additional guidance comes from Member States and other stakeholders, who will be in a better position to target the guidance according to the needs of national stakeholders or their members.

As noted above, many stakeholders, including some Member States, cities and manufacturers called for more guidance on the application of the Directive, particularly the monetisation methodology of Article 5(3). This is in spite of the tools and methods contained on the Clean Vehicle Portal. In this respect, it is worth remembering that the monetisation methodology is an innovative approach, and so is likely to face concerns about its use as a result of its unfamiliarity. Some stakeholders were concerned about the complexity of the monetisation methodology, which is in fact a relatively simple concept. Additionally, in the short-term at least, the absence of a common methodology for calculating the CO₂ emissions and energy efficiency of many heavy duty vehicles was also considered to be a problem, whereas UITP and ACEA had managed to overcome this difficulty for buses and reach an agreement on how the Directive should be applied. In this respect, it is worth noting that from 2013 all HDV engines will be tested according to the Worldwide Harmonized Heavy-Duty transient Cycle, which will measure *inter alia* air pollutant emissions, CO₂ emissions and fuel consumption. There is a possibility that the information obtained from these measurements could be used as the basis for the monetisation methodology in the Clean Vehicle Directive where this is applied to HDVs.

Recommendation:

There appear to be some barriers to the use of the monetisation methodology in particular, which might in part be subject to its novelty. In this respect, the Commission might consider developing the information on the Clean Vehicle Portal to ensure that this is easier to use.

However, within Member States there also appears to be some desire for additional information on the Directive. Some Member States have already developed guidance on the application of the Directive in their respective countries; other Member States should produce such guidance if national stakeholders consider that this would be useful. Training

for staff that are responsible for implementing the respective national legislation could also be considered. Various stakeholders, such as the EU level associations, should also consider sharing information between their respective national members in order to increase awareness of the Directive. Such stakeholders could also consider developing guidance, as the UITP has done, for their respective members.

The Commission should also investigate whether the information on emissions and fuel consumption that will be generated by the HDV tests under the Worldwide Harmonized Heavy-Duty transient Cycle might be used for the purpose of the monetisation methodology of the Clean Vehicle Directive.

9.4 The Future of the Directive

All of the Member States and other stakeholders to whom we spoke were asked for their views on whether there was a need to change the Directive at this point, particularly in relation to the options for including energy and environmental impacts in procurement decisions, as set out in Article 5(3) of the Directive. Virtually everyone to whom the study team spoke felt that it was too early to amend the Directive, particularly in relation to these options, as insufficient experience had so far been gained with the application and impact of these provisions. As noted above, most Member States allow all of the options, so over time, experience with each will be accumulated, at which point it would be far more appropriate to review the application and impact of the Directive, and therefore to gain insights on which options are most, or least, relevant for achieving the aims of the Directive. Hence, for subsequent monitoring reports, there should be more experience with the Directive from which insights on potential amendments to the Directive might be drawn.

Recommendation:

No changes to the Directive should be proposed at this time due to the lack of experience with the provisions of the Directive, and the potential to gain a wealth of information from the evaluation of these provisions for further reports on the application of the Directive.

As was noted above, the Directive has already had some wider impacts, including on procurement policies in cities outside of the EU, in informing the development of other EU public procurement legislation and in the use of EU research funds. As experience with the Directive develops, positive experience that leads to the procurement of clean vehicles and which stimulates market development has the potential to have a wider impact. As was also noted above, the approaches contained within the Clean Vehicle Directive are usually wider in scope than those applied in other sectors or in other parts of the world. Hence, there is clearly the potential that if the Clean Vehicle Directive is successful in delivering its desired objectives, there will be a wealth of information relating to the success or otherwise of different approaches. Evaluating this information, and distributing the results widely at the European, international and national levels, as well as to those involved with procurement in other sectors, has the potential to have a significant impact. In this respect, there is the potential for synergies between the Directive and relevant policies in other sectors and elsewhere on the planet.

There is also scope for potential synergies with private sector vehicle procurement, as these are potentially acting to the same ends, even though the motivation for the actions may be different in some cases. In this respect, ways should be sought to increase the interaction between the private and public sectors to ensure that lessons from the innovative actions being taken within both sectors can be learnt and disseminated more widely.

Recommendation:

Future evaluations of the application of the Directive should continue to consider the potential wider impacts of the Directive, as the identification of these has the potential to inform additional actions that might enhance the impact further still.

In this respect, positive and negative experience with the Directive should be collated, evaluated and widely disseminated to the private sector, other sectors and relevant stakeholders in other countries.

Additionally, it might be useful to consider ways of disseminating innovative actions in the private sector both to the private sector more widely, but also to the public sector, in order to maximise on potential synergies.

Clearly the Clean Vehicle Portal is a potentially useful tool in helping public authorities implement the Directive and to disseminate experiences with the procurement of clean and energy efficient vehicles more widely. However, within this project we did not focus explicitly on evaluating this Portal or its potential role. In spite of this, some stakeholders did mention that the information on the Portal was either insufficient for their needs in procuring clean and energy efficient vehicles or was confusing. It was also noted that where there was awareness of the existence of the Portal, there had been no information on how this might be used by public authorities. There are various national portals and online tools for comparing the environmental performance of vehicles that were considered by some to be more useful than the Portal.

Recommendation:

The Clean Vehicle Portal is clearly a potentially important tool both in assisting Member States' public authorities with the procurement of clean and energy efficient vehicles, and in the dissemination of (good and bad) experience with the Directive and of wider good procurement practice, but there was some suggestion that the Portal is not as useful as it might be. Hence, the Commission should consider including an evaluation of the impact of the Portal as part of the next report on the application of the Directive.

Abbreviations

AFV	Alternatively Fuelled Vehicles
BEV	Battery Electric Vehicle
CNG	Compressed Natural Gas
CO ₂	Carbon Dioxide
CVD	Clean Vehicle Directive
DG	Directorate General
E85	A fuel that contains up to 85% bioethanol mixed with conventional petrol
EC	European Commission
EEA	European Environment Agency
ERDF	European Regional Development Fund
EU	European Union
EV	Electric Vehicle
FQD	Fuel Quality Directive
GFEI	Global Fuel Economy Initiative
GHG	Greenhouse Gas
GPP	Green Public Procurement
GW	Gigawatt
GVW	Gross Vehicle Weight
H ₂	Hydrogen
HDV	Heavy Duty Vehicle
HGV	Heavy Goods Vehicle
ICCT	International Council on Clean Transportation
Km	Kilometre
Kt	Kilotonne
LCVPPP	Low Carbon Vehicle Public Procurement Programme
LEZ	Low Emission Zone
LDV	Light Duty Vehicle, i.e. cars and vans
LPG	Liquefied Petroleum Gas
MS	Member State
NMHC	Non-methane hydrocarbon
NO _x	Nitrogen Oxides
OECD	Organisation for Economic Co-operation and Development
PiCGS	Plug-in Car Grant Scheme
PM	Particulate Matter
RED	Renewable Energy Directive
UITP	International Association of Public Transport
UNEP	United Nations Environment Programme
VAT	Value Added Tax
VRT	Vehicle Registration Tax

Appendices

Appendix 1: Stakeholder Engagement – Member States Fiche

Appendix 2: Stakeholder Engagement – Questions for Stakeholders

Appendix 3: Stakeholder Engagement – Complete Member State Fiches

Appendix 1 – Stakeholder Engagement – Member States Fiche

Contacts from each of the EU Member States were identified in ministries responsible for implementing or having experience with Directive 2009/33/EC and asked to complete the following fiche.

Part 1: The implementation of the Clean Vehicle Directive [Task 1]	
Has the Clean Vehicle Directive been fully implemented in the Member State	
Main piece of transposing legislation	
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	
Date of legislation	
Date it entered into force (could be the same as its date)	
Date to which it applies to procurement processes (could be the same as its date)	
Other legislation needed to implement (may not be any)	
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	
Brief explanation of the approach link between main and implementing legislation	
Supporting documentation, e.g. guidelines	
Brief description	
Brief explanation of why the Member State chose the approach that it did	
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	
Part 2: Actions in support of the objectives of the Clean Vehicle Directive [Task 2]	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	
Programmes of support/fiscal incentives for the development of infrastructure?	
Local access restrictions (e.g. low emission zones)?	
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	
National, regional or local vehicle taxation?	
Other supporting actions	
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	

Part 3: The application of the Clean Vehicle Directive in procurement [Task 3]

The implementation of Article 5(3)

In transposing Article 5(3) of the Directive, has the Member State chosen to:	
What is the reason behind this decision	
Is there any additional information or guidance on the application of Article 5(3)?	
Were any estimates undertaken of the anticipated impacts of the options?	
Have any assessments been undertaken of the actual impacts of the options?	
Does the Member State have any views on whether all of the options should be retained?	
Does the Member State have any views on whether any option should be amended?	

Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)

Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	
Have any assessments been undertaken of the actual application and impacts of the options?	

In addition to questions on the implementation of Directive 2009/33/EC, Member States were also asked questions related to Tasks 4 and 5, and the identification of potential case studies.

Tasks 4

1. In your view, what impact has the Clean Vehicle Directive had on the market for clean and efficient vehicles to date?	
2. Do you have any evidence that the Clean Vehicle Directive has influenced the market for clean and energy efficient vehicles?	
a. Do you have any documented evidence that you could provide us with, e.g. increased take-up of particular types of vehicles by public authorities?	
b. Do you have any suggestions for interesting case studies that demonstrate such an influence on the market?	
3. Article 5(3) of the Directive sets out the options for the way in which energy and environmental considerations can be taken into account in the purchase decision (see attached overview of the Directive). How do you think that these options are likely to affect the market in the future?	
4. In your view or experience, do the requirements of the Clean Vehicle Directive lead to implicit technology selection? Please explain your answer	
a. Do you have any documented evidence that you could provide us with to explain your answer?	
b. Do you have any suggestions for interesting case studies that illustrate implicit technology selection?	

Task 5

5. Have you undertaken any dissemination activities with respect to either the requirements of the Directive, or in relation to the Clean Vehicle Portal? Yes/no.	
a. If "Yes", please explain what has been done and to whom the information was disseminated?	
6. Are you aware of any other dissemination activities that have been undertaken by other stakeholders? Yes/no.	
a. If "Yes", please explain what has been done and to whom the information was disseminated?	
7. Are you aware of any relevant articles in the media (including specialist media or online) about requirements of the Directive, or in relation to the Clean Vehicle Portal?	
8. In your view what role, if any, have dissemination activities related to the Clean Vehicle Directive (e.g. Clean Vehicle Portal) have on raising awareness of clean and energy efficient vehicles in the private vehicle sector, or more generally?	
Suggestions for case studies	
1. Are you aware of any examples where public authorities, organisations working for public authorities and public transport operators have procured vehicles using the rules of the Clean Vehicle Directive? Yes/no	
a. Please provide details, including contact details for the organisation?	
b. Do you have any documented evidence that you could provide us with, e.g. increased take-up of particular types of vehicles by public authorities?	
2. Do you know of any examples where the Clean Vehicle Directive, or the approaches that it uses, have been taken up in the purchase of road transport vehicles by the private sector ? Yes/No	
a. Could you explain your response?	
b. Could you provide us with examples?	
c. Do you have any documented evidence that you could provide us with?	
d. Do you have any suggestions for interesting case studies that could illustrate the take up of these approaches in the procurement of road transport vehicles in the private sector?	
3. Do you know of any examples where the Clean Vehicle Directive, or the approaches that it uses, have been taken up in the public procurement of products in other sectors in the EU ? Yes/No.	
a. Could you explain your response?	
b. Could you provide us with examples?	
c. Do you have any documented evidence that you could provide us with?	
d. Do you have any suggestions for interesting case studies that could illustrate the take up of these approaches in the procurement of other products in other sectors in the EU?	
4. Do you know of any examples where approaches similar to those of the Clean Vehicle Directive are used in the public procurement of road transport vehicles in countries outside of the EU ? Yes/No.	
a. Could you provide us with examples?	
b. Do you have any documented evidence that you could provide us with?	

c. Do you have any suggestions for interesting case studies that could illustrate the application of similar approaches in the public procurement of road transport vehicles in countries outside of the EU?	
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Appendix 2 – Stakeholder Engagement – Stakeholders Consulted and Questions for Stakeholders

Manufacturers and Trade Associations Consulted

- Toyota (cars and vans)
- VW (cars and vans)
- Ford (cars and vans)
- PSA (cars and vans)
- Fiat (cars and vans)
- Scania (HDVs and buses)
- Iveco/Irisbus (HDVs and buses)
- Alexander Dennis (buses)
- European Automobile Manufacturers' Association (ACEA)
- Japan Automobile Manufacturers' Association (JAMA)
- Korean Automobile Manufacturers' Association (KAMA)

Questions for Manufacturers and Trade Associations

1. In your view, what impact has the Clean Vehicle Directive had on the market for clean and efficient vehicles to date?
2. Do you have any evidence that the Clean Vehicle Directive has influenced the market for clean and energy efficient vehicles? Yes/No.
 - a. If "Yes", do you have any documented evidence that you could provide us with, e.g. increased take-up of particular types of vehicles by public authorities?
3. Vehicle manufacturers only – What proportion of your vehicles do you sell to public authorities and what proportion of these are passenger cars (M1), light commercial vehicles (N1), heavy duty vehicles (N2 and N3) and buses (M2 and M3)? Have the proportions of vehicles sold to public authorities changed since the introduction of the Clean Vehicle Directive?
4. Has the introduction of the Clean Vehicle Directive made a difference to the types of vehicles sold to public authorities? Have you seen any noticeable changes in patterns of demand for clean vehicles from public authorities?
5. Have you seen any changes in the demand for clean vehicles from public authorities in different Member States?
6. Vehicle manufacturers only – Are you preferentially using any specific types of technology to respond to changing demand for clean vehicles from public authorities?

7. Article 5(3) of the Directive sets out the options for the way in which energy and environmental considerations can be taken into account in the purchase decision (see link below). By setting technical specifications for energy and environmental performance in the documentation for the purchase of road transport vehicles, and/or by including energy and environmental impacts in the purchasing decision. How do you think that these options are likely to affect the market in the future?
 - a. Which option(s) do you believe is the most appropriate option? Why?
 - b. Do you believe that all of the options should be retained? Why?
 - c. Do you believe that any of the options should be amended? How? Why? Yes. They should be based on available information. Now we don't have source for info for heavy duty vehicles. It's main problem of this regulation.
8. Do you know of any examples where the Clean Vehicle Directive, or the approaches that it uses, have been taken up in the purchase of road transport vehicles by the private sector? Yes/No.

If "Yes":

 - a. Could you explain your response?
 - b. Could you provide us with examples?
 - c. Do you have any documented evidence that you could provide us with?
 - d. Do you have any suggestions for interesting case studies that could illustrate the take up of these approaches in the procurement of road transport vehicles in the private sector?
9. In your view or experience, do the requirements of the Clean Vehicle Directive lead to implicit technology selection? Please explain your answer.
 - a. Do you have any documented evidence that you could provide us with to explain your answer?
 - b. Do you have any suggestions for interesting case studies that illustrate implicit technology selection?
10. Vehicle manufacturers only – Do you have any plans in place to deal with any market evolution that may be stimulated by the Directive?

European-level (Non-Member States) Stakeholders Consulted:

- International Association of Public Transport (UITP)
- Transport and Environment (T&E)
- International Automobile Federation (FIA)
- International Road Transport Union (IRU)
- European Consumers' Organisation (BEUC)
- European Automobile Manufacturers' Association (ACEA)
- Japan Automobile Manufacturers' Association (JAMA)
- Korean Automobile Manufacturers' Association (KAMA)
- European Federation of Leasing Company Associations (LeaseEurope)
- European Association of Automotive Suppliers (CLEPA)
- European Council for Motor Trades and Repairers (CECRA)

- Council of European Municipalities and Regions (CEMR)
- European Metropolitan Transport Authorities (EMTA)
- POLIS
- Local Governments for Sustainability (ICLEI)
- European Sustainable Cities and Towns Campaign

Questions for Non-Member States Stakeholders:

Task 3 – application of Article 5(3)

1. Article 5(3) of the Directive sets out the options for the way in which energy and environmental considerations can be taken into account in the purchase decision (see attached overview of the Directive). How do you think that these options are likely to affect the market in the future?
 - a. Which option(s) do you believe is the most appropriate option? Why?
 - b. Do you believe that all of the options should be retained? Why?
 - c. Do you believe that any of the options should be amended? How? Why?
 - d. In the study, we are looking to identify case studies to illustrate the different ways in which the Directive has been implemented. Do you have any suggestions for interesting case studies with respect to these options?
2. In cases where option ii) of Article 5(3) is used (i.e. selection criteria), do you have any experience with respect to the relative weightings used for the selection criteria associated with the energy and environmental impacts compared to other selection criteria? Yes/No.

If “Yes”:

 - a. What is your experience with respect to the relative weightings applied to the energy and environmental selection criteria?
 - b. Do you have any suggestions for interesting case studies with respect to the way in which relative weightings are applied?

Task 4 – Impact on market

3. In your view, what impact has the Clean Vehicle Directive had on the market for clean and efficient vehicles to date?
4. Do you have any evidence that the Clean Vehicle Directive has influenced the market for clean and energy efficient vehicles? Yes/No.

If “Yes”:

 - a. Do you have any documented evidence that you could provide us with, e.g. increased take-up of particular types of vehicles by public authorities?
 - b. Do you have any suggestions for interesting case studies that demonstrate such an influence on the market?
5. In your view or experience, do the requirements of the Clean Vehicle Directive lead to implicit technology selection?
 - a. Do you have any documented evidence that you could provide us with to explain your answer?

- b. Do you have any suggestions for interesting case studies that illustrate implicit technology selection?

Task 5 – Take-up in private vehicle purchases

Within the project, we are attempting to identify the wider influence of the Clean Vehicle Directive, particularly its options for including energy and environmental impacts, but also any broader influences in procurement processes or more widely.

6. Do you know of any examples where the Clean Vehicle Directive, or the approaches that it uses, have been taken up in the purchase of **road transport vehicles** by the **private sector**? Yes/No.

If “Yes”:

- a. Could you explain your response?
 - b. Could you provide us with examples?
 - c. Do you have any documented evidence that you could provide us with?
 - d. Do you have any suggestions for interesting case studies that could illustrate the take up of these approaches in the procurement of road transport vehicles in the private sector?
7. Has your organisation undertaken any dissemination activities with respect to either the requirements of the Directive, or in relation to the Clean Vehicle Portal? Yes/no.
 - a. If “Yes”, please explain what has been done and to whom the information was disseminated?
 8. Are you aware of any other dissemination activities that have been undertaken by other stakeholders? Yes/no.
 - b. If “Yes”, please explain what has been done and to whom the information was disseminated?
 9. Are you aware of any relevant articles in the media (including specialist media or online) about requirements of the Directive, or in relation to the Clean Vehicle Portal?
 10. In your view what role, if any, have dissemination activities related to the Clean Vehicle Directive (e.g. Clean Vehicle Portal) have on raising awareness of clean and energy efficient vehicles in the private vehicle sector, or more generally?
 - a. Please explain your answer

Task 6 – Take-up in other sectors

Within the project, we are attempting to identify the wider influence of the Clean Vehicle Directive, particularly its options for including energy and environmental impacts, but also any broader influences in procurement processes or more widely.

11. Do you know of any examples where the Clean Vehicle Directive, or the approaches that it uses, have been taken up in the **public procurement of products in other sectors** in the **EU**? Yes/No.

If “Yes”:

- a. Could you explain your response?
- b. Could you provide us with examples?
- c. Do you have any documented evidence that you could provide us with?

- d. Do you have any suggestions for interesting case studies that could illustrate the take up of these approaches in the procurement of other products in other sectors in the EU?

Task 7 – Take-up in for public and private vehicle purchases outside of the EU

Within the project, we are attempting to identify the wider influence of the Clean Vehicle Directive, particularly its options for including energy and environmental impacts, but also any broader influences in procurement processes or more widely.

12. Do you know of any examples where approaches similar to those of the Clean Vehicle Directive are used in the **public procurement of road transport vehicles** in countries **outside of the EU**? Yes/No.

If “Yes”:

- a. Could you provide us with examples?
- b. Do you have any documented evidence that you could provide us with?
- c. Do you have any suggestions for interesting case studies that could illustrate the application of similar approaches in the public procurement of road transport vehicles in countries outside of the EU?

13. Do you have any suggestions as to other people/organisations (including public authorities) to talk to with respect to any of the above?

Questions for Case Study Cities:

General approach to procuring clean and energy-efficient vehicles

1. What is your city’s policy with respect to procuring clean and energy efficient vehicles (e.g. only procure vehicles of a particular technology, limited to vehicles with specific emissions below certain limits, apply the provisions of the Directive, etc.)?
2. Why has this approach been chosen to procuring clean and energy efficient vehicles rather than other potential approaches?
3. What has the impact of this approach been on the type of vehicles (e.g. by technology) that you buy?
4. What has the impact of this approach been on air pollutant/CO₂ emissions from your vehicle fleet?
5. What role have demonstration projects had in your policy towards the procurement of clean and energy efficient vehicles?

Experience with, and views on, the Clean Vehicle Directive

6. Has the Clean Vehicle Directive changed the way in which you procure clean and energy efficient vehicles? Yes/no.
 - a. If “Yes”, what has changed and why? What has the impact been on the type of vehicles (e.g. technology, emissions levels) that you have procured? Do

you have any information on emissions and energy saved as a result of applying the provisions of the Directive?

7. In your view, what impact has the Clean Vehicle Directive had on the market for clean and efficient vehicles to date?
8. In your experience, do the requirements of the Clean Vehicle Directive implicitly favour one type of technology over another? Yes/no. Please explain.
9. Article 5(3) of the Directive sets out the options for the way in which energy and environmental considerations can be taken into account in the purchase decision (see Annex I).
 - a. Which option(s) have you used in purchasing clean vehicles? Why?
 - b. What is your (good and bad) experience with using these options?
 - c. Do you have any views on which options should be i) retained; or ii) amended? Please explain.
10. Where you have used option ii) of Article 5(3) (i.e. selection criteria):
 - a. What relative weightings have you applied to the energy and environmental selection criteria compared to other selection criteria? Why?
 - b. What is your (good and bad) experience with using weightings?
11. Are you aware of any dissemination activities that have been undertaken in your country? Yes/no.
 - c. If “Yes”, please explain what has been done and who organised the dissemination of the information.

European Commission DGs Consulted:

- DG ENV
- DE ENER
- DG RTD
- DG CLIMA
- DG MARKT
- DG INFSO
- DG SANCO
- DG EACI

Questions for European Commission DGs:

The European Commission (Directorate General for Mobility and Transport) has commissioned Ricardo-AEA and TEPR to prepare a monitoring report on Directive 2009/33/EC on the promotion of clean and energy efficient road transport vehicles (the “Clean Vehicle Directive”). The aim is to review experience so far with some of the main provisions of the Directive, particularly Article 5(3).

The aim of this task/questionnaire is to identify the extent to which the Clean Vehicle Directive approaches are used in other sectors in the green public procurement (GPP) of products.

An overview of the main elements of the Directive is provided in Annex I.

Identifying similar approaches:

1. Are you aware of any sectors (outside of the transport sector) that use (or intend to use) similar approaches to public procurement as those outlined in the Clean Vehicle Directive?
 - a. Where technical specifications for energy and environmental performance are set?
 - b. Where energy and environmental impacts are used as award criteria?
 - c. Where energy and environmental impacts are monetised?
2. Where you have answered “yes” above, please fill in the following information for each example/sector you are aware of:
 - Name of sector:
 - Which similar approach has been taken by this sector (a, b or c)? Please provide a short description.
 - Please list the products/product types that the approach/requirements apply to:
 - Is the approach voluntary or mandatory?
 - Are you able to provide any further details regarding the approach?
 - Please provide a link to any related guidelines or legislation.

Identifying the impact/influence of the Clean Vehicle Directive on the development of similar approaches:

3. In your opinion, has the Clean Vehicle Directive itself had any impact or influence on the development of green public procurement approaches in other sectors?
 - a. If “yes”, please explain your answer.

Appendix 3 – Stakeholder Engagement – Complete Member State Fiches

AUSTRIA	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	The legislation regarding the Clean Vehicle Directive has been transposed in two parts. The first and main piece of the implementation was in 2010, announced in the Federal Law Gazette "Bundesgesetzblatt" 15/2010. The remaining part, i.e. Article 3 lit b of the Clean Vehicle Directive, has been transposed with the Federal Law Gazette ("Bundesgesetzblatt") Part I Nr. 10/2012. (These Federal Law Gazettes can only be provided in German.)
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	The legislation transposing the Clean Vehicle Directive has been implemented with amendments to the Austrian Federal Public Procurement Law 2006 ("Bundesvergabebezug 2006").
Date of legislation	See above. The first part of the transposing legislation was published on March 4th 2010 and came into force on March 5th 2010. The second part of the transposing legislation was published on February 16th 2012 and entered into force on April 1st 2012.
Date it entered into force (could be the same as its date)	See above.
Date to which it applies to procurement processes (could be the same as its date)	See above (the legislation did apply to procurement processes)
Other legislation needed to implement (may not be any)	None
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	N/A
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	Yes, explanatory notes had been issued together with the legislation.

Brief description	The explanatory notes on the Federal Law Gazettes 15/2010 and 10/2012 state that with these acts of legislation the Clean Vehicle Directive has been implemented. As customary, the explanatory notes provide additional information to new legislation to better understand the aim and the intention of the legislative authority. Explanatory notes shall help to fully comprehend the legislation in order to apply it correctly in each and every individual case. The notes also include reflections on the impacts of the transposition of the Directive into national law (such as financial impacts, economic impacts, administrative costs, and also expected environmental impacts such as emissions reductions. It also includes details and explanations on the changes and the implementation/application of the legislation
Brief explanation of why the Member State chose the approach that it did	In general, in Austria explanatory notes are issued together with an act of legislation. Thus, it has been the common approach within the legislative process to draft explanatory notes together with the legislation.
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	No problems encountered to date
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	Yes.
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	Already before the Clean Vehicle Directive was decided, the Austrian Parliament decided on a law to pay out a bonus for the exchange of old and environmentally problematic cars to new and environmentally friendly cars (Ökoprämiengesetz BGBl. I 28/2009). This law was in force from April 1st 2009 to December 31st 2009. However, it was only applicable to cars used by private persons.
Programmes of support/fiscal incentives for the development of infrastructure?	As far as tax law is concerned, there is no such programme in force.
Local access restrictions (e.g. low emission zones)?	No
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	No
National, regional or local vehicle taxation?	According to the Austrian Car Registration Tax (Normverbrauchsabgabegesetz, BGBl 695/1991), different tax rates apply depending on the CO ₂ -emission of any vehicle. A tax reduction ("bonus") applies, if the emission of NO _x is below a certain threshold. Another reduction may apply for hybrid cars. This law applies to all motorized vehicles for the transportation of persons. The differentiation in the tax rates and the bonuses do not apply to motorcycles.

Other supporting actions	No																																				
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	No information provided																																				
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO ₂ and air pollutant emissions.	No information provided																																				
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)																																					
The implementation of Article 5(3)																																					
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options																																				
What is the reason behind this decision	<p>In support of achieving all potential positive effects due to the implementation of the Clean Vehicle Directive the Austrian legislative authority decided that the public purchaser can choose between all options in order to take the required energy and environmental considerations into account. By giving the public purchaser the means to choose between all options, the purchaser can choose the option which suits him best. The solution of the Federal Procurement Agency ("Bundesbeschaffung GmbH"; this is the central purchasing body for the federal level) for example is a mix of this three options and a proven solution using the criteria (emission standards) as set out in the "National Action Plan for Sustainable Public Procurement" as an absolute maximum threshold. Here is an example of 2012:</p> <table><tr><td>Weight</td><td></td><td>g</td><td>CO₂/km</td><td>l/100</td><td>km</td></tr><tr><td>Up</td><td>to</td><td>1500</td><td>kg</td><td>175</td><td>6,8</td></tr><tr><td>>1500</td><td>bis</td><td>2000</td><td></td><td>215</td><td>8,0</td></tr><tr><td>>2000</td><td>bis</td><td>2500</td><td></td><td>255</td><td>9,9</td></tr><tr><td>>2500</td><td>bis</td><td>3000</td><td></td><td>295</td><td>11,5</td></tr><tr><td>>3000</td><td>bis</td><td>3500</td><td></td><td>340</td><td>13,2</td></tr></table> <p>An average of more than 25 % of all evaluation points in the award process are related to energy and environmental performance. This results in the end to an award which achieves values lower than those set out in the "National Action Plan for Sustainable Public Procurement".</p>	Weight		g	CO ₂ /km	l/100	km	Up	to	1500	kg	175	6,8	>1500	bis	2000		215	8,0	>2000	bis	2500		255	9,9	>2500	bis	3000		295	11,5	>3000	bis	3500		340	13,2
Weight		g	CO ₂ /km	l/100	km																																
Up	to	1500	kg	175	6,8																																
>1500	bis	2000		215	8,0																																
>2000	bis	2500		255	9,9																																
>2500	bis	3000		295	11,5																																
>3000	bis	3500		340	13,2																																
Is there any additional information or guidance on the application of Article 5(3)?	Yes, additional information can be found within the "National Action Plan for Sustainable Public Procurement".																																				
Were any estimates undertaken of the anticipated impacts of the options?	Yes, a market analysis is done for each procurement project. However, this information is only for internal use. In addition, as already explained in Task 1, the explanatory notes to the draft legislation contain as well some information in this regard.																																				
Have any assessments been undertaken of the actual impacts of the options?	Yes, a market analysis is done for each procurement project. However, this information is only for internal use.																																				

Does the Member State have any views on whether all of the options should be retained?	Yes, according to the Austrian experience maximum flexibility should be provided for the contracting authorities/entities, therefore all current or possibly even more theoretically available options should be allowed to use. As it has been pointed out, one of the used procedures is a proven solution and the assessment mix also includes workshops and service density which are considered in the evaluation. Moreover, the Clean Vehicle Directive is an important action in order to promote and stimulate the market to develop, produce and purchase clean and energy-efficient vehicles. Although the main topics of the Clean Vehicle Directive had been used in tenders before, due to the implementation of the Clean Vehicle Directive public purchaser have to take energy and environmental considerations into account. The more options are given to reach this target the better it is.
Does the Member State have any views on whether any option should be amended?	The given options should not be amended
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	<p>Answer: The question is unclear: does the "weighing" relate to the weighing of award criteria? If to be understood in that sense: No!</p> <p>Additional information which might be relevant: Guidance is given by the "National Action Plan for Sustainable Public Procurement". Within this document it is stated that for light commercial vehicles up to 3.5 tonnes gross weight, a binding standard for CO₂-emission is into force. Moreover, if possible, the cleanest and lowest consuming light commercial vehicles have to be procured which are available on the market. Only vehicles for public safety services and emergency vehicles are excluded. For further information please see the environmental criteria in the answer to task 3 question 2.</p>
Have any assessments been undertaken of the actual application and impacts of the options?	No

Belgium	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	<p>At the federal level:</p> <p>SERVICE PUBLIC FEDERAL CHANCELLERIE DU PREMIER MINISTRE - 20 DECEMBRE 2010. - Arrêté royal relatif à la promotion de véhicules de transport routier propres et économes en énergie dans le cadre des marchés publics.</p> <p>Legal act: Arrêté royal, number: 2010/21131; Official Journal: Moniteur Belge, number: 2010/21131, Publication date: 24/12/2010, Page: 81836-81844, Entry into force: 15/01/2011; Reference: (MNE(2010)58125)</p> <p>Regional level:</p> <p>MINISTERE DE LA REGION DE BRUXELLES-CAPITALE- 28 MAI 2009. - Arrêté du Gouvernement de la Région de Bruxelles-Capitale relatif à l'introduction de véhicules plus respectueux de l'environnement dans les flottes des autorités régionales.</p> <p>Legal act: Regeringsbesluit; Official Journal: Staatsblad, Publication date: 18/06/2009, Page: 42641-42644, Entry into force: 18/06/2009; Reference: (MNE(2011)57330)</p> <p>SERVICE PUBLIC DE WALLONIE - 14 JUILLET 2011. - Arrêté du Gouvernement wallon transposant la Directive 2009/33/CE du Parlement européen et du Conseil du 23 avril 2009 relative à la promotion de véhicules de transport routier propres et économes en énergie</p> <p>Legal act: Arrêté du Gouvernement; Official Journal: Moniteur Belge, Publication date: 23/08/2011, Page: 48338-48340; Reference: (MNE(2011)56175)</p>
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	New legislation
Date of legislation	20th December 2010
Date it entered into force (could be the same as its date)	15 th January 2011
Date to which it applies to procurement processes (could be the same as its date)	15 th January 2011
Other legislation needed to implement (may not be any)	
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	None
Brief explanation of the approach link between main and implementing legislation	None

Supporting documentation, e.g. guidelines	
Brief description	<p>"Note explicative pour l'application de L'Arrêté Royal du 20 décembre 2010 relatif à la promotion de véhicules de transport routier propres et économes en énergie dans le cadre des marchés publics - et - la circulaire fédérale 307 quinquies relative à l'acquisition de véhicules de personnes destinés aux services de l'Etat et à certains organismes d'intérêts publics"</p> <p>This guidance explains how to apply the Arrete Royal but also provides information on what is the difference between the Arrete Royal and another legislation called "Circulaire federale 307quinquies which deals with the purchase/leasing of public transport vehicles.</p>
Brief explanation of why the Member State chose the approach that it did	So that the measures can be implemented applying the relevant legislation
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	The Arrete Royal is a direct transposition of the Directive, however there are some of the Directive's requirement are not always very clear.
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	N/A
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	N/A
Programmes of support/fiscal incentives for the development of infrastructure?	N/A
Local access restrictions (e.g. low emission zones)?	N/A
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	N/A
National, regional or local vehicle taxation?	N/A
Other supporting actions	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	N/A

For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	N/A
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	a) Allow all of the options
What is the reason behind this decision	To offer the maximum of flexibility
Is there any additional information or guidance on the application of Article 5(3)?	Yes within the "Note explicative pour l'application de L'Arrêté Royal du 20 décembre 2010 relatif à la promotion de véhicules de transport routier propres et économes en énergie dans le cadre des marchés publics - et - la circulaire fédérale 307 quinquies relative à l'acquisition de véhicules de personnes destinés aux services de l'Etat et à certains organismes d'intérêts publics". It concentrate on how to establish an ecoscore.
Were any estimates undertaken of the anticipated impacts of the options?	None
Have any assessments been undertaken of the actual impacts of the options?	None
Does the Member State have any views on whether all of the options should be retained?	None
Does the Member State have any views on whether any option should be amended?	None
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	Yes, the "Circulaire 307 quinquies" fixes the Eco scores (these provide a global score for multiple environmental impacts).
Have any assessments been undertaken of the actual application and impacts of the options?	None

Bulgaria	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	The main piece of transposing legislation is Ordinance № H-3 from 15 March 2011 on determination of the Methodology for calculation of energy consumption costs, carbon dioxides emissions, nitrogen oxides emissions, non-methane hydrocarbons and particulate matter during the whole operational lifetime of vehicles. In addition, this is backed up by Public procurement law – The responsible authority is Ministry of Economy, Energy and Tourism of the Republic of Bulgaria, web page: www.mi.government.bg .
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	I. Ordinance № H-3 from 15 March 2011 – this is entirely new legislation; II. Public procurement law – amended following requirements of the CVD.
Date of legislation	State Gazette No 26 from 29 th March 2011
Date it entered into force (could be the same as its date)	29 th March 2011
Date to which it applies to procurement processes (could be the same as its date)	29 th March 2011 - No review/ retrospective review of ongoing procurement contracts was required - only new contracts from the date the legislation entered into force.
Other legislation needed to implement (may not be any)	No
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	Amendments (see Article 26 of the 2011 public procurement law amendment), new legislation and an agreement on a common Bulgarian methodology for calculating vehicle lifetime costs.
Brief explanation of the approach link between main and implementing legislation	Bulgaria has updated existing national public procurement legislation and scheme implementation in order to meet with the requirements of Directive 2009/33/EC. Additional supporting legislation to determine a common methodology for calculations and to extend the scope of the regulations to passenger cars.
Supporting documentation, e.g. guidelines	No guidance other than calculation methodology appears to have been published.
Brief description	N/A
Brief explanation of why the Member State chose the approach that it did	N/A

<p>Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.</p>	<p>No problems experienced with transposing the Directive. However, incurred some problems in terms of the implementation of the Directive.</p> <p>According to the requirements of Article 6, paragraph 1 (c) of Directive 2009/33/EC at the calculation of the operational lifetime cost for each pollutant are taking into account the emissions of relevant pollutant in g/km.</p> <p>According to the requirements of Directive 2005/55/EC the emissions of pollutants have to be measured in g/kWh. This directive defines the term and conditions for the type approval of compression-ignition engines used in heavy-duty vehicles.</p> <p>The difference between the measuring units used at the calculation of the operational lifetime cost for each pollutant (g/km), according to the methodology prescribed in Directive 2009/33/EC and these used for measurement of the emission during the approval of engines (g/kWh) makes the methodology not applicable for heavy-duty vehicles equipped with compression-ignition engines.</p>
<p>Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)</p>	
<p>Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?</p>	<p>No</p>
<p>Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?</p>	
<p>Programmes of support/fiscal incentives for the purchase of vehicles?</p>	<p>In 1989 the Sofia Municipality started a programme for introducing LPG into the public bus fleet (and subsequently CNG). The programme is carried out by the municipal company Sofia Autotransport EAD, with co-financing by the Bulgarian Ministry of Environment and Waters. The programme is implemented by a number of projects, including conversion of diesel engines into methane ones, purchase of new methane-fuelled buses, construction of natural gas distribution pipelines and compressor stations. Currently, 55 buses on diesel-methane and 13 buses on methane are in operation. The exploitation of these buses in 2008 reduced the annual consumption of conventional fuel by 4.53%. Other support measures are evident (see link) however are EBRD/ privately funded or funded by another organisation.</p> <p>There are different EU operational programmes for Bulgaria all managed by national institutions which in principally can be used for funding the purchase of environmental friendly vehicles:</p> <ul style="list-style-type: none"> •The Operational Programme Regional Development is related to the European Reconstruction and Development Fund with an overall budget of 1.3 bill EUR has under priority 1 / Operation 1.5 Sustainable Urban Transport System the target of increasing use of renewable transport sources (co-financing volume of the ERDF is 85%). • Operational Programme on Transport 2007-2013 (OPT) with a budget of 2 bill EUR. The purpose of OPT is the development of railway, road and water infrastructure and the promoting of the development of combined transport in accordance with transport policy of the European Union and the requirements for development of the Trans-European transport network to achieve stability of the Bulgarian transport system. On specific priorities there are developing a sustainable transport system. • Bulgaria implemented the Bulgarian Energy Efficiency and Renewable Energy Credit Line. Renewable energy projects are eligible for a 20 per cent grant. Loans over 12.8 billion Euros have already been granted.
<p>Programmes of support/fiscal incentives for the development of infrastructure?</p>	<p>In Bulgaria there are there 12 biogas refilling stations for cars and 20 for buses used in public transport - however whether these have been nationally supported is unclear.</p>

Local access restrictions (e.g. low emission zones)?	Bulgaria has 264 local municipalities who are all individually responsible for implementing local conditions. No particular individual local access restrictions or traffic conditions could be identified by the National contact in the Ministry of Transport. The respective local municipalities responsible entities for their own traffic/ air quality management decisions.
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	As above
National, regional or local vehicle taxation?	There are two types of vehicle taxation in Bulgaria; product tax (age graded) and excise tax (vehicle power graded).
Other supporting actions	Nothing visible on Public Procurement Agency webpage or other Bulgarian government websites - Member State contact was unable to provide any further information.
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	The Sofia Municipality programme for introducing LPG (and subsequently CNG) into the bus fleet in 2008 reduced the annual consumption of conventional fuel by 4.53%

Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)

The implementation of Article 5(3)

In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all options
What is the reason behind this decision	Bulgaria decided to allow the use of all the options in order to provide more far-reaching choice for all involved legal entities and individuals when purchasing road transport vehicles.
Is there any additional information or guidance on the application of Article 5(3)?	No - included as appendices to the updated legislation, only.
Were any estimates undertaken of the anticipated impacts of the options?	No
Have any assessments been undertaken of the actual impacts of the options?	No - Legislative changes have been in force for over 12 months, now.
Does the Member State have any views on whether all of the options should be retained?	Yes - to allow the use of all the options in order to provide more far-reaching choice for all involved legal entities and individuals when purchasing road transport vehicles.
Does the Member State have any views on whether any option should be amended?	No

Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)

Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	No
Have any assessments been undertaken of the actual application and impacts of the options?	No

Cyprus	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	Law providing for the award of public works contracts and services and related matters / Law providing for the award of public works contracts and services in the water, energy, transport and postal services and related matters
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	Amendment to existing legislation
Date of legislation	24 th March 2011
Date it entered into force (could be the same as its date)	24 th March 2011
Date to which it applies to procurement processes (could be the same as its date)	24 th March 2011
Other legislation needed to implement (may not be any)	None
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	N/A
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	None
Brief description	N/A
Brief explanation of why the Member State chose the approach that it did	N/A
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	N/A
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	No
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	No
Programmes of support/fiscal incentives for the development of	No

infrastructure?	
Local access restrictions (e.g. low emission zones)?	No
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	No
National, regional or local vehicle taxation?	No
Other supporting actions	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	Nothing available yet
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	No evidence or study conducted yet
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all options
What is the reason behind this decision	N/A
Is there any additional information or guidance on the application of Article 5(3)?	N/A
Were any estimates undertaken of the anticipated impacts of the options?	N/A
Have any assessments been undertaken of the actual impacts of the options?	N/A
Does the Member State have any views on whether all of the options should be retained?	N/A
Does the Member State have any views on whether any option should be amended?	N/A
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	N/A
Have any assessments been undertaken of the actual application and impacts of the options?	N/A

Czech Republic	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	Act on Public Procurement
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	The legislation was implemented mainly by amending the Act on Public Procurement by adding the new provision to this act, when the directive was transposed.
Date of legislation	18th May 2010
Date it entered into force (could be the same as its date)	15th Sep 2010
Date to which it applies to procurement processes (could be the same as its date)	15th Sep 2010
Other legislation needed to implement (may not be any)	Government Regulations on means of determinations of specific technical conditions for purpose of Public Procurement Act
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	New legislation
Brief explanation of the approach link between main and implementing legislation	Government Regulations on means of determinations of specific technical conditions for purpose of Public Procurement Act It's a new piece of legislation it specifies the obligation which was given by the Public Procurement Act.
Supporting documentation, e.g. guidelines	No supporting documents
Brief description	N/A
Brief explanation of why the Member State chose the approach that it did	N/A
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	N/A
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	No
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	N/A
Programmes of support/fiscal incentives for the development of	N/A

infrastructure?	
Local access restrictions (e.g. low emission zones)?	N/A
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	N/A
National, regional or local vehicle taxation?	N/A
Other supporting actions	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	N/A
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow Option 1 and 2a)
What is the reason behind this decision	This option was allowed as per Art 5(3) setting technical specifications for the energy and environment performance of vehicles. Allow Option 2a (where energy and environmental impacts are used as award criteria) - This option as per Art 5(3) b where energy and environmental impact are used as award criteria was already in the Czech Public Procurement Act legislation. This was not as part of the transposition of the directive, as it already applied in Czech Republic.
Is there any additional information or guidance on the application of Article 5(3)?	No
Were any estimates undertaken of the anticipated impacts of the options?	No
Have any assessments been undertaken of the actual impacts of the options?	No

Does the Member State have any views on whether all of the options should be retained?	No
Does the Member State have any views on whether any option should be amended?	No
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	N/A
Have any assessments been undertaken of the actual application and impacts of the options?	N/A This was already in the existing Czech Public Procurement Act not as a result of the transposition of the Directive

Denmark	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	Addition to the Environmental Protection Act, which gave legal basis to the Minister of Environment to draw up a new Administrative Order. Bekendtgørelse nr. 1394 af 14. december 2010 om miljøbevidste indkøb af køretøjer til vejtransport (Environmental Awareness surrounding purchase of vehicles)
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	Amendment to existing legislation 'Bekendtgørelse af lov om miljøbeskyttelse' nr 876; 26/06/10 which relates to a law covering environmental protection components of which are superceded by the new 1394 legislation. Also note: Article 5 paragraph 3 in the Clean Vehicle Directive is made optional in the Administrative Order.
Date of legislation	14 th December 2010
Date it entered into force (could be the same as its date)	14 th December 2010
Date to which it applies to procurement processes (could be the same as its date)	14 th December 2010
Other legislation needed to implement (may not be any)	Yes
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	Addition to the Environmental Protection Act, which gave legal basis to the Minister of Environment was needed in order to implement the Clean Vehicle Directive
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	The Environmental Ministry has a section on its website outlining the requirements of the Danish Legislation nr 1394
Brief description	N/A
Brief explanation of why the Member State chose the approach that it did	N/A
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	None experienced
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	Yes, with some initiatives starting before the Clean Vehicle Directive entered into force
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	

Programmes of support/fiscal incentives for the purchase of vehicles?	Yes, From 2008-2012 the Danish Energy Agency has offered support (total 25 mio. DKK). for test and purchase of electric vehicles. The support is based on application and is open to public authorities as well as private companies From 2009-2013 the Danish Transport Authority offers support to "energy efficient transport solutions" (total approx. 180 mio. DKK), which may include support to the purchase of clean and energy efficient vehicles
Programmes of support/fiscal incentives for the development of infrastructure?	Yes, Support for public transportation in the peripheral areas of Denmark with 88,5 million in 2009 and 57 million in each of the years 2013-2017
Local access restrictions (e.g. low emission zones)?	Yes; Low emission zone has been established for heavy duty vehicles in the four largest cities in Denmark: Copenhagen (1 September 2008), Aalborg (1 February 2009) Odense (1 July 2010) and Aarhus (1 September 2010). To access the low emission zone heavy duty vehicles has to comply with Euro IV or Euro V. Older vehicles are allowed to access if they are equipped with a filter which reduce particulate emissions with more than 80 %.
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	None identified
National, regional or local vehicle taxation?	Yes; The Danish vehicle taxation favours energy efficient vehicles. Further, electric vehicles are exempted from the registration tax for vehicles until 2015.
Other supporting actions	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	The differentiation of the taxation of cars depending on fuel consumption has contributed to an increase in the fuel efficiency of the Danish car fleet. It is however difficult to distinguish the effect of the differentiated taxes from the general decrease in the fuel consumption of new cars which has been driven by EU actions and regulation.
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options
What is the reason behind this decision	It was the least expensive
Is there any additional information or guidance on the application of Article 5(3)?	Yes - The Environment Ministry has an area of the website where there are several pages on the Clean Vehicle Directive explaining about the regulation, who is affected, what you must do, Euro class, energy classes and particle filters. Guidance for environmental and energy requirements and a calculation of economic costs associated with emissions.
Were any estimates undertaken of the anticipated impacts of the options?	No
Have any assessments been undertaken of the actual impacts of the options?	No
Does the Member State have any views on whether all of the options should be retained?	No
Does the Member State have any views on whether any option should be amended?	No
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	

Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	No, only ideas were given
Have any assessments been undertaken of the actual application and impacts of the options?	No

Estonia	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	<p>Regulation No 138 on the total lifetime energy and environmental impact requirements for road vehicles.</p> <p>Building Act: Government Regulation Number: RT I, 01.11.2011, 2, Official Journal: Electronic Official Gazette, No: RT I, 01.11.2011, 2, Entry into force: 04/11/2011; Reference: (MNE (2011) 57562)</p> <p>Public Procurement Act</p> <p>Building Act: Law on amendment No: RT I 2007, 15, 76, Official Journal: Electronic Official Gazette, No: RT I 2007, 15, 76 Entry into force: 01/07/2010; Reference: (MNE (2010) 53402)</p>
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	Estonia transposed the Directive by implementing a new piece of legislation.
Date of legislation	27 th October 2011
Date it entered into force (could be the same as its date)	4 th November 2011
Date to which it applies to procurement processes (could be the same as its date)	NA
Other legislation needed to implement (may not be any)	No
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	N/A
Brief explanation of the approach link between main and implementing legislation	The Public Procurement Act was introduced originally in 2007 and significant updates since then have set down the basis for the use of environmental indicators and criteria in public procurement. The responsible Estonian Department (the Ministry of Finance took responsibility from July 2010) also provide guidelines for suppliers responding to invitations to tender.
Supporting documentation, e.g. guidelines	<p>No new documentation or guidelines were issued to support the new regulation. However, Within the public procurement guidelines there is a specific section for the purchase of vehicles.</p> <ul style="list-style-type: none"> • Passenger cars and light trucks: criteria focus on CO₂ and other polluting emissions and noise levels. In-depth criteria include addition of other elements that may affect vehicle fuel consumption and have other environmental impacts. • Public transportation and services: Criteria set out for the purchase of buses and public transport services. Bus procurement is an essential criteria for the preparation of the main focus of bus-related environmental and health effects, namely the exhaust and the noise level (by defining the technical characteristics of certain vehicles). • Transport service and waste collection: As in the case of transport services, waste collection services will also be provided through the procurement procedures for private companies. The criteria are very similar to those of buses, as well as waste collection trucks are heavy. The only difference is that they are encouraged to set aside and gear shift indicators of global warming potential (GWP) of the criteria. Waste collection trucks at low speeds and frequent stops of buses running rhythm are different. Gear shift indicators are not particularly necessary

	in this case.
Brief description	NA
Brief explanation of why the Member State chose the approach that it did	-
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	More supporting materials giving good examples what has been used elsewhere in Europe would be useful. This subject is quite new so there is a lack of practice and knowledge.
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	No. This subject is quite new so there is a lack of practice and knowledge.
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	N/A
Programmes of support/fiscal incentives for the development of infrastructure?	N/A
Local access restrictions (e.g. low emission zones)?	N/A
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	N/A
National, regional or local vehicle taxation?	In Estonia there is a uniform VAT of 18% on all types of vehicles and fuels. At the moment there is no registration and circulation tax. There is an excise tax of 0.359 EUR/litre on gasoline and 0.330 EUR/litre on diesel. Biofuels are exempted from excise tax (law N 314/2005 of the Ministry of Finance).
Other supporting actions	N/A
For each action identified, please quantify as far as possible, the actual (or	N/A

anticipated) impact on the market for clean and energy efficient vehicles.	
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	N/A
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow only Option 1 (i.e. set technical specifications for the energy and environmental performance of vehicles)
What is the reason behind this decision	N/A
Is there any additional information or guidance on the application of Article 5(3)?	No - but if contracting authorities need information how to fulfil the requirements (Art 5(3)) then they can use the explanatory note. Guidelines on Public Procurement were produced in 2007 and regulation no 138, transposing the Directive 2009/33/EC.
Were any estimates undertaken of the anticipated impacts of the options?	No
Have any assessments been undertaken of the actual impacts of the options?	No
Does the Member State have any views on whether all of the options should be retained?	No
Does the Member State have any views on whether any option should be amended?	No
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	No
Have any assessments been undertaken of the actual application and impacts of the options?	No

Finland	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	Gov Proposal to Parliament in Autumn 2011 followed by No: 1509/2011 Decree on account of energy and environmental consequences for public procurement of vehicles.
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	No: 1509/2011 Decree on account of energy and environmental consequences for public procurement of vehicles. The legislation can be viewed at: http://www.finlex.fi/fi/laki/alkup/2011/20111509?search%5Btype%5D=pika&search%5Bpika%5D=1509%2F2011
Date of legislation	29/12/2011
Date it entered into force (could be the same as its date)	01/02/2012
Date to which it applies to procurement processes (could be the same as its date)	from 01/02/2012 onwards
Other legislation needed to implement (may not be any)	None. The Finnish government have not ruled out the potential to provide additional/ supplementary decrees but are not planning (at this stage) to use that mandate.
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	New legislation
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	Decree 1509/2011 refers to technical guidelines in the CVD. The Finnish Government has provided advice on this guidance for municipalities but have no plans to create new procurement guidance around the CVD due to the procurement guidance in Finland that precedes the Directive. Finland have also provided an online portal for Municipalities through which they can access advice on the CVD Guidance. The main Department implementing this legislation is the Dept. of Trade and Industry which gives advice on all aspects of Public Procurement Policy - the focus on transport in public procurement is increasing.
Brief description	N/A
Brief explanation of why the Member State chose the approach that it did	Finland already has Public Procurement processes that have been in place for some time that help to work towards the targets set by the FQD and RED. The Finnish government have used the CVD to push existing procurement and environmental legislation further - rather than introduce new policies. The pre-existing public purchasing policies are very complex and with 370 municipalities making purchases - the buying decisions are being made by a wide range of people. Finland have opted to introduce the legislation in support of existing legislation and then gradually amp up criteria over time (this information is not contained within the legal text but has been released in guidance on the Directive to municipalities).
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	Problems in implementing the Directive have been as a result of changes in the Finnish government and election activities around the time - not direct difficulties with the implementation of CVD.

Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)

Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	<p>A new Public Procurement Law (348/2007 as well as 349/2007) came into force on 1 June 2007 defining the possibility to include environmental criteria in the contract award process. However, there were no binding environmental criteria for vehicle purchases. Voluntary guidelines on green public procurement were adopted in Finland in 2007. They contain energy efficiency, compliance with the latest EURO standard, eco-driving, alternative fuels, and the requirement of monitoring the energy consumption. These guidelines have been tested in the recent past and may become mandatory at a later stage. There is the objective that until 2020, at least half of all new purchased or leased passenger cars by the public sector will have carbon dioxide emissions of less than 120 g/km and at least 25% will be under 110 g/km.</p> <p>Furthermore, those responsible for arranging public transport services within the scope of application of the Regulation on Public Service Obligations (PSO Regulation) must also take energy efficiency and emissions of buses/coaches into consideration in the procurement of road vehicles after 2012.</p>
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	No - taxation motivates environmental decisions through monetary considerations.
Programmes of support/fiscal incentives for the development of infrastructure?	No - infrastructure is coupled in the contracts for services for vehicles in the service provided. The contractor is not expected to pay all investment in infrastructure themselves, the buyer also pays towards infrastructure.
Local access restrictions (e.g. low emission zones)?	No evidence of any Finnish LEZs. HGVs have been restricted in Helsinki however this is less environmentally motivated (although has environmental benefits) than motivated by access/ congestion and health and safety considerations.
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	<p>Parking benefits in Helsinki for low emission vehicles - from April 2011 onwards low emission vehicles can park for 50% reduced fee. In order to obtain a discount motorists pay for parking by mobile phone or vehicle related to the Comet device. The discount applies to the Helsinki public transport pay-parking zones, which are all toll-ticket machine and meter locations and residents pay parking. May also benefit residents.</p> <p>The discount applies to road use registered L5e category vehicles (tricycles), L6e category vehicles (light four-wheeler) and L7e category vehicles (four wheels).</p> <p>The emission criteria will be reviewed on a regular basis</p> <p>According to the criteria set by the city's gasoline and diesel vehicles (including hybrids) of carbon dioxide emissions must be less than 100 grams per kilometre, and the gas and ethanol cars in carbon dioxide emissions below 150 grams per kilometre. In addition, the regulated emission levels of vehicles to be Euro 5 levels.</p> <p>The Helsinki scheme can be viewed at: http://www.hel.fi/wps/portal/Rakennusvirasto/Pysakointi?WCM_GLOBAL_CONTEXT=/HKR/fi/Pys_k_inti/vahapaastoisten_alennus</p>

<p>National, regional or local vehicle taxation?</p>	<p>According to the reform of the Finish Vehicle Tax Act from late 2007 (21.12.2007/1311) there was a revision to the car tax levied on passenger cars upon registration (registration tax) and to the annual vehicle tax levied on all registered vehicles (circulation tax). The revision set the tax rates relative to the CO₂ emission resulting from the vehicle's specific fuel consumption. Every gram of carbon dioxide affects the size of the tax rate. The registration tax rate equal to not less than 12.2% and a maximum of 48.8% (registration tax formula is $12.2\% + (x \text{ g/km}) \cdot 0.122$ and 48.8% for $>360 \text{ g/km CO}_2$) of the car value. For light buses (M2 class) a lump sum registration tax of 31.7% was set without specific CO₂ taxation. For the van tax rate there is a reduction mechanism conjunct with the freight transport capacity. The tax rate is determined by the vehicle manufacturer's type approval announced. Also the annual circulation tax is based on CO₂ emissions and varies between 20 and 605 EUR. The Finnish Ministry of Transport and Communications notes that fiscal incentives may be adopted if the softer approach does not work. Decisions will be made on this in 2012 to help make environmental improvements.</p> <p>http://www.tulli.fi/en/finnish_customs/publications/motor_vehicles/motor_vehicles/025_09_en.pdf</p> <p>In addition - see evidence, below - provided by the Finnish contact: CO₂-BASED CAR (REGISTRATION) AND ANNUAL CIRCULATION TAXES ON PASSENGER CARS AND VANS AND FUEL TAXES</p> <p>In Finland, registration tax (car tax) and annual circulation tax on passenger cars and vans have been mainly collected for fiscal purposes. In 2007, car tax on passenger cars was 26 % of the car's ordinary retail value (including all taxes) on the Finnish market. Annual circulation tax was 127 euros per year.</p> <p>In November 2007, the Finnish Government proposed that the ad valorem car tax levied on passenger cars upon registration and the flat rate annual vehicle tax levied on all registered passenger cars should be restructured. These taxes should be staggered in proportion to the carbon dioxide emissions resulting from the vehicle's specific consumption of fuel (so called EU combined consumption). The relevant bills passed the Parliament in December 2007. The change in car tax entered into force on 1 January 2008, but the change to the annual vehicle tax entered into force in 2010.</p> <p>The tax changes are intended to encourage consumers towards choosing car models that use less fuel while speeding up the renewal of the vehicle stock to introduce cars with the latest technology. This would reduce also the level of harmful exhaust emissions such as nitrous oxides and particulate emissions. Reducing the specific consumption of fuel in vehicles is one way of restricting the growth in carbon dioxide emissions, which contribute to climate change.</p> <p>The tax changes are designed to benefit car models that consume less fuel. The taxes are technologically neutral which means that only the emissions level of each particular car is relevant, not the motor or fuel technology used. The consumers could benefit from the staggered taxation by choosing a smaller car, the diesel version of a car or a variant which is more economic in its fuel consumption. There are major differences in fuel consumption and emissions even between cars in the same size class, depending on the engine, cylinder capacity, power and fittings of the car. The tax changes mean an increase to the purchasing tax (Car tax) and annual vehicle tax for vehicles with high emission levels. However, even large cars come in models that are more fuel-efficient yet do not compromise on capacity.</p> <p>The tax changes constitute a clear incentive for consumers to choose a car which uses less fuel. Fuel consumption influences not only the car tax payable on registration but also the annual vehicle tax. And, of course, lower fuel consumption means lower fuel costs.</p> <p>Tax percentage varies between 5- 50 % of the taxable value of the car in question. The minimum level is levied on cars emitting 0 grams per kilometre or less and the maximum level is levied on cars emitting 360 grams or more.</p> <p>The car tax percentage is based on the carbon dioxide emissions declared by</p>
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	<p>the car manufacturer for a combination of city and road driving (so called EU combined consumption according to Directive 1999/100/EC). Where emissions data is not available (mainly cars that have entered into use before 2001), the tax rate is based on the total weight and propelling force of the vehicle. Of the technical data available on all cars, these correlate best with carbon dioxide emissions level. The tax rate has been calculated for each weight band into the tax rate table. The tax rate on diesel car is lower than on petrol car having the same weight.</p> <p>The taxation value is still the car's ordinary retail value on the Finnish market at the time of the taxation.</p> <p>Car tax on imported used cars is similar to tax on new cars. The depreciation of the value of used car is taken into account since the taxable value is the general retail value. But the tax rate is similar to both new and used cars.</p> <p>Car tax on vans (N1) has been similar to car tax on passenger cars (M1) from 1.4.2009. However, the CO₂-based tax percentage is reduced by a deduction if the van weighs more than 2 500 kg but less than 3 500 kg. This reduction is given due the fact that vehicles weighing more than 3 500 kg (lorries) are out of the scope of car tax and we do not want to favour them too much and tax heavy vans having quite high CO₂-emissions too heavily.</p> <p>The new annual vehicle tax is based directly and totally on carbon dioxide emissions (grams per kilometre) of each passenger car and van in question so that the level of taxation varies between 43 and 606 euros per year. The minimum tax will be levied on cars emitting 0 grams or less and the maximum level on cars emitting 400 grams or more. Between these levels, the tax raises progressively in accordance with the increase of each gram of carbon dioxide emissions. The tax is based on the EU combined carbon dioxide emissions declared by the car manufacturer. Where emissions data is not available, the tax will be based on the total weight of the vehicle.</p> <p>It is calculated that during a 5 year period an electric vehicle can benefit from 7000 euro tax difference (both purchase tax and annual tax) compared to average ICE car.</p> <p>Fuel taxes</p> <p>From the beginning of 2011 also fuel taxes have been based on CO₂-emissions (CO₂-tax) and energy content (base tax). Lifecycle emissions have taken into concern so that biofuels from waste and woodstock (double counted according to RES-directive) are taxed only according to the energy content. Gaseous fuels benefit little extra on their low level of particles. For diesel and gas driven vehicles, there is an additional yearly tax to cover the tax difference that would result if all energy content would be calculated same way as for gasoline. This is done to lower the costs for vehicles used for freight transport and the brake-even point (where yearly diesel and gasoline taxes are equal) is set in 18 000 kilometres. For gas driven vehicle the yearly additional energy tax is 200 eur.</p> <p>Gasoline snt/l 65,04 Bioethanol (normal) snt/l 42,92 Bioethanol (double counted) snt/l 33,73 Diesel snt/l 46,95 Biodiesel (Paraffinic and double counted) snt/l 24,35 Biogas (not taxed) 0,00 Natural Gas is taxed by energy content, but no additional tax for use in transport</p>
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Other supporting actions	<p>The Finnish Government funds the National Multi-disciplinary Framework Research and Implementation Program for green vehicle technologies and fuels TransEco. The TransEco research programme (2009-2013) develops, demonstrates and commercialises technology for improved energy efficiency and reduced emissions in road transport. There are 20 individual projects related to vehicle technology, fuels, policy making and guidance, international cooperation and networking coordination, dissemination and communication. The main financiers are Tekes – the Finnish Funding Agency for Technology, the Ministry of Employment and the Economy, the Ministry of Transport and Communication with its agencies and VTT Technical Research Centre of Finland.</p> <p>In addition, with Regulation 938/2000 Finland introduced a passenger car energy label in Spring 2010 which allows the purchaser of every new car model comparable fuel consumption and emissions. Best classes (A to C) meet the EU's CO₂ emission target of 130 g/km. The energy label distributes cars to categories (AG) on the basis of fuel consumption and emissions. The label and the databank behind it helps buyers to compare the consumption and carbon dioxide emissions from various car models and engine options. It will also facilitate the comparison of cars of different sizes while taking into account the total mass of the car. The energy label is initially voluntary for auto shops, as EU is preparing a directive that will make energy label mandatory for new cars.</p> <p>The Finnish government has undertaken a study into the feasibility of EV's for Finland - with some of the following conclusions: Deploying incentives with care</p> <ul style="list-style-type: none"> • Incentives that could be in conflict with the development of public transport and its relative competitiveness should be avoided. This group includes measure such as opening public transport lanes to EVs and offering them parking advantages in city centres. Incentives that could be favoured include efforts to link EVs with public transport systems in a sound manner. A practical example could be the integration and favouring of EVs in park-and-ride areas. • The public sector should, in the spirit of EU directive on promotion of clean and energy-efficient vehicles, employ electric vehicles. The same will apply to certain companies. The replacement of combustion engine vehicles serving productive functions with EVs would not increase the number of cars; a genuine transition from internal combustion engines to EVs would follow instead. It is easier to plan and predict the use of cars in productive functions than private cars. Technological risks of cars in productive functions will concern companies and communities, instead of individual consumers. • Public funding could be used to establish a number of EV rentals, where individual consumers as well as companies can rent EVs at an affordable price in order to familiarise themselves with the vehicle and evaluate it for a period of time, for example for one week. <p>Information sources:</p> <p>http://www.cleanvehicle.eu/info-per-country-and-eu-policy/member-states/finland/national-level/</p> <p>www.trafi.fi/ekoautoilu</p> <p>See word document: "<i>Finland and EVs government study</i>" saved to Finland file - provided by Senior Engineer Maria Rautavirta of the Ministry of Transport and Communications.</p>
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant	<p>The results of car tax differentiation are reflected well on the statistics, the CO₂-emissions are down 20 % from 2007 figures</p> <p>information source: http://www.trafi.fi/palvelut/tilastot/tieliikenne/ensirekisteroinnit/co2-paastot </p>

emissions.	
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options
What is the reason behind this decision	Finland took the approach directly from the CVD. In their national legislature they have directly linked to the Directive Guidance. This was done to enable greater flexibility and allow the options that would present maximum benefit for each individual purchasing situation to be realised. In addition, they wanted to use the Directive to formalise and build on their existing procurement policies rather than disrupt them.
Is there any additional information or guidance on the application of Article 5(3)?	Yes - additional guidance for municipalities on the CVD specifications. The Directive has also been implemented in such a way that it covers services and not just vehicle procurement - and therefore covers all vehicles used in the provision of the service - including those that are not purchased specifically for the provision of the service. Therefore the service provider must take into account vehicle environmental performance when planning delivery of a service (e.g. consider using older buses on less frequently required routes/ and new - higher specification buses on more frequent/ city centre/ longer routes).
Were any estimates undertaken of the anticipated impacts of the options?	N/A
Have any assessments been undertaken of the actual impacts of the options?	The Finnish government have not yet recognised any direct impacts from the implementation of this Directive.
Does the Member State have any views on whether all of the options should be retained?	The respondent expressed the opinion that all options should be retained.
Does the Member State have any views on whether any option should be amended?	Yes - no changes should be made to the Directive at this stage. Member States have struggled to implement this Directive and that if the directive does require to be changed, it will have an impact on the work that has been achieved to date. The Directive should now be left for 5-7 years otherwise no lessons can be learned due to the technical complexity of the Directive.
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	National legislation links directly back to the CVD guidance & technical specifications.
Have any assessments been undertaken of the actual application and impacts of the options?	No formal assessment has been undertaken. However, it is thought that the CVD doesn't bring a great deal of value and that there needs to be an overall focus on all HGV's - not just public procurement of vehicles and HGVs.

France	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	<p>Three different texts are used to implement the Directive in France:</p> <ul style="list-style-type: none"> Article 12 - loi 2011/12 du 5 Janvier 2011 (the law). Decret -011-493, du 5 Mai 2011 "relatif a la prise en compte des incidences energetique et environnementales des vehicules a moteur dans les procedures de commande publique". Less important than the law Arrêté du 5 Mai 2011 relatif aux modalites de prises en compte des incidences energetique et environnementales des vehicules a moteur dans les procedures de commande publique.
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	New legislation - the law (first document mentioned above) was actually a matter of adding to an existing law in the "Code Legal")
Date of legislation	5 th January 2011
Date it entered into force (could be the same as its date)	6 th May 2011
Date to which it applies to procurement processes (could be the same as its date)	6 th May 2011
Other legislation needed to implement (may not be any)	None, this law was added to the existing "Code des Marches Publique" and so completed existing legislation
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	N/A
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	A guidance document was published in July 2012
Brief description	The guidance document is aimed at public procurement of road transport vehicles.
Brief explanation of why the Member State chose the approach that it did	<p>A problem was identified in how to measure the effect of the Directive. Currently there is no standard approach to measure CO₂ from heavy duty vehicle (as per light vehicle), and so the lack of labelling on emission (CO₂ and other gases) so it is difficult for a procurement exercise to specify what they want as minimum emissions.</p> <p>Currently the only instrument in place is to set a maximum of emissions allowed, however there is no way to verify if a vehicles states that it is emitting just X% of the maximum permitted.</p> <p>The guide is to help procure despite the lack of labelling and how to address it. It was demanded by professional and buyers.</p>
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	N/A

Have you experienced any problems with transposing the Directive (e.g. due to a lack of clarity of its provisions, etc.)?	<p>Overall it was clear. The main problem that has arisen is around monetisation of impact and monetisation of incidence. There are a couple of issues: Once impacts have been monetised should these costs be included into the other costs of the products for comparison, or should it be kept separate from the overall cost (running cost, maintenance purchase price and so on)? Thus there is a risk of double counting if it is included: the price of energy which is including in the running cost of the product is inclusive of tax. However energy cost is also included in monetisation of impact but excluding tax. There is no clear guideline in the Directive of how this should be addressed.</p> <p>Second issue: the Directive requires that once monetisation of impact is applied it has to apply to all impacts, even if for some impacts there is no clear path on how to monetised them.</p>
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Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)

Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	In France there is a "Code des Marchés Publique" that applies to public services organisation on how they can procure and purchase certain services and supplies. The Code was initially published in 2006, but is regularly amended to support new legislation being implemented. But no incentives per se have been implemented. The code had to be updated to include this new Directive's requirements
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Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?

Programmes of support/fiscal incentives for the purchase of vehicles?	None, but they have to apply and comply with the "Code des Marchés Publique"
Programmes of support/fiscal incentives for the development of infrastructure?	There is a plan for electric vehicle, which includes plan on how to develop infrastructure to support electric vehicle such as battery charging stations. The plan is developed and implemented by the DGEc (Directorate Generale Energy and Climate - Ministry of Environment)
Local access restrictions (e.g. low emission zones)?	Trial action starting in 2012 for 3 years - zones d'actions prioritaires pour l'air (ZAPA) (Priority action Zones for Air) - these are to be trialled in Aix en Provence, Bordeaux, Clermont, Grenoble, Lyon, Nice, Paris et Saint Denis, which are cities suffering from excessive air pollution from vehicles. A list of criteria has been set by a Decret which means that some vehicles (with high emission (old vehicles mainly) to be banned from the roads) but It is however up to the LA to decide which criteria to apply within their authority and if it is a temporary measure (due to high pollution level on some summer day for example) or if it is to be a permanent one.
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	N/A
National, regional or local vehicle taxation?	N/A
Other supporting actions	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂	N/A

and air pollutant emissions.	
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options
What is the reason behind this decision	Wanted to give maximum flexibility to local operators as well as to the manufacturers in terms of what they are able to put on the market and what they can purchase.
Is there any additional information or guidance on the application of Article 5(3)?	None apart from the guidance published in July 2012
Were any estimates undertaken of the anticipated impacts of the options?	No
Have any assessments been undertaken of the actual impacts of the options?	No
Does the Member State have any views on whether all of the options should be retained?	Happy with the decision to allow all options so as to offer flexibility. The one risk that this approach brings is that there are not that many manufacturers (of public transport) so they might struggle to handle a wide range of requests as the market become heterogeneous. There are not appropriate European standards for heavy vehicles. These are based on the engine emissions, but the same engine depending on how it is used has huge impact (hilly, many stops, and so on), (circuit/cycle standard). There is a need to improve these.
Does the Member State have any views on whether any option should be amended?	As mentioned earlier, monetisation method is not ideal, but we don't have a position on this yet.
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	No guidance given at the moment to procurement
Have any assessments been undertaken of the actual application and impacts of the options?	None at the moment

GERMANY	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	Public Procurement Regulation [Vergabeverordnung (VgV)] and Sectoral Regulation [Sektorenverordnung 9SektVO]
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	Amendment of existing regulation (this is a general principle for transposition of EU directives into German law. If possible existing regulations are used/amended to accommodate changes)
Date of legislation	May 2011
Date it entered into force (could be the same as its date)	May 2011
Date to which it applies to procurement processes (could be the same as its date)	May 2011
Other legislation needed to implement (may not be any)	No other legislation was needed
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	N/A
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	No supporting documentation/guidelines were issued. However, the concerned stakeholders were involved during the legislation drafting stage and could provide their comments/input in written form. They are hence well aware of the requirements.
Brief description	N/A
Brief explanation of why the Member State chose the approach that it did	N/A
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	No problems with the transposition of the Directive. However there are problems in the application of the Directive with option 3 under Article 5(3) (see below for more information).
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	

Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	Yes
Have any of the following actions in the Member State taken place to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	Most of the supporting actions named by the German BMU are not focusing on the purchase of vehicles by public authorities or public transport operators but do concern vehicles users in general. The following programmes were named: • Scrapping incentives set by German Federal Government in 2009. For further details please see: http://www.bmu.de/files/pdfs/allgemein/application/pdf/ifeu_abwrackpraemie_bf.pdf or http://www.bmwi.de/BMWi/Navigation/Presse/pressemitteilungen,did=287794.html or http://www.bafa.de/bafa/de/wirtschaftsfoerderung/umweltpraemie/publikationen/ump_abschlussbericht.pdf
Programmes of support/fiscal incentives for the development of infrastructure?	No information provided
Local access restrictions (e.g. low emission zones)?	Various low emission zones have been introduced in German cities during the last few years. Low emission zones are identified by traffic signs and additional signs. The Thirty-fifth Ordinance on the Implementation of the Federal Emissions Control Act (Ordinance on the marking of vehicles) stipulates that vehicles have to be marked with stickers (on the windscreen inside the vehicle) and lays down the criteria vehicles have to meet for the different kinds of stickers. Stickers are valid for all low emission zones in any city in Germany. An overview of low emission zones, both existing and planned, drawn up by the Federal Environmental Agency is available at: http://gis.uba.de/Website/umweltzonen/start.htm Further information in English language can be found under the following links: http://www.bmu.de/luftreinhaltung/doc/40730.php ; http://www.umweltbundesamt.de/umweltzonen/index.htm
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	No information provided
National, regional or local vehicle taxation?	Emissions based motor vehicle tax scheme entered into force on 1 July 2009. For more information please see: http://www.bundesfinanzministerium.de/nrnn_55228/DE/Buergerinnen_und_Buerger/Mobilitaet_und_Reisen/Rund_ums_Auto/Kfz_Steuer/Neuregelung_Kfz_Steuer.html?__nnn=true or http://www.bundesfinanzministerium.de/nrnn_55228/DE/Wirtschaft_und_Verwaltung/Steuern/Veroeffentlichungen_zu_Steuerarten/Kraftfahrzeugsteuer/003.html?__nnn=true .
Other supporting actions	N/A

For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	No information was provided.
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	No direct information on emissions reductions through the above measures has been provided. In March 2010 the German Federal Environmental Agency (UBA) published an evaluation report „CO ₂ -Emissions reductions in the transport sector – possible measures and emissions reductions potentials“ (see English version, in particular table 1 on page 2 under the following link: http://www.umweltdaten.de/verkehr/downloads/Texte_05_2010_CO2Minderung_Verkehr_Kurzfassung_englisch.pdf). This report identifies emissions reduction potential for possible future measures, some relating to the policies above.
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options The Central Procurement Agency of the Federal Financial Administration is mainly using Option 1 with some consideration of Option 2 in the criteria assessment for the procurement. This is based on EURO 5 emission norms and economic considerations that need to be applied in the purchase decision
What is the reason behind this decision	To provide sufficient flexibility for the respective procurement departments
Is there any additional information or guidance on the application of Article 5(3)?	No further guidance is provided - the Annexes to the Directive were directly translated into German language and form annexes to the German regulations.
Were any estimates undertaken of the anticipated impacts of the options?	No. However an ex-ante assessment on the costs of the directive was provided. It is assumed that the regulation will need to higher costs for public procurement agencies in the short term; Those costs are assumed to amortise in the medium and long term
Have any assessments been undertaken of the actual impacts of the options?	No, it seems that Option 1 is most used by procurement authorities followed by Option 2a. Option 2b (monetising of environmental impacts) is used the least often due to problems in the application/calculation. No statistical information is however available.
Does the Member State have any views on whether all of the options should be retained?	Yes, all options should be retained for the moment. For a comprehensive assessment of the impact and use of the options more time is needed.
Does the Member State have any views on whether any option should be amended?	Option 2b (where energy and environmental impacts are monetised) leads to problems in the application by procurement authorities as the calculation pathway has not sufficiently been clarified. It is not clear which values should be used/assumed for the calculation and the methods are lengthy and complicated. Examples for the calculation of costs should be provided and there needs to be further guidance for practitioners. Germany has requested clarifications from Brussels but this has not been provided by the respective contact bureaus. No amendments have so far been introduced on the national level.
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been	

allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	No guidance or direction has been given regarding the weighting of criteria. Public procurement authorities are given the flexibility to weigh different criteria individually.
Have any assessments been undertaken of the actual application and impacts of the options?	No

Greece	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	Legal act 3982/11: Promoting clean and energy efficient road transport vehicles - Harmonisation of the Greek legislation with the Directive 2009/33/EC of the European Parliament and of the Committee held on the 23 April 2009 (L 120)
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	New legislation
Date of legislation	17 th June 2011
Date it entered into force (could be the same as its date)	17 th June 2011
Date to which it applies to procurement processes (could be the same as its date)	17 th June 2011
Other legislation needed to implement (may not be any)	None
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	N/A
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	Implementation letter (Circular) - 30/01/2012
Brief description	A letter which describes briefly the key points of the new legislation: Scope / Definitions, Exceptions, Purchase of clean and energy efficient vehicles road transport, and Methodology for the calculation of operating costs throughout the life of the vehicle. This has been published in a government website where the Citizen may access from one point to all laws and decisions issued by governmental bodies, narrow bodies and the wider public sector and independent authorities.
Brief explanation of why the Member State chose the approach that it did	The Department's common practice is to publish a circular after the introduction of new legislation
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	N/A
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	No
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase	No

of vehicles?	
Programmes of support/fiscal incentives for the development of infrastructure?	No
Local access restrictions (e.g. low emission zones)?	No
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	No
National, regional or local vehicle taxation?	No Tax applied for Euro5 private cars
Other supporting actions	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	N/A
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options
What is the reason behind this decision	The department's intentions was to not exclude any options at this stage
Is there any additional information or guidance on the application of Article 5(3)?	No
Were any estimates undertaken of the anticipated impacts of the options?	No
Have any assessments been undertaken of the actual impacts of the options?	No
Does the Member State have any views on whether all of the options should be retained?	Yes, because the effectiveness has not been shown yet and the market should follow it
Does the Member State have any views on whether any option should be amended?	No
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	No
Have any assessments been	No

undertaken of the actual application and impacts of the options?	
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Hungary	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	Gov. Decree N 48/2011
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	New legislation: The 48/2011. (III.30.) Government Regulation on the promotion of the purchase of environmentally friendly and energy-efficient road transport vehicles entered into force on 30th of March 2011. Legal act: Government Regulation number 48/2011.; Official Journal: Hungarian Journal, Page: 05695-05698; Reference: (MNE (2011) 53127)
Date of legislation	30 th March 2011
Date it entered into force (could be the same as its date)	30 th March 2011
Date to which it applies to procurement processes (could be the same as its date)	30 th March 2011
Other legislation needed to implement (may not be any)	Concordance table
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	Legal act: Concordance table; Reference: (MNE (2011) 53128)
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	Guidance has been prepared by KTI for the Ministry.
Brief description	N/a
Brief explanation of why the Member State chose the approach that it did	Hungary opted to make some modifications to the Directive due to a perceived lack of clarity in some areas. They aimed to incorporate the most relevant and important elements of the Directive but have not comprehensively transposed it word for word in order to fit better with Hungarian conditions.
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	<p>Hungary was required to draw up the legal background for the new regulations before the CVD could be transposed. This resulted in a delay in implementation as proposals had to go through an approvals process. They found that the Directive was not easy to apply. The two small modifications that have been made are;</p> <ul style="list-style-type: none"> • Adding a minimum requirement of 10% weighting towards environment into procurement decisions (e.g. for any procurement decision made, the procurer must take environment into account as at least 10% of the decision making process). • Making it obligatory for the purchaser to submit a detailed description of the procurement, indicating the ways it's been designed to consider the energy and environment aspects relating to the vehicles lifetime. <p>It is anticipated that the Hungarian Government can use these reports to conclude whether the requirements of the Clean Vehicles Directive are sufficient enough, and if not, how and in what way they need to be changed. The ways in which the Directive was modified during transposition were designed to give the Directive greater weight in Hungary.</p>
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	

Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	Hungary chose not to implement any supporting regulations or assistance at a National level. Any additional support is provided at a local level.
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	No
Programmes of support/fiscal incentives for the development of infrastructure?	No
Local access restrictions (e.g. low emission zones)?	Hungary is planning LEZs in Hungary - however this has not yet been implemented. The regulatory background of LEZs is in process. Hungary does limit access of HGV's in certain parts of Budapest. Freight vehicles over 3.5T are obliged to pay a fee to enter to Budapest, except to the destination traffic areas that provide access to the industrial and commercial areas. There is a 10% discount for lorries that meet Euro 3 standard, 30% for lorries meeting Euro 4 standard, 50% for lorries meeting Euro 5. However, the plans of LEZs have been discussed for a number of years and as yet, there is no sign of concrete implementation of the Budapest LEZ.
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	No
National, regional or local vehicle taxation?	The Hungarian vehicle taxation system does not correlate to the Directive and has been in place since before Directive transposition. The yearly tax amounts based on the engine performance and age for passenger cars and on the vehicle weight and environmental performance for buses and commercial vehicles. According the Vehicle Tax Act LXXXII of 1991 a bus or commercial vehicle can reach a 20% to 50% tax benefit depending its environmental performance. According the Registration Act CX of 2003 tax have to be paid for the first registration of a passenger car in Hungary. There are fixed tax amounts based on the type of the motor, cylinder capacity and environmental performance. There is a uniform VAT of 27% on the purchase of vehicles. There is a fuel excise tax on fuel of 0.448 EUR/litre for unleaded petrol and 0.368 EUR for diesel. From July 2007 a full tax exemption was established for biofuels blended up to 4.4% of the volume of gasoline and from January 2008 this tax exemption also applies to 4.4% of biodiesel blended into diesel. Fuel distribution companies not complying with the 4.4% regulation will have an extra tax burden of 8 HUF/litre of fuel at the wholesale level. In addition, as of January 2007 the bioethanol component of fuel E85 (defined as containing at least 70% bioethanol) is exempted from excise duty too.
Other supporting actions	The Public Procurement Act CXXIX of 2003 and the new Public Procurement Act CVIII of 2011 define the legal conditions for Public Procurement. According to Article 4 (15) 'technical specifications for public procurement' as well as Article 57 (4c) 'evaluation criteria' set out that contract authorities shall include environmental criteria in their procurement decision whenever it is possible. However, so far in Public Procurement there are no standards for the purchase of clean vehicles. The Hungarian Centre of Environmental Studies has published Green Procurement Guidelines for Municipals in 2003 but without making reference to road vehicles.
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	N/A
For each action identified,	N/A

please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO ₂ and air pollutant emissions.	
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options
What is the reason behind this decision	<p>All of the options - with the modifications outlined above in order to give the Directive requirements greater weighting in Hungary. The reason for allowing all of the options was to avoid restrictions and to have a later opportunity to assess how the new regulations would be implemented in procurement. There is the potential that once an assessment has been made, that the CVD will be further tailored to better address Hungarian national conditions.</p> <p>Originally, the Hungarian Ministry wanted to transpose only option 3 of the CVD - but the lack of data about HDV fuel consumption meant that it was not possible. It will be reviewed in one or two years.</p>
Is there any additional information or guidance on the application of Article 5(3)?	No
Were any estimates undertaken of the anticipated impacts of the options?	<p>An impact assessment was carried out in early 2012 - following transposition of the Directive. No procurement data is yet available for a post-implementation assessment of the impacts of the Directive. However, after the CVD had been transposed, the Hungarian contact, Krisztián UHLIK made various presentations at conferences about the CVD. During these, he was most often asked about CO₂ limits being low - and about the lack of Hungarian data for the fuel consumption of HGVs. The questions relate to how to compare and monitor fuel consumption if purchasers don't know whether it's being consistently calculated. In response, the Hungarian ministry have been working on a calculation methodology. With this methodology they hope to be able to measure fuel consumption in the next year or so and fill the gaps in data.</p>
Have any assessments been undertaken of the actual impacts of the options?	<p>Yes - Hungary carried out an impact assessment of the implications of the Directive. Details of the impact assessment are available as a published article from www.ijtte.com and is titled "Elaboration of a program to facilitate the implementation of the Directive 2009/33/EC on the promotion of clean and energy-efficient road motor vehicles." The IA was carried out looking into the bus sector in the year 2007. As a first step the Hungarian bus fleet was examined, then the Hungarian bus stock was defined according to annual road transport emissions, 2007. That formed the basis of the two possible scenarios in the impact assessment. In the first scenario-calculations it was assumed that the oldest, most polluting vehicles can be replaced by used, but still considered modern buses and in the second scenario those buses can be replaced by totally new ones.</p> <p>A short calculation was performed after the national vehicle fleet calculation where only the vehicles operated by public bus transport companies' had been taken into account. In this case two versions were tested within both scenarios. In one case, only the oldest so-called Pre-Euro vehicles were replaced, and in the other both the Pre-Euro and the Euro I vehicles. Consequently, four different versions were tested according to this calculation.</p> <p>The results of the calculations clearly showed that the operators would even choose used buses or new ones, replacing the numerous old and high polluted vehicles would cause a significant decrease for most of the exhaust gas components. The calculations also indicated that in case of replacement of the vehicles, at least those with two emission category better shall be chosen. Otherwise it is also possible that the effect would be negative regarding some polluting components. The model also showed the CO₂ growth which comes from the higher consumption of the modern buses. In extreme cases it can reach up to ten per cent.</p>

Does the Member State have any views on whether all of the options should be retained?	It is anticipated that the Hungarian regulations will be modified on some way – however, it is not yet known how this will be achieved. If the Commission choose to modify the Directive requirements, it will be easier for Hungary to participate as part a working group who can share National experiences, feedback and lessons.
Does the Member State have any views on whether any option should be amended?	<p>The impact assessment showed that the relative freedom of the Directive could result in some negative effect. This also means that the legislation does not attain its goal. For example, any applicant may specify such weighting factors which though indicating the environmental impacts, cannot affect essentially the decision on relevant offers, because other considerations (performance, reliability, purchase price) got substantially greater importance. In order to avoid the phenomenon described in the previous sentence, the national regulation sets out the minimum for the allowance for environmental considerations. This 10% value is determined on the basis of those public procurements - already surveyed and announced - which covered the environmental factors, too. Such an offset does not cause any problem to the inviter of the procurement; however it provides sufficient safeguards against the regulation's "frivolous" application. According to the Hungarian regulation the purchaser has to submit to the Ministry the detailed description of the procurement, indicating the way how to consider the energetic and environmental effects and aspects relating to the vehicles lifetime. Based on those reports can then conclude that the requirements of the Clean Vehicles Directive are sufficient enough, and if not, how and in what way they need to be changed.</p> <p>The main (and re-emerging) problem of applying the Directive option3 is the lack of fuel consumption data of HDVs. The base of the lifetime cost calculation is always the fuel consumption [l/100km]. Other (big) problem: the real emission of a HDV largely depends on the powertrain – attached to the engine – and the body (means: e.g. the weight) of the vehicle. In other words in case of a type approval of a HDV always the engine emission is measured not the whole vehicle emission (in [g/kWh] instead of [g/km]). Presumably manufacturers have fuel consumption data but those data aren't comparable because "so many countries, so many customs".</p>
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	Yes - Hungary modified the Directive to ensure at least 10% weighting was to be given to environmental considerations when making procurement decisions.
Have any assessments been undertaken of the actual application and impacts of the options?	Not yet - although they are planned.

Ireland	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	Statutory Instrument No. 339 of 2011, European Communities (Clean and Energy-efficient Road Transport Vehicles) Regulations 2011 New secondary legislation under Section 3 of the European Communities Act 1972 which allows Irish Ministers to transpose EU legislation into Irish law by a statutory instrument.
Date of legislation	30th June 2011
Date it entered into force (could be the same as its date)	30th June 2011
Date to which it applies to procurement processes (could be the same as its date)	30th June 2011
Other legislation needed to implement (may not be any)	None
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	N/A
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	Short summary material circulated to public sector procurers
Brief description	N/A
Brief explanation of why the Member State chose the approach that it did	N/A
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	N/A
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	Yes
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	N/A
Programmes of support/fiscal incentives for the development of infrastructure?	N/A
Local access restrictions (e.g. low emission zones)?	N/A

Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	N/A
National, regional or local vehicle taxation?	Although not confined to the purchase of vehicles by public authorities or public transport operators, the purchase of cleaner and more energy efficient passenger cars has been incentivised in Ireland through the national vehicle registration tax (applied on initial registration of a vehicle) and annual motor tax rates payable to the local authorities since July 2008. Passenger cars are classified into bands based on the rate of CO ₂ emissions per kilometre travelled with the lowest emitting vehicles paying the lowest rate of VRT and motor tax. The measure has proved very successful with over 90% of passenger cars purchased in 2011 falling into the first two bands (of 6) i.e. with CO ₂ emissions of less than 140g/km.
Other supporting actions	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	90% of passenger cars purchased in 2011 fall into the first two bands (of 6) i.e. with CO ₂ emissions of less than 140g/km.
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	The combined effect of EU emissions standards and the motor taxation rebalancing is an estimated saving of 35kt in 2010 in Ireland. The projected saving due to the combined impact of technology improvement and taxation rebalancing (compared to static emissions technology in the light vehicle fleet) rises to over per annum 850kt in 2020. The net energy saving in Ireland from the EU technology measures and the taxation rebalancing combined are estimated at 2,424GWhours and 3,797GWhours in 2016 and 2020 respectively.
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options
What is the reason behind this decision	The approach allowed for maximum flexibility for those seeking tenders allowing them to use the methodology best suited to their particular tender size and circumstances.
Is there any additional information or guidance on the application of Article 5(3)?	No
Were any estimates undertaken of the anticipated impacts of the options?	No
Have any assessments been undertaken of the actual impacts of the options?	No
Does the Member State have any views on whether all of the options should be retained?	Currently there is insufficient experience of the application of the Directive in Ireland to come to a reasoned conclusion regarding the appropriateness and impacts of the maximum flexibility approach.
Does the Member State have any views on whether any option should be amended?	N/A
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport	No

vehicles?	
Have any assessments been undertaken of the actual application and impacts of the options?	No

Italy	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	Implementation of Directive 2009/33/EC on the promotion of vehicles with reduced environmental impact and energy efficient road transport. (Decreto legislativo, no. 24; Gazzetta Ufficiale della Repubblica Italiana, no. 68. 24/03/2011.)
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	New legislation
Date of legislation	24 th March 2011
Date it entered into force (could be the same as its date)	24 th March 2011
Date to which it applies to procurement processes (could be the same as its date)	24 th March 2011
Other legislation needed to implement (may not be any)	Community Law n.96, June 4th, 2010 (Legge del 4 giugno 2010 n. 96)
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	New legislation
Brief explanation of the approach link between main and implementing legislation	This was the initial piece of legislation which obligates the Italian Gov. to transpose the Directive (only making a single reference to 2009/33/EC). The following legislation detail above is the main transposing legislation.
Supporting documentation, e.g. guidelines	Updated Green Public Procurement National Action Plan
Brief description	<p>This revised GPP NAP will be in the form of a legislative Decree of the Minister for Environment.</p> <p>This GPP Action Plan is still currently in draft (13/03/12). MS contact indicated that the document will likely become formally adopted in about 2 months (~May/June)</p> <p>Decree n. 24 (the main piece of transposing legislation) states that, when environmental criteria for vehicles category will be set within the GPP National Action Plan, they will be compulsory under the directive n. 33/2009, and they will represent its implementation.</p> <p>It is envisaged that this supporting legislation will help contracting authorities in implementing the Clean Vehicle Directive by providing a sector reference point at national level.</p> <p>The application of the environmental criteria used in the National Action Plan will be monitored by the Authority for the supervision of public contracts' (L'Autorità per la vigilanza sui contratti pubblici di lavori, servizi e forniture, AVCP)</p>
Brief explanation of why the Member State chose the approach that it did	Not provided.
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	Stakeholders from the Ministry of Environment claimed to have had no difficulties in transposing the Directive but stated that problems arose during its practical implementation. In particular some public authorities, including the main Italian National Central Purchasing Body (Consip spa.) indicated some difficulties in accessing vehicle pollutant/emission data. Stakeholders suggested that in order to assist purchase decisions based on environmental criteria, complete data sheets on vehicle emissions should be made available on the cleanvehicle.eu

	website in addition to the total lifetime cost.
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	Yes
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	N/A
Programmes of support/fiscal incentives for the development of infrastructure?	N/A
Local access restrictions (e.g. low emission zones)?	N/A
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	N/A
National, regional or local vehicle taxation?	N/A
Other supporting actions	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	N/A
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options Under forthcoming decree detailing the Green Public Procurement National Action Plan, specific arrangement will be chosen for different categories of vehicles. For M1/N1 vehicles option (a) of Article 5(3) (technical specifications) will apply whereas for M2/M3 and N2N3 vehicles the application of option 2 of Article 5(3), (b), second indent (monetising impacts) will apply.
What is the reason behind	Not specified

this decision	
Is there any additional information or guidance on the application of Article 5(3)?	Not specified
Were any estimates undertaken of the anticipated impacts of the options?	No, stakeholders not aware of any.
Have any assessments been undertaken of the actual impacts of the options?	No, stakeholders suggest that with less than one years' experience with the directive that impacts to date will be minimal.
Does the Member State have any views on whether all of the options should be retained?	N/A
Does the Member State have any views on whether any option should be amended?	N/A
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	Under the forthcoming decree detailing the Green Public Procurement National Action Plan, tenders for purchasing, leasing and renting of vehicle categories M2/M3 and N2N3, will require the compulsory application of option 2 of Article 5(3) (b), with a minimum weight equal to 15/100 points.
Have any assessments been undertaken of the actual application and impacts of the options?	Not specified

Latvia	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	<p>No, EC Directive 2009/33/EC has not completely transposed into national legislative acts. It is transposed only as for the subjects mentioned in Article 3(a). At the moment amendments to the Law on Public Transport Services transposing Directive 2009/33/EC as for the subjects mentioned in Article 3(b) are ready and are being moved through the Cabinet of Ministers. It is planned that these amendments could be adopted by the Parliament and come into force by the end of 2012.</p> <p>Therefore, answers to the next questions refer only to regulations transposing Directive 2009/33/EC as for the subjects mentioned in Article 3(a).</p>
Main piece of transposing legislation	<p>Article 3.(a) of Directive 2009/33/EC was transposed in the following legal acts:</p> <ol style="list-style-type: none"> 1. Law "Amendments to the Public Procurement Law" (see Article 18 that added Article 461 to the Public Procurement Law (law transposing Directive 2004/18/EC)), adopted on May 20, 2010; 2. Law on the Procurement of Public Service Providers (see Article 19) (law transposing Directive 2004/17/EC), adopted on August 25, 2010; 3. Regulation of the Cabinet of Ministers No 1184 "Regulation on Categories of Road Transport Vehicles Subject to Special Procurement Requirements and Methodology for Calculation of Road Transport Vehicle Lifetime Costs", adopted on December 21, 2010.
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	<ol style="list-style-type: none"> 1. – amendments to existing legislation – Public Procurement Law. 2. – new legislation. 3. – new legislation, subordinate legislative act to those in points 1 and 2.
Date of legislation	<ol style="list-style-type: none"> 1. – on June 15, 2010. 2. – on September 4, 2010. 3. – on January 6, 2011.
Date it entered into force (could be the same as its date)	1 and 2 – on December 4, 2010, but provisions could actually be applied only from January 6, 2011 when the regulations in point 3 came into force
Date to which it applies to procurement processes (could be the same as its date)	N/A, the requirements were limited only to new procurement procedures
Other legislation needed to implement (may not be any)	No
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	N/A
Brief explanation of the approach link between main and implementing legislation	N/A

Supporting documentation, e.g. guidelines	<p>1. "Explanatory Note on how to Apply Article 46 of the Public Procurement Law and Article 19 of the Law on the Procurement of Public Service Providers and how to Apply the Methodology for Calculation of Road Transport Vehicle Lifetime Costs in Procurement Processes" (hereinafter – the Explanatory Note). On April 5, 2011 the Explanatory Note was published on the website of the Procurement Monitoring Bureau and on April 6, 2011 it was sent via e-mail directly to contracting authorities and public service providers.</p> <p>2. Presentation "Application of Specific Regulations to Procurements in the Field of Road Transport" (hereinafter – the Presentation). It was presented to contracting authorities, public service providers and suppliers in the conference "Procurement of Road Transport Vehicles – Problems and Solutions in Public Procurements" held in Riga, March 29, 2012. On March 30, 2012 the Presentation was published on the website of the Procurement Monitoring Bureau and it was also sent via e-mail directly to participants of the conference.</p>
Brief description	<p>1. The Explanatory Note consists of 5 chapters: I. Categories of road transport vehicles subject to the regulation (numeration and explanation of categories, also description of road transport vehicles to which the regulation is not applicable). II. Requirements to be determined (reference to the procedures in which it is mandatory to determine the requirements and in which it is not, obligatory requirements for evaluation of energy and environmental impact). III. Options how to determine the requirements (in technical specifications, as tender evaluation criteria or both) IV. Methodology for calculation of road transport vehicle lifetime costs (description of the methodology, formulas) V. Example of using methodology for calculation of road transport vehicle lifetime costs.</p> <p>2. The Presentation consists of 4 chapters: I. Necessity of the regulation (sustainable development, greenhouse gases and global warming, forecasts, situation in the field of transport, public procurements (in general, green public procurement, procurement of road transport vehicles), Directive 2009/33/EC). II. Essence of the regulation (references to legislative acts, categories of the road transport vehicles subject to the regulation, obligatory and additional requirements for evaluation of energy and environmental impact, options how to determine the requirements, minimal specific weight when the impacts is evaluated as tender evaluation criteria, how to calculate road transport vehicle lifetime costs, the calculator). III. Practical application of the regulation (examples, bad practice, problems that arise in the practice, information to be included in the procurement documentation and notices, where to find information). IV. Additional information (sources of additional information on sustainable development and procurement of road transport vehicles).</p>
Brief explanation of why the Member State chose the approach that it did	<p>It was clear that without the Explanatory Note contracting authorities and public service providers would not have clear vision how to apply new provisions because of their complexity. The Presentation helps to understand necessity of the regulation and improve the practice of the regulation application.</p>

<p>Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.</p>	<p>There was lack of information (guidance, explanatory notes) from the European Commission regarding the application of Directive 2009/33/EC.</p> <p>It is not completely clear:</p> <ol style="list-style-type: none"> 1. How to apply the regulation, especially the methodology for calculation of road transport vehicle lifetime costs to road transport vehicles of categories N2, N3, M2, M3, because there is not any information about the energy consumption or CO2 emissions or it is not comparable – there is no regulation that oblige manufacturers to determine these factors, but, if they do so, the methodology how manufacturers determine these factors is not unified, so results are not comparable in the light of public procurement principle of fair and equal treatment of economic operators. As an example, there is not unified methodology of converting data of the mass of pollutant emissions from g/kWh to g/km and the calculation is confirmed only with the statement from the manufacturer or even only dealer itself; 2. What documentation could be used as a proof for compliance with requirements in the procurement procedure, especially in the situations described above; 3. How to apply the regulation, especially the methodology for calculation of road transport vehicle lifetime costs, in the situations when a road transport vehicle is offered in the procurement procedure that uses two types of energy source; 4. How to understand the text in Article 3 (b) “in excess of a threshold which shall be defined by Member States not exceeding the threshold values as set out in Directives 2004/17/EC and 2004/18/EC”. These two Directives set different threshold values, so it is not clear according to which value in which Directive the threshold value should be defined. Is it somehow connected to that which subjects of which Directive sign public service contracts with operators? If a Member State defines the threshold value according to Directive 2004/17/EC for all operators, will it be accordingly to the aim of Article 3(b) of Directive 2009/33/EC? 5. Whether methods for calculating the estimated value of public contracts defined in Directives 2004/17/EC and 2004/18/EC must be used in case when the purchase of road transport vehicles is made by subject defined in Article 3(b) of Directive 2009/33/EC. <p>It would be appreciated if the Commission could send through any information specific to points 4 and 5 above.</p>
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Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)

<p>Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?</p>	<p>Yes</p>
<p>Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?</p>	
<p>Programmes of support/fiscal incentives for the purchase of vehicles?</p>	<p>We do not have any information about such programmes.</p>
<p>Programmes of support/fiscal incentives for the development of infrastructure?</p>	<p>No</p>
<p>Local access restrictions (e.g. low emission zones)?</p>	<p>No</p>
<p>Local demand management instruments (e.g. charging schemes that stimulate the</p>	<p>No</p>

use of clean vehicles)?	
National, regional or local vehicle taxation?	National vehicle taxation. The annual road transport vehicle operating tax shall not be paid for passenger cars, trucks, buses and motorcycles that by design as the only mechanical propulsion draws energy from the vehicle's stored energy or power storage device (e.g. battery, capacitor, flywheel or generator, etc.).
Other supporting actions	No
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	N/A
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all the options.
What is the reason behind this decision	To leave a choice for contracting authorities and public service providers to choose which option is the most suitable for particular situation.
Is there any additional information or guidance on the application of Article 5(3)?	Yes, information is included in the Explanatory Note and Presentation. Both documents state and explain options how to determine the requirements to evaluate the energy and environmental impact.
Were any estimates undertaken of the anticipated impacts of the options?	No
Have any assessments been undertaken of the actual impacts of the options?	No
Does the Member State have any views on whether all of the options should be	Yes, but the regulation must be improved (see the answer to the question "Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.")

retained?	All the options are eligible to be used and there must be left a choice for contracting authorities and public service providers to choose which option is the most suitable for particular situation.
Does the Member State have any views on whether any option should be amended?	See the answer to the question "Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc."
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	Yes, the information is included in the Explanatory Note and Presentation. Both documents give a brief explanation and examples on how to set the relative weighting to evaluate the energy and environmental impact.
Have any assessments been undertaken of the actual application and impacts of the options?	No.

Lithuania	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	Order number 3-100 of the Minister of Transport and Communications on regulations for the procurement of vehicles for or by public authorities; and amendment to public procurement act
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	The Order no 3-100 describes regulations on implementation of Public procurement legislation. The amendment to the Public Procurement Act required energy efficiency criteria to be included in the procurement documents and required that regulating legislation was implemented by the Executive Government. The new Order fulfils that requirement.
Date of legislation	21 st February 2011
Date it entered into force (could be the same as its date)	25 th February 2011
Date to which it applies to procurement processes (could be the same as its date)	25 th February 2011
Other legislation needed to implement (may not be any)	No
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	N/A
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	No
Brief description	N/A
Brief explanation of why the Member State chose the approach that it did	N/A
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	Lithuania engaged in consultations by email with the specialists at the Commission regarding some provisions in the Directive, particularly price scissors of certain pollutants.
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	

Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?

Programmes of support/fiscal incentives for the purchase of vehicles?	Prior to the CVD: "List of products that are subject to energy efficiency requirements during public procurement process; and list of relevant energy efficiency requirements" adopted in 2008. Light Duty Vehicles are included in the list. Ministry of Energy was responsible for monitoring relevant public procurement processes and updating the list of products.
Programmes of support/fiscal incentives for the development of infrastructure?	Prior to the CVD in 2007: "List of products that are subject to environmental criteria during public procurement process starting 2008, and list of relevant environmental criteria" is adopted by the Ministry of Environment. The 1st product group included passenger cars and buses. Post-CVD: Most current version of this list was adopted on 28th June, 2011. This includes passenger cars, buses, waste collection vehicles and related services and sets relevant criteria for each type of vehicle. In addition to that, this list includes provision of environmental criteria for development of related infrastructure such as road construction, road signs and street lighting.
Local access restrictions (e.g. low emission zones)?	No
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	No
National, regional or local vehicle taxation?	No
Other supporting actions	Monitoring of application of the energy efficiency requirements in public procurement is conducted by the Public Procurement Office and relevant procurement statistics are published every year. This has been in place since 2009 (in addition to monitoring of more general Green Procurement since 2008).
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	None given
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	None given

Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)

The implementation of Article 5(3)

In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options
What is the reason behind this decision	
Is there any additional information or guidance on the application of Article 5(3)?	No

Were any estimates undertaken of the anticipated impacts of the options?	N/A
Have any assessments been undertaken of the actual impacts of the options?	N/A
Does the Member State have any views on whether all of the options should be retained?	None given
Does the Member State have any views on whether any option should be amended?	None given
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	No
Have any assessments been undertaken of the actual application and impacts of the options?	None given

Luxembourg	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	Règlement Grand-Ducal du 17 Juin 2011 relatif à la promotion de véhicules de transport routier propres et économes en énergie.
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	this is a new legislation, and a modified law regarding public procurement to accommodate the new Directive's requirements
Date of legislation	17 th June 2011
Date it entered into force (could be the same as its date)	22 nd June 2011
Date to which it applies to procurement processes (could be the same as its date)	No, it is a main legal principle that tender documents once they have been published should not be modified
Other legislation needed to implement (may not be any)	None required
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	N/A
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	No supporting documents or guidelines have been published
Brief description	N/A
Brief explanation of why the Member State chose the approach that it did	N/A
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	None experienced
Have you experienced any problems with transposing the Directive (e.g. due to a lack of clarity of its provisions, etc.)?	N/A
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport	No

operators?	
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	N/A
Programmes of support/fiscal incentives for the development of infrastructure?	N/A
Local access restrictions (e.g. low emission zones)?	N/A
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	N/A
National, regional or local vehicle taxation?	N/A
Other supporting actions	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options
What is the reason behind this decision	The reason was to give the procuring authorities the widest choice possible
Is there any additional information or guidance on the application of Article 5(3)?	None
Were any estimates undertaken of the anticipated impacts of the options?	No
Have any assessments been undertaken of the actual impacts of the options?	No
Does the Member State have any views on whether all of the options should be retained?	No

Does the Member State have any views on whether any option should be amended?	No
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	No
Have any assessments been undertaken of the actual application and impacts of the options?	No

The Netherlands	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	The directive is implemented in the Regulation by the Secretary of State for Infrastructure and Environment containing rules to promote the purchase of clean and energy-efficient road transport vehicles, number BJZ2011046373. The Dutch title for this is: "Regeling van de Staatssecretaris van Infrastructuur en Milieu van 23 mei 2011, nr. BJZ2011046373, houdende regels ter bevordering van de aanschaf van schone en energiezuinige wegvoertuigen (Regeling bevordering aankoop schone en energiezuinige wegvoertuigen)"
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	It is a new regulation of the Secretary of Infrastructure and Environment.
Date of legislation	1st June 2011
Date it entered into force (could be the same as its date)	1st June 2011
Date to which it applies to procurement processes (could be the same as its date)	1st June 2011
Other legislation needed to implement (may not be any)	STB 13998 - Environmental Management Law
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	An amendment of the Environmental Management Act
Brief explanation of the approach link between main and implementing legislation	There was no legal basis for the regulation. So the Environmental Management Act was amended. The regulation is based on article 9.6.1 of the Environmental Management Act in combination with article 21.6 (6) of the same act.
Supporting documentation, e.g. guidelines	No supporting documentation at the moment - A manual will be published providing information about the regulation and examples of calculation of costs
Brief description	N/A
Brief explanation of why the Member State chose the approach that it did	N/A
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	No problems experienced
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	Yes, all prior to the Clean Vehicle Directive

Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	The Netherlands already has a financial incentive program for Euro 5 & 6 vehicles (trucks, busses, light duty vans).
Programmes of support/fiscal incentives for the development of infrastructure?	Yes. Financial incentives for electro charging and filling stations for alternative fuels (CNG, Biogas, biofuels and H2).
Local access restrictions (e.g. low emission zones)?	Yes, low emission zones. However only for heavy trucks (in Amsterdam, Rotterdam, The Hague, Utrecht f.i.)
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	No
National, regional or local vehicle taxation?	Yes. National purchase taxes based on CO ₂ -emissions. Also benefits for diesel vehicles with a diesel particulate filter.
Other supporting actions	No
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	No recent information available.
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	No recent information available.
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all the options. However, in the communications about the implemented directive, the Netherlands focus on Options 2a and 2b.
What is the reason behind this decision	The reason behind this decision is that it fits the best with the Dutch system of sustainable government procurement.
Is there any additional information or guidance on the application of Article 5(3)?	Not at the moment, but there will be a manual published. Moreover, in the criteria documents supporting the Dutch Green Public Procurement program (published on the site www.pianoo.nl) they give explanations of the Clean Vehicle Directive and the way it can be used in procurement projects.
Were any estimates undertaken of the anticipated impacts of the options?	No
Have any assessments been undertaken of the actual impacts of the options?	No
Does the Member State have any views on whether all of the options should be retained?	In the Dutch opinion, all of the options should be retained, because national systems can differ. The Dutch system more or less skipped the technical specification option, but other member states may have different views.
Does the Member State have	

any views on whether any option should be amended?	No
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	No, there is no specific information. However, in the criteria documents published on the website one can find more general information about weighting of different aspects.
Have any assessments been undertaken of the actual application and impacts of the options?	No

Poland	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	Public Transport Act - Ustawa z dnia 16 grudnia 2010 r. o publicznym transporcie zbiorowym
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	New legislation - Directive 2009/33 transposed by Public Transport Act, within which art 21, 25, 46 and 75 refers to road vehicle purchase (directly and with public procurement) - Ustawa z dnia 16 grudnia 2010 r. o publicznym transporcie zbiorowym Legal act: Ustawa, number: 2011/5/13; Official Journal: Dziennik Ustaw, number: 2011/5/13; Reference: (MNE(2011)50188) http://dziennikustaw.gov.pl/DU/2011/s/5/13
Date of legislation	16th December 2010
Date it entered into force (could be the same as its date)	1st March 2011
Date to which it applies to procurement processes (could be the same as its date)	25th May 2011
Other legislation needed to implement (may not be any)	Amendment to existing act
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	In order to implement the provisions of the Clean Vehicles Directive (Public Transport Act) with respect to public procurement, an amendment was introduced to the Act of 29 January 2004 - Public Procurement Law. An additional paragraph no. 8 was introduced to article 91. It provides for that: "The Prime Minister shall determine, by means of a regulation, other than the price mandatory tender evaluation criteria in respect of certain types of public procurements, guided by the need to implement EU legal provisions and considering the specific nature or purpose of a public procurement."
Brief explanation of the approach link between main and implementing legislation	Art. 75 from Public Transport Act forced the changes in the Public Procurement Law Detailed provisions of the Clean Vehicles Directives together with the methodology for calculation of the operational energy and environmental impacts when purchasing road transport vehicles are provided for in the secondary act the Regulation of the Prime Minister of 10 May 2011 on non-price mandatory tender evaluation criteria with respect to certain types of public procurements (Official Journal: Dziennik Ustaw, number: 2011/96/559). It entered into force on the 25th May 2011. The English version of the regulation is available at the PPO website at: http://www.uzp.gov.pl/cmsws/page/?F;370 ., polish version at http://dziennikustaw.gov.pl/DU/2011/s/96/559 . It applies directly to procurement processes.
Supporting documentation, e.g. guidelines	"Tender evaluation criteria in public procurements – examples and application" and "Non-price tender evaluation criteria in contract award procedures"

Brief description	<p>There are two publications concerning the use of non-price tender evaluation criteria issued by the Public Procurement Office. Both encompass detailed description of provisions of the Regulation of the Prime Minister of 10 May 2011 on non-price mandatory tender evaluation criteria with respect to certain types of public procurements along with the easy-to-follow description of the method for calculation of operational energy and environmental impacts when purchasing road transport vehicles.</p> <p>The first publication "Tender evaluation criteria in public procurements – examples and application", edited by Mr. Jacek Sadowy, was issued in 2011. The publication is available online at the PPO webpage under: http://www.uzp.gov.pl/cmsws/page/?D;1687. The second publication "Non-price tender evaluation criteria in contract award procedures" was developed jointly by the Public Procurement Office and the Polish Agency for Enterprise Development within the project "New approach to public procurement" was also issued in 2011. Its electronic version is available at the website of the Polish Agency for Enterprise Development under: http://www.parp.gov.pl/index/more/25602.</p> <p>Additionally on the Ministry of Transport, Construction and Maritime Economy web site (http://www.transport.gov.pl/files/0/1794868/Praca10473poprawiona.pdf) is available an expertise prepared by the Motor Transport Institute Warsaw, that helps to take into accounts energy and environmental criteria when purchasing road vehicles.</p>
Brief explanation of why the Member State chose the approach that it did	Guidance is needed especially for people who conduct public procurement from time to time as a small public organisation, also this guidance is for "green procurement" for many products not only vehicles
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	<p>The calculation of operational lifetime cost of the energy consumption of a vehicle by means of the provided methodology was not easy to conduct. The main problem was that not all categories M and N of road vehicles (case of Heavy Duty Vehicles) have defined standardised Community or national test procedures for all vehicle energy consumption and emissions of CO₂ or pollutants - the same there is lack of official documents that one could use as the environmental data for comparison. For such vehicles it is needed relevant explanation and guidance. Additional problems are caused by certain provisions of Article 6, in particular an indication:</p> <p>"(a) The operational lifetime cost of the energy consumption of a vehicle shall be calculated using the following methodology:</p> <p>— a single monetary value per unit of energy shall be used. This single value shall be the lower of the cost per unit of energy of petrol or diesel before tax when used as a transport fuel, (...)"</p> <p>There was no indication where to find the untaxed cost per energy unit of petrol or diesel and no reference to Oil Bulletin as provided for by the DG Energy. For this reason, the contracting authorities might have encountered problems with the application of methodology when trying to provide the objective point of reference on the cost of energy unit as mentioned before.</p> <p>There was also no example on the calculation of whole costs incl. energy consumption, CO₂ emissions and emissions of pollutants. In order to encourage the contracting authorities to apply the methodology provided for in Directive 2009/33/EC, such information should have been provided in parallel with the adoption of the Clean Vehicles Directive. The information on the Clean Vehicle portal was not sufficiently widespread.</p>
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	No, there are no dedicated supporting actions to promote purchase of clean and energy efficient vehicles by public authority
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	

Programmes of support/fiscal incentives for the purchase of vehicles?	There is no supporting incentives to promote purchasing of clean and energy efficient vehicles by public authority. This is mainly because the discounts from car dealers are quite good and can't be really matched by government schemes.
Programmes of support/fiscal incentives for the development of infrastructure?	There is no supporting incentive for the development of infrastructure at central governmental level. However there are pilot schemes which are at local level. Polish Oil and Gas company (PGNiG SA) adopted a strategy for market development of CNG for vehicles . It is focused on CNG fuelling station and co-operation with fleet operators. There is also biogas programme which supports the production of bio methane (which can be mixed with Natural Gas and the same used as fuel for vehicles), scheme run at the countryside. Also in some 20 polish cities (mainly in the South and South-East part of Poland) there is a scheme to run public buses on gas. There are also pilot schemes for installing electric charging points for electric vehicles at common places like supermarkets parking's - very small scale because number of electric vehicles is estimated around 200 pcs.
Local access restrictions (e.g. low emission zones)?	No. No official list of cities/towns is available where the restrictions are in place. However there are cities with the restrictions for lorries to enter the historic areas of the city, this is based on the size of the vehicles rather than level of emissions emitted. There is high possibility that low emissions zones will be created in cities as an implementation of programmes for improving the local air quality (effect of CAFE initiative and directives on air quality).
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	No
National, regional or local vehicle taxation?	1. There is a scheme run by Local Authorities to tax HGVs - which is based on the size of the HGV. 2. There is an on-going work leading by the Ministry of economy to create eco-tax based on Euro Standards for vehicles. Current tax is fuel based and everybody who purchases fuel pays tax, this does not differentiate between users depend on emissions.
Other supporting actions	1. There is a system of fee for the use of environment which creates the funds for local, regional and national authorities to be spend on activities for protecting the environment. The charges are different for different Euro standards. There are two options to pay for the use of the environment for road vehicles: either provide the details for fuel use or it is also possible to provide details on the amount of emitted pollutants. Usually the amount of consumed fuel is the base for calculating the charges. 2. "Electronic charges for every km driven on certain roads" - The charges depends on Euro standards e.g. Euro 5 user pays half than Euro 2 user. Therefore for the companies which uses the roads very frequently it make great sense to upgrade their vehicles. This will save money for charges and also it will save the fuel cost.
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	Not recorded
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	There are no quantitative studies. However there are studies for vehicles class M1 for which the CO ₂ trends are recorded for over 10 years, now, this is for new vehicles only (based on monitoring of average emission of CO ₂ of new cars). Also the CO ₂ average emissions from vehicle category N1 (vans) is monitored, but this started last year.
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options

What is the reason behind this decision	All options were transposed this is because at the moment some of the options are not possible to use for all vehicle categories e.g. for HGVs as there is no emissions tests for this vehicle category, so emissions can't be used as weighting factor or criteria. Also the decision which option to choose is left to the purchasing organisation and the decision will be based on the "maturity of the ecological way of thinking" and also prioritising the goals which individual public body would like to achieve. If improving of the air quality is important for a city or local authority, option 2 will be chosen, but if reducing spending on fuel use is important option 3 will be chosen. If the public authority is not familiar with the subject of vehicle emission and it is very rarely procurement for them the option 1 will cause the least problem.
Is there any additional information or guidance on the application of Article 5(3)?	There are two publications concerning the use of non-price tender evaluation criteria issued by the Public Procurement Office. Both encompass detailed description of provisions of the Regulation of the Prime Minister of 10 May 2011 on non-price mandatory tender evaluation criteria with respect to certain types of public contracts along with the easy-to-follow description of the method for calculation of operational energy and environmental impacts when purchasing road transport vehicles. The first publication "Tender evaluation criteria in public contracts – examples and application", edited by Mr. Jacek Sadowy, was issued in 2011. The publication is available online at the PPO webpage under: http://www.uzp.gov.pl/cmsws/page/?D;1687 . The second publication "Non-price tender evaluation criteria in contract award procedures" was developed jointly by the Public Procurement Office and the Polish Agency for Enterprise Development within the project "New approach to public procurement" was also issued in 2011. Its electronic version is available at the website of the Polish Agency for Enterprise Development under: http://www.parp.gov.pl/index/more/25602 .
Were any estimates undertaken of the anticipated impacts of the options?	Not recorded
Have any assessments been undertaken of the actual impacts of the options?	Not recorded
Does the Member State have any views on whether all of the options should be retained?	Yes, all of the options should be retained, as the decision will depend on the maturity of the way of ecological thinking. It is expected that with time and ecological education, the purchasing authority will understand that energy and environmental benefits considered before purchasing public vehicle will save money and environment.
Does the Member State have any views on whether any option should be amended?	No amendments required
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	yes, there are two guidance available as per answer to the question in part 1
Have any assessments been undertaken of the actual application and impacts of the options?	Not monitored

Romania	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	The main piece of transposing legislation in Romania is: Emergency Order Number 40. Official Gazette, Part I, N 307
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	Government Emergency Ordinance on the promotion of clean and energy efficient road transport vehicles. Legal note: Emergency Ordinance, number: 40, Official Journal: Official Gazette, number: 307, Publication date: 04/05/2011, Page: 00003-00005, Entry into force: 08/05/2011; Reference: (MNE (2011) 53526)
Date of legislation	20 th April 2011
Date it entered into force (could be the same as its date)	20 th April 2011
Date to which it applies to procurement processes (could be the same as its date)	20 th April 2011
Other legislation needed to implement (may not be any)	None - Directive transposed in full by the Emergency Ordinance number 40
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	New legislation
Brief explanation of the approach link between main and implementing legislation	Government Emergency Ordinance no. 40 of 20 April 2011 on the promotion of road transport non-polluting vehicles as of the energy point of view. Its purpose is to promote and stimulate the non-polluting and energy efficient vehicle market as well as the improvement of Romania's transportation sector contribution to the European Union policies relating to the environment, climate and energy. Indicates the kind of contracts it shall be enforced upon, compels all contracting authorities to consider the energetic and environmental impact of the contracted vehicles, regulates the energetic consumption operational costs and regulates several other aspects specific to the matter at hand. Transposes into national legislation 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, published in the Official Journal of the European Union no. L 120 of 15 May 2009. (10 arts.; 1 annex; pp. 3-5). http://www.glin.gov/view.action?glinID=248818
Supporting documentation, e.g. guidelines	Guidelines have been produced by Romania for use by Public Authorities - these are available online at http://www.anrmap.ro/indexro.php
Brief description	
Brief explanation of why the Member State chose the approach that it did	Romania chose the approach that they did because they see the CVD as a significant piece of new legislation. They recognise that the vehicle demographic needs to be refreshed and they need to see older vehicles being replaced by newer vehicles. However, Public Authority contracting bodies have, in the past generally relied on the least cost approach to procurement with on the Ministry for Environment demonstrating environmental criteria in procurement. Implementation of the CVD is seen as a way to start refreshing Romania's vehicle fleet.

Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	The law contains many complexities and addresses different issues - however they have not had feedback on problems from contracting bodies within Local Authorities. Actual implementation of the Directive was not overly problematic as they transposed the Directive in its entirety.
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	No - Directive transposed in entirety.
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	<p>Romania subsidized the scrapping of used cars older than 10 years to purchase a new car. The adoption of Emergence Ordinance no. 99/2004 and law no. 72/2005 was a first step to call in 15,000 vehicles. The owners of these cars were paid 3,000 LEI to give up their cars, provided they bought a new vehicle from producers and authorised dealers. The total funding for this programme was 45,000,000 LEI and in September 2010 almost 87% of the annual budget of the programme was exhausted (annual incentive programme 2010 with a budget of 722 million LEI to decommissioning of 190,000 vehicles older than 10 years; single voucher value with a nominal value of 3,800 LEI).</p> <p>In addition, the Environment Operation Programme made a budget of about 4.5 bill EUR available. In Romania the fund is managed by the Romanian Ministry of Environment and Sustainable Development allowing (among others) the acquisition of new waste transport vehicles by local authorities. The aim is the introduction of the best available technology for SO₂, NO_x and dust reduction. There is a 95% financing of investments by EU funds and a 2-5% local co-financing obligation.</p>
Programmes of support/fiscal incentives for the development of infrastructure?	Tariffs are imposed on goods vehicles above a certain size for the use of road infrastructure: For all the vehicles of merchandise transport, with a total authorized weight of more than 12 tons inclusively, the tariffs for the use of the road infrastructure shall be applied according to the number of axels of the car and according to the eliminated noxious substances. For all the vehicles of merchandise transport, with a total authorized weight of less than 12 tons and for all persons transport vehicles, irrespective of the maximum authorized weight thereof, the tariffs for the use of the road infrastructure shall be applied according to the type of vehicle and to the polluting emissions.
Local access restrictions (e.g. low emission zones)?	No LEZ's.
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	-

National, regional or local vehicle taxation?	<p>In Romania there is a uniform VAT rate of 19% on the purchase of vehicles. As defined in law no. 50/2008 the registration tax for vehicles is based on cylinder capacity, emissions on pollutants and CO₂ in compliance with Euro emission standards (hence it is called car pollution tax). The tax calculation also includes a progressive factor with regard to the age of a vehicle. There is a 25% tax deduction for diesel cars with a particular filter. Electric and hybrid cars are exempt from the registration tax. In response to the economic crisis in 2009 new cars registered between 15 December 2008 and 31 December 2009 are exempt from this tax if their engine capacity is below 2,000 cylinder capacity and if they meet Euro 4 or 5 standards. The tax on ownership (circulation tax) which has to be annually paid for passenger cars depends on cylinder capacity and for commercial vehicles on weight as well as the number of axles. The tax is paid from any person that owns a mean of transport. It is a local tax. The tax is payable in two periods: on 31 of March and on 30 of September.</p> <p>The fee on means of transport is not to be applied to, for instance: historical vehicles as defined by law, means of transport of public institutions, etc. The tax rate varies from 7 RON to 120 RON for each group of cylinder capacity of 200 cm³ or fraction of it in accordance with the capacity of the engine. Up to 1 January 2011 the pollution tax is applied also for Euro 5 vehicles. It was decided that the fee of Euro 5 is 116 EUR for new cars and 91 EUR for two year old cars with max. 1,100 cc engine power. The fee will raise to 680 EUR and 618 EUR for new cars and two year old passenger cars of 2,000 cc as well as for a 3,000 cc engine. The new car tax will be 2,160 EUR for the new 1,706 cars respectively for those which are two years old. Also the tax amounts for Euro 4, 3 and 2 have changed.</p> <p>In Romania there is an excise duty on fuel of 0.336 EUR/litre and 0.284 EUR/litre for diesel. The fuel excise tax for natural gas is about 0.275 EUR/m³. Biofuels are almost fully exempt from the excise tax (tax reduction of approximately 95%).</p>
Other supporting actions	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	N/A
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options
What is the reason behind this decision	To allow LA contracting Authorities to have greater flexibility around using the procurement processes - to allow them to use the options best suited to the procurement situation.
Is there any additional information or guidance on the application of Article 5(3)?	Yes - the guidance produced by Romania includes information about the different options that can be used.
Were any estimates undertaken of the anticipated impacts of the options?	No
Have any assessments been undertaken of the actual impacts of the options?	No

Does the Member State have any views on whether all of the options should be retained?	No
Does the Member State have any views on whether any option should be amended?	The Commission could provide more detailed guidance on calculation of life cycle costs of vehicles.
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	No
Have any assessments been undertaken of the actual application and impacts of the options?	No

Slovakia	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	Zákon č. 158/2011 Z. z. o podpore energeticky a environmentálne úsporných motorových vozidiel a o zmene a doplnení niektorých zákonov
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	New legislation
Date of legislation	19th May 2011
Date it entered into force (could be the same as its date)	15th June 2011
Date to which it applies to procurement processes (could be the same as its date)	15th June 2011
Other legislation needed to implement (may not be any)	Amendment of existing legislation
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	Amendment of existing legislation: Act No. 25/2006 Coll. Of Laws on public procurement, Act No. 168/1996 Coll. Of Laws on road transportation
Brief explanation of the approach link between main and implementing legislation	The Office has not exercised such legislation before the full transposition of this Directive took place
Supporting documentation, e.g. guidelines	No
Brief description	N/A
Brief explanation of why the Member State chose the approach that it did	N/A
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	None
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	No
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	N/A
Programmes of support/fiscal incentives for the development of infrastructure?	N/A

Local access restrictions (e.g. low emission zones)?	N/A
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	N/A
National, regional or local vehicle taxation?	N/A
Other supporting actions	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	N/A
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options
What is the reason behind this decision	N/A
Is there any additional information or guidance on the application of Article 5(3)?	No
Were any estimates undertaken of the anticipated impacts of the options?	N/A
Have any assessments been undertaken of the actual impacts of the options?	N/A
Does the Member State have any views on whether all of the options should be retained?	N/A
Does the Member State have any views on whether any option should be amended?	N/A
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	No
Have any assessments been undertaken of the actual application and impacts of the options?	No assessments have been undertaken in knowledge of the Office

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Slovenia

Part 1: The implementation of the Clean Vehicle Directive (Task 1)

Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	Decree on Green Public Procurement
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	New legislation - Decree on Green Public Procurement (Official Gazette no. 102/11 and 18/12).
Date of legislation	8th December 2011
Date it entered into force (could be the same as its date)	14th December 2011
Date to which it applies to procurement processes (could be the same as its date)	14th March 2012
Other legislation needed to implement (may not be any)	
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	No
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	
Brief description	No supporting documents. Not relevant, because the Decree provides a text, which can be copied into the tender documentation.
Brief explanation of why the Member State chose the approach that it did	NA
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	It took a while to understand the formula in the Directive for Operational lifetime costs, because of the different regime regarding fuel price in case of gasoline and diesel. This regime complicated the formula additionally and may cause problems for the contracting authorities during the application. For this reason the Decree on Green Public Procurement provides an exact formula, which is based on the provisions of the Directive.

Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)

Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	<p>Yes, there is special eco-funding available, different bodies may apply to get co-funding for green products (e.g. electric vehicles, hybrid vehicles). Some public bodies may apply (e.g. local communities, bodies working with municipalities) for these funds; ministerial level organisations however may not. The funding operates according to the rule "first come first serve". Applications can be submitted from 1st January till 31st December 2012. The applicants must fulfil certain criteria. The maximum price of a vehicle being purchased is 150,000 Euro. After the purchase the applicant must remain the owner of the vehicle for at least 3 years. In 2012 there are only 200,000 Euro available for co-funding.</p> <p>Tax benefits for green vehicle can be deducted by anyone, private or legal person, who buys green personal hybrid or electric vehicle also hybrid or electric bus, or LGVs or trucks, which meet at least EURO V standards, or buses, which meet at least EURO IV standards.</p>
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Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?

Programmes of support/fiscal incentives for the purchase of vehicles?	N/A
Programmes of support/fiscal incentives for the development of infrastructure?	N/A
Local access restrictions (e.g. low emission zones)?	N/A
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	N/A
National, regional or local vehicle taxation?	Not in place, however there are different tax scheme depending on the engine capacity of the vehicle (higher tax on powerful and usually more pollutant vehicles).
Other supporting actions	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	No, however the Ministry of Infrastructure and Spatial Planning, which is competent for transport, may have an analysis on vehicle emissions in Slovenia.
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow only Option 2a (where energy and environmental impacts are used as award criteria).

What is the reason behind this decision	<p>This option was adopted by the Decree on Green Public Procurement; accordingly the formula must be included in the tender documentation. All the information for an individual vehicle type from the Annex of the Directive must be used to calculate operational lifetime costs. The amendments of the Decree adopted on 8th March 2012 brought changes to the Decree adopted 8th December 2011. Some of the changes pertain to EURO standards for vehicles, which were changed from mandatory technical specifications to recommended technical specifications (e.g. buses should meet EURO VI standard, not EURO V standard). These amendments were adopted because the contracting authorities, Slovenian Chamber of Commerce and Ministry of Infrastructure and Spatial Planning argued the criteria were too strict, especially considering the current economic state. While the formula in the Decree reminds mandatory, all EURO standards are recommended.</p> <p>The reason behind the decision to choose option 2a was to simplify the procurement process. The technical specifications would have to be amended regularly. This causes additional work for the ministry in charge of updating standards and other green public procurement criteria in the Decree, difficulties for the contracting authorities and uncertainty for the suppliers because of the frequent amendments of legislation. With the provided formula legislative changes will not be necessary, even if the technology changes. Because the use of the formula for operational lifetime costs is mandatory in vehicle procurement, the contracting authorities will become familiarised with the life cycle costing approach and will most likely use similar methodologies and formulas in procurements of other goods, services and works. They may even use the relevant parameters regarding emissions costs (externalities). This could have a substantial environmental effect in the field of works, especially buildings.</p>
Is there any additional information or guidance on the application of Article 5(3)?	Art. 5(3) was not copied to the decree – no guidance required. The decree is written in a way, which allows the contracting authority to copy the provisions of the Decree, including the formula, directly into the tender documentation.
Were any estimates undertaken of the anticipated impacts of the options?	Yes, estimates that technical specifications would have to be amended each time the manufacturers develop a better vehicle and put it on the market or at least when new EURO standards come to force. . Amending the Decree in this way would be costly. Also the operational lifetime costs approach, which includes externalities, may be an “ice-breaker” and an educational tool for procurement of other products..
Have any assessments been undertaken of the actual impacts of the options?	No
Does the Member State have any views on whether all of the options should be retained?	It is a political decision, however having more options when transposing a Directive enables each Member State to use the approach most suitable to the circumstances in their country. There are significant differences between Member States, so various options in transposition of EU law represent an approach much appreciated and supported by Slovenia.
Does the Member State have any views on whether any option should be amended?	<p>No. The practise and analysis will show whether the Directive has the desired impact and which option is most suitable, taking into account specific Member State circumstances.</p> <p>There are some reservations about Article 6 Paragraph 2 and the necessity to base the information regarding fuel consumption and emissions on widely recognised test procedures, when there is a lack of standardised Community test procedures. Widely recognised test procedures are costly. Because standardised Community test procedures were not completed all types of trucks, buses and coaches, these costs are conferred on the suppliers, sometimes even contracting authorities. The information regarding fuel consumption and emissions should be publicly available, if not, than information given by the manufacturers should be trusted.</p>
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	

Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	Yes. When the formula was drafted the purchasing price, fuel and emissions costs and other circumstances, which might be relevant to the contacting authority, were taken into account (speedy delivery of the vehicle, desired, but not compulsory, functionalities of the vehicle, etc.) The formula needs to weigh at least of 50% (e.g. $LOC = 0,5 \times (\text{purchasing price} + \text{fuel costs} + \text{emissions costs}) + 0,5 \times (\text{speedy delivery})$). However, in most cases the formula will be weighed at 100%.
Have any assessments been undertaken of the actual application and impacts of the options?	No

Spain	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	The Directive has been fully implemented by Law 2/2011 March 4, of sustainable economy. The transposition of the Directive appears in articles 105, 106 and the sixth additional provision.
Main piece of transposing legislation	Law 2/2011
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	New legislation. The transposition of the directive was also part of the set of actions of the Spanish strategy of promoting the electric vehicle in Spain (2010-2014).
Date of legislation	6th March 2011
Date it entered into force (could be the same as its date)	6th March 2011
Date to which it applies to procurement processes (could be the same as its date)	6th March 2011
Other legislation needed to implement (may not be any)	None
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	N/A
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	None
Brief description	N/A
Brief explanation of why the Member State chose the approach that it did	N/A
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	None
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	
Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	Yes.
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	

Programmes of support/fiscal incentives for the purchase of vehicles?	Promoting the purchase of more energy-efficient vehicles, through public incentives in the acquisition, is one of the basic measures of the Action Plan of energy saving and efficiency 2008-2012 of the E4. Through IDAE and their agreements with the autonomous communities, aid for the acquisition of electric, hybrid vehicles and gas (LPG/CNG e H2) have been provided. Besides IDAE, on its line of strategic projects, is also supporting the renewal of transport fleets with more efficient vehicles through the channel of financing (leasing). In the box (I) annex, a summary of the results of these programmes with participation of IDAE is included in the renewal of fleets of cars and commercial vehicles.
Programmes of support/fiscal incentives for the development of infrastructure?	Amongst the supporting measures of the PAE 2008-2012, public incentives for the development of infrastructure for recharging of LPG/CNG and H2, and networks of recharging points for plug-in and electric vehicles.
Local access restrictions (e.g. low emission zones)?	Some cities such as Valencia (old town) and Madrid's neighbourhood of Letras, has certain traffic restrictions driven by environmental reasons.
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	An example of these new instruments in certain public fleets, or they do a public service, is the introduction of the energy label IDAE (Directive 1999/94) in the scales of assessment of public tenders. Municipalities such as Pamplona and Madrid (EUROTAXI), grant greater appreciation to those offerings that offer vehicles with A label.
National, regional or local vehicle taxation?	In Spain, since 2008, the vehicle registration tax is calculated by the official CO2 emissions approved. This change resulted in a major shift from the purchase of vehicles to more efficient models energy (Zero tax for vehicles with less than 120 gCO2/km emissions). Local councils have the power to implement reductions in the annual fee of the road tax of up to 75% to low-emission vehicles, as do cities such as Madrid, Barcelona, Seville, etc. with electric, hybrid vehicles and LPG/CNG.
Other supporting actions	No
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	A change of trend towards lower energy consumption vehicles can be observed after the legal change in the calculation of registration by the CO2 emissions tax.
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	There has been a constant reduction in the average emissions of the vehicles registered in Spain, interestingly being 2005 the first year of application of the E4.
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options
What is the reason behind this decision	Potential to allow greater flexibility in the application of the Directive in a sector with many possible situations.
Is there any additional information or guidance on the application of Article 5(3)?	No
Were any estimates undertaken of the anticipated impacts of the options?	No
Have any assessments been undertaken of the actual impacts of the options?	No

Does the Member State have any views on whether all of the options should be retained?	Opinion that the Directive should have been more precise in procedures, forcing the economic valuation of environmental and energy costs even with higher environmental costs that give greater weight to the cost of these emissions. In the majority of cases, those affected will opt to introduce energy and environmental criteria in competition procedures, to avoid the objective assessment of costs.
Does the Member State have any views on whether any option should be amended?	See answer above
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	
Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	N/A
Have any assessments been undertaken of the actual application and impacts of the options?	Although the sum of the energy cost is 30-36% of the total cost, which is important for policies of saving and energy efficiency in transport, the environmental component (CO ₂); NO _x ; NMHC; (PM) is only 4. 5 - 5%. In the case of cities (air quality problems associated with these latest issues) the weight of the environmental components should be much higher.

Sweden	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	Yes
Main piece of transposing legislation	Lag om miljökrav vid upphandling av bilar och vissa kollektivtrafiktjänster SFS 2011:846 (Legislation regarding the environmental requirements for the procurement of cars and certain public transport services)
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	New legislation: a new law and a new regulation
Date of legislation	17 th June 2011
Date it entered into force (could be the same as its date)	1 st July 2011
Date to which it applies to procurement processes (could be the same as its date)	1 st July 2011
Other legislation needed to implement (may not be any)	No
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	N/A
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	<p>Yes, this information is in Swedish and it is published on the home page of the Swedish Transport Agency</p> <p>Supporting documentation was deemed necessary; As stated in the Swedish regulation, the Swedish Transport Agency was assigned to inform and publish information of the implementation of the Swedish law. It was done by short newsletters before the Swedish law entered into force. The webpage was published a week before the law entered into force.</p>
Brief description	<p>The guidance is available on the Transport Agency website on the aforementioned link, it provides the background and objectives of the directive; who it affects. The summary also outlines the two defined methods can be used. The website then has further information on the directive with a separate page for each of the numbered points below:</p> <ol style="list-style-type: none"> 1. Detail on who exactly is affected 2. Information surrounding the two methodologies that can be used (this also includes links to worked examples 3. The Swedish Environmental Management Council environmental criteria 4. Follow up/future changes 5. FAQ
Brief explanation of why the Member State chose the approach that it did	N/A
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	N/A
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	

Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	Yes, a lot has been done to promote the purchase of clean and energy efficient vehicles prior and independent of the implementation of the Clean Vehicle Directive. The Swedish Environmental Management Council, SEMCo, is the Swedish government's expert body on environmental and other sustainable procurement. They provide support to the public, business and third sector regarding procurement criteria's for purchasing, for instance, vehicles and transport, http://www.msr.se/en/green_procurement/criteria/
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	<p>Yes, prior to the Clean Vehicle Directive. In Sweden, so called "green cars" are exempted from vehicle tax for the first 5 years from first registration. The law entered into force in 2009. Green cars are characterised by low emissions of CO₂ when using petrol or diesel, or the use of biofuels such as methane gas, ethanol or electricity. Authorities are obliged to purchase green cars.</p> <p><i>Regulation (2009:1) for Environmental and Traffic safety requirements for public authority vehicles and vehicle journeys.</i></p> <p>The regulation aims to increase the proportion of environmentally friendly and safety in vehicles. An environmentally friendly vehicle is defined as:</p> <ul style="list-style-type: none"> - hybrid/alternative vehicle with fuel consumption of not more than 9.2 litres petrol, 8.4 litres diesel or 9.7 m3 gas per 100km -electric vehicle if it meets the environmental category of electric and the electricity consumption does not exceed 37kWh per 100 km. -fuel efficient vehicles if the CO₂ emissions are at most 120g/km (equal to 4.5l diesel or 5.0l petrol per 100km), if it is diesel the particulate emissions most not exceed 5 mg/km <p>Reporting of the use of environmentally friendly vehicles is required each year to the Transport Authority by 1 March, who in turn report to parliament. The regulation also covers light lorries which have an emission threshold of 230g CO₂/km.</p>
Programmes of support/fiscal incentives for the development of infrastructure?	N/A
Local access restrictions (e.g. low emission zones)?	Yes - prior to the Clean Vehicle Directive. Heavy duty vehicles (HDVs) have special requirements entering environmental zones in Stockholm, Gothenburg, Malmo, Lund and Helsingborg.
Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?	Yes- a congestion charging scheme exists in Stockholm since 1 August 2007. A new congestion charging system is being introduced in Gothenburg on 1 January 2013 aligned with the system in Stockholm to reduce emissions and finance other transport infrastructure projects.
National, regional or local vehicle taxation?	See response covering 'green vehicles' above.
Other supporting actions	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	N/A
For each action identified, please quantify as far as possible, the actual (or anticipated) savings in energy consumption and/or reductions in CO₂ and air pollutant emissions.	N/a

Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)

The implementation of Article 5(3)

In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options
What is the reason behind this decision	All options are in accordance with Swedish Procurement legislation. The aim with the Directive will certainly be reached choosing either or.
Is there any additional information or guidance on the application of Article 5(3)?	Yes, a brief summary of the additional guidance has been provided above under Task 1 supporting documents and guidelines
Were any estimates undertaken of the anticipated impacts of the options?	It was expected that technical specifications would be applied to HDVs (especially trucks) only because it is more or less impossible to use the harmonised method for HDV because of the lack of harmonized values for fuel consumption.
Have any assessments been undertaken of the actual impacts of the options?	No
Does the Member State have any views on whether all of the options should be retained?	Yes. As mentioned above, the three options are allowed in Swedish legislation and new procurements might require different procedures.
Does the Member State have any views on whether any option should be amended?	No, the Government has no opinion of this so far. We wish to await the report from the Commission.

Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)

Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	<p>A relative weighting is not required for an absolute approach. The different environmental criteria are monetised dependent upon how great the emissions are; so an additional price is added to the price. Through the monetary value approach the procurement authority has provided the importance of the certain criteria and whether an additional weighting is required or not.</p> <p>If the environmental costs are used instead in a so called relative valuation model then the weightings must follow Public Procurement procedures (2004/18/EG) specifically '12 kap. 2 § LOU respektive LUF'</p>
Have any assessments been undertaken of the actual application and impacts of the options?	N/A

United Kingdom	
Part 1: The implementation of the Clean Vehicle Directive (Task 1)	
Has the Clean Vehicle Directive been fully implemented in the Member State	The CVD has been fully implemented in the UK.
Main piece of transposing legislation	<p>The main piece of CVD transposing legislation in the UK is The Cleaner Road Transport Vehicles Regulation, 2011 - Statutory Instrument (SI): 2011 No. 1631. This is a new piece of legislation and has been transposed in Scotland through The Cleaner Road Transport Vehicles (Scotland) Regulations 2010, Scottish Statutory Instrument 2010 No. 390, which entered into force on the 4th December 2010. The transposing legislation additionally includes the Gibraltar Gazette Extraordinary, Gibraltar Regulations, Government Notice No. 1631, with a publication date of 12 April 2011 and entry into force on the same date and Environment (Promotion of Clean and Energy-Efficient Road Transport Vehicles) Gibraltar Regulations 2011 (publication date 12 April, entry into force on the same date).</p> <p>The regulations can be accessed online at: http://www.legislation.gov.uk/ukSI/2011/1631/made</p>
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	The Cleaner Road Transport Vehicles Regulation is a new piece of legislation to transpose the CVD.
Date of legislation	30th June 2011.
Date it entered into force (could be the same as its date)	The Cleaner Road Transport Vehicles Regulation entered into force on 31st July 2011.
Date to which it applies to procurement processes (could be the same as its date)	31st July 2011 (there was no obligation on purchasers to bring forward procurement activities in order to update existing fleets in line with Directive requirements).
Other legislation needed to implement (may not be any)	No other legislative changes were required in the UK - nor implemented in order to comply with 2009/33/EC.
Nature of legislation, e.g. new legislation, amendment to existing legislation, etc.	N/A
Brief explanation of the approach link between main and implementing legislation	N/A
Supporting documentation, e.g. guidelines	Guidelines for the Directive on the Promotion of Clean and Energy Efficient Road Transport Vehicles (Aug 2011) - available online at http://www.dft.gov.uk/publications/guidelines-clean-energy-efficient-vehicles/
Brief description	Guidelines for the Directive on the Promotion of Clean and Energy Efficient Road Transport Vehicles (Aug 2011) - represents guidance on how to apply the Directive using options 1 and 2. It provides information and emissions and carbon performance requirements, for new and used vehicles purchased by contracting authorities and their operators.
Brief explanation of why the Member State chose the approach that it did	A mandatory regulatory approach was chosen over voluntary agreements in procurement and dissemination of information to purchasing authorities in order to meet policy objectives and deliver the greatest net benefits relative to other options.
Brief mention of any problems experienced by the Member State in transposing the Directive, e.g. lack of clarity of any of the provisions, etc.	No problems were experienced, however the UK Government found that the Directive was quite ambiguous while transposing the requirements of the Directive. The sheer range of options/ depth of implementation meant that they could implement legislation that required everything or implement it in such a way that very little change was required. They did find it difficult to find the most economical way to implement.
Part 2: Actions in support of the objectives of the Clean Vehicle Directive (Task 2)	

Have any supporting actions been implemented that aim to promote the purchase of clean and energy efficient vehicles by public authorities or public transport operators?	Yes - the guidance document produced by the UK government includes a section on weightings. It is recognised that the Directive does not specify levels of weighting that should be awarded to the environmental criteria of vehicle performance relative to non-environmental criteria.
Have any of the following actions in the Member State to support the objectives of the Clean Vehicle Directive?	
Programmes of support/fiscal incentives for the purchase of vehicles?	<p>The Low Carbon Vehicle Public Procurement Programme (LCVPPP) was set up in 2007 by the UK Department for Transport to help stimulate the market for lower carbon vehicles through procurement. In November 2011, OLEV Ministers took the decision to allow Ashwoods, supplier of the low carbon van, to continue into the second phase of the programme. Further funding of up to GBP1.7m is now available for any public fleet buyers to purchase a further 500 vehicles. Transport Scotland has also funded a procurement scheme to enable vehicle users to access grant assistance to buy low carbon vehicles. Similar schemes in Scotland have included the Electric Vehicle Procurement Support Scheme, where funding enabled local authorities and their partners to bridge the gap between the cost of petrol or diesel powered vehicles and their electric powered equivalents as well as to install charging points on public sector owned land to support the vehicles.</p> <p>Further information on the schemes is available from: http://www.dft.gov.uk/publications/low-carbon-vehicle-public-procurement-programme/ http://www.transportscotland.gov.uk/road/sustainability/low-carbon-vehicles</p>
Programmes of support/fiscal incentives for the development of infrastructure?	<p>Plugged in Places, is a scheme that is part funded by the Technology Strategy Board which is an executive non-departmental public body (NDPB), established by the UK Government in 2007 and sponsored by the UK Department for Business, Innovation and Skills (BIS). The TSB has over £50m of funding to support the building of charging infrastructure in eight locations throughout the UK. The infrastructure developments are led by consortia and three of them are led by the public sector. In addition, a toolkit to provide guidance on the development of public and workplace recharging infrastructure in the UK was launched at the end of July 2011, as part of the European funded ENEVATE project.</p> <p>further information on these schemes is available from: http://www.dft.gov.uk/topics/sustainable/olev/recharging-electric-vehicles/ http://infrastructure.switchev.co.uk/ev-infrastructure-projects/enevate-toolkit</p>

<p>Local access restrictions (e.g. low emission zones)?</p>	<p>Three cities in the UK have Local Access Restrictions in the form of Low Emission Zones (LEZs); London, Norwich and Oxford.</p> <p>London's LEZ requires that all vehicles entering the zone meet stringent requirements. Originally introduced in 2008 to ensure that HGV's entering the zone abide by strict air and emissions standards, the standards became more stringent in January 2012, and became applicable to more vehicles. Now restrictions apply to Euro 4 for PM for lorries over 3.5 tonnes GVW, buses and coaches over 5 tonnes GVW. Other vehicles such as larger vans, minivans and specialist diesel vehicles are required to meet Euro 3 for PM for larger vans weighing 1.205 tonnes unladen to 3.5 tonnes gross vehicle weight, minibuses weighing 5 tonnes or less gross vehicle weight plus other specialist vehicle (includes many public vehicles such as snow ploughs, gritters, and other vehicles such as break down vehicles and horse boxes).</p> <p>From 2008 Norwich LEZ applied restrictions to buses - requiring that the meet Euro 3 standards (with retrofitting allowed). The percentage of vehicles required to comply with the LEZ targets is dependent on the number of services offered by the bus company within the LEZ and the start/ end terminals of the bus service provider. Restrictions (weighted according to terminals) started at between 40% and 20% of vehicle fleet must meet specific Euro standards in April 2008, increasing to 100% and 50% in April 2010.</p> <p>Oxford has also implemented an LEZ with public transport buses affected. Any public transport bus with a route into the vehicle centre is affected and the Oxford LEZ also allows retrofitting of NOx and PM limiting devices. The agreement is currently voluntary and will become enforced if the voluntary agreement does not work.</p> <p>Further information is available from: http://www.lowemissionzones.eu/countries-mainmenu-147/united-kingdom-mainmenu-205 </p>
<p>Local demand management instruments (e.g. charging schemes that stimulate the use of clean vehicles)?</p>	<p>In London, the Road User Congestion Charging Scheme applies charges to users of particular zones around London; Victoria, St James's, Waterloo, Borough, City of London, Clerkenwell, Finsbury, Holborn, Bloomsbury, Soho, Mayfair and parts of Marylebone. The Congestion Charge is a £10 daily charge for driving a vehicle within the Congestion Charging zone, 7.00am to 6.00pm, Monday to Friday, excluding public and bank holidays, and between 25 December and 1 January inclusive. Payments can be made in retrospect but for an additional £12 fee. Once paid, the road users can enter and leave zones as many times as required throughout the day. Zones are signposted and monitored using video camera equipment that reads licence plates to automatically check against a registered vehicles database.</p> <p>In addition, in Durham, the Durham Road User Charge zone charges £2 to vehicles entering into specific zones outwith peak commuting hours (charges apply from 10am to 4pm) and also uses an automatic number plate recognition system (ANPR).</p> <p>Additional information can be found at: http://www.lowemissionzones.eu/countries-mainmenu-147/united-kingdom-mainmenu-205 </p>
<p>National, regional or local vehicle taxation?</p>	<p>The UK CO₂-based taxation system operates whereby vehicles are banded according to CO₂ emission (g/km) into categories ranging from A; up to 100 CO₂ emission (g/km) down to M; over 255 CO₂ emission (g/km). Annual charges range from £0 (band A) to £165 (band G - middle) to £460 (band M). Alternative fuelled cars are subject to marginally different price ranges depending on vehicle CO₂ emission (g/km). Incentives do exist particularly for business purchases.</p> <p>Additional information can be found at: http://www.direct.gov.uk/en/Motoring/OwningAVehicle/HowToTaxYourVehicle/DG_10012524 </p>

Other supporting actions	None
For each action identified, please quantify as far as possible, the actual (or anticipated) impact on the market for clean and energy efficient vehicles.	<p>In relation to the Plug-in Car Grant Scheme - sales and registrations of EV's have risen as a result of the scheme. The UK Department for Transport reports that relative to the number of ultra-low emission cars registered in previous years, there has been a step change which is part of a wider trend in the uptake of alternatively fuelled vehicles. SMMT data also shows that alternatively-fuelled vehicles represent a growing share of the total market, reaching 1.5% in quarter one 2012, with volumes up 5.6% on 2011 levels.</p> <p>More information about the incentive scheme can be found at: http://www.dft.gov.uk/topics/sustainable/olev/plug-in-car-grant/</p> <p>Air Quality and Health Impact Assessments have been carried out on the London LEZ by Transport for London in order to determine the quantitative impacts of the zones. Air Quality assessments consider the effects on particulates in the air and health impacts assess the effects on human health from the introduction of LEZs (e.g. respiratory health). In addition, a Monitoring report was produced by Transport for London with regard to the stringent emissions restrictions in place within London. The report looked at the anticipated air and health impacts of an LEZ in addition to economic, financial and traffic impacts of introducing the scheme.</p> <p>Additional information can be found at: http://www.tfl.gov.uk/roadusers/lez/17827.aspx#tk-tab-panel-5</p>
Part 3: The application of the Clean Vehicle Directive in procurement (Task 3)	
The implementation of Article 5(3)	
In transposing Article 5(3) of the Directive, has the Member State chosen to:	Allow all of the options
What is the reason behind this decision	The UK Government opted to allow all of the options to give public bodies greater flexibility when making procurement decisions. They wanted the end-user to be able to choose according to the circumstances.
Is there any additional information or guidance on the application of Article 5(3)?	No additional guidance has been generated or provided by the UK Govt.
Were any estimates undertaken of the anticipated impacts of the options?	<p>Yes - an impact assessment was carried out prior to transposing the Directive. However this impact assessment did not look specifically at the options, but at the Directive in its entirety. The impact assessment determined that there was over £22 million worth of economic benefit of implementing the Directive.</p> <p>The impact assessment can be accessed at: http://www.legislation.gov.uk/ukxi/2011/1631/impacts</p>
Have any assessments been undertaken of the actual impacts of the options?	No assessment has yet been undertaken of the actual impacts of the options - an assessment is due to take place in December 2012.
Does the Member State have any views on whether all of the options should be retained?	Until the December 2012 impact assessment has been carried out - the UK contact believes it's very difficult to judge and so yes, currently the ability to retain all options should remain in the Directive.
Does the Member State have any views on whether any option should be amended?	Not yet - after the December 2012 impact assessment there may be a better understanding about whether any option should be amended.
Approach to weighting requirements of Clean Vehicle Directive (if Option 2 above has been allowed)	

Is there any information or guidance on relative weighting to be given to the provisions of the Clean Vehicle Directive when procuring road transport vehicles?	Yes. The guidance document produced by the UK government includes a section on weightings - however it's not a particularly elaborate section. It is recognised that the Directive does not specify levels of weighting that should be awarded to the environmental criteria of vehicle performance relative to non-environmental criteria, and that the weightings are at the discretion of the procurer. It is recommended that weightings are applied appropriately to the circumstances of any specific procurement exercise. All bidders are required to provide technical sheets and certification documents as is appropriate.
Have any assessments been undertaken of the actual application and impacts of the options?	No - see above

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