



**CONCERTED ACTION
ENERGY EFFICIENCY
DIRECTIVE**

Public sector in energy efficient transport services

Executive Summary 2.6

Public Sector - public buildings and public purchasing

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1 Summary

Transport is a critical and difficult sector in the transition to a low-emission economy. Transport accounts for about 19% of global energy use and almost one-quarter of energy-related CO₂ emissions. With current trends these factors are likely to increase by more than 80% by 2050. Cars and trucks are the biggest contributors, but aviation and shipping are also growing rapidly¹.

Transport is much more vulnerable to potential disruptions in oil import than other parts of the economy. Transport dependence on oil import therefore also has strategic importance in the energy security of the European Union (EU).

Transport contributes heavily to green-house gas (GHG) emissions, and as such should be an area of intensive effort to reduce emissions by all possible means. However, transport emissions (including aviation) in 2012 were 20.5% above 1990 levels, despite a decline between 2008 and 2012. Emissions will need to fall by 67% by 2050 in order to meet the EU Transport White Paper targets.

The EU transport system is currently not sustainable, neither with regard to energy demand nor the recycling of materials even though the EU has been trying to build and enforce its legislative framework on energy efficient transport for years (Box 1).

Box 1. Main elements of the EU framework on energy efficiency in transport

- The European Renewable Energy Directive (RED)
- The European Fuel Quality Directive (FQD)
- The European Directive on Clean Power for Transport (CPT)
- The EU Sustainable Urban Mobility Package (2013)
- The Clean Vehicles Directive (2009/33/EC) (CVD)
- EU regulations on CO₂ emissions
- Public procurement Directive 2014/25/EU
- Air transport is now included in Europe's Emissions Trading Scheme (ETS)
- Ships use ultra-low sulphur fuel and have Ship Energy Efficiency Management Plans (SEEMP)
- European Commission White Paper Roadmap to a Single European Transport Area (2011)

The Energy Efficiency Directive (EED) does not directly address energy efficiency in the transport sector and this may be seen as its weakness. However, issues related to transport are scattered throughout the Directive, can be interpreted as applicable and used in the process of improving energy efficiency overall. The issue of energy efficiency in transport requires more attention if we are to meet our targets for this sector.

In July 2015, the Concerted Action for the Energy Efficiency Directive (CA EED) participants completed a survey on "Public sector procurement of energy efficient transport services within EED" – to review whether and how the public sector (PS) in member states (MS) address the issues of energy efficiency in transport in relation to EED implementation.

The main research question was "How can the public sector contribute through implementing the EED, to the EU transport sector GHG emission reduction goals, and the EU energy efficiency targets under Article 3 of the EED?"

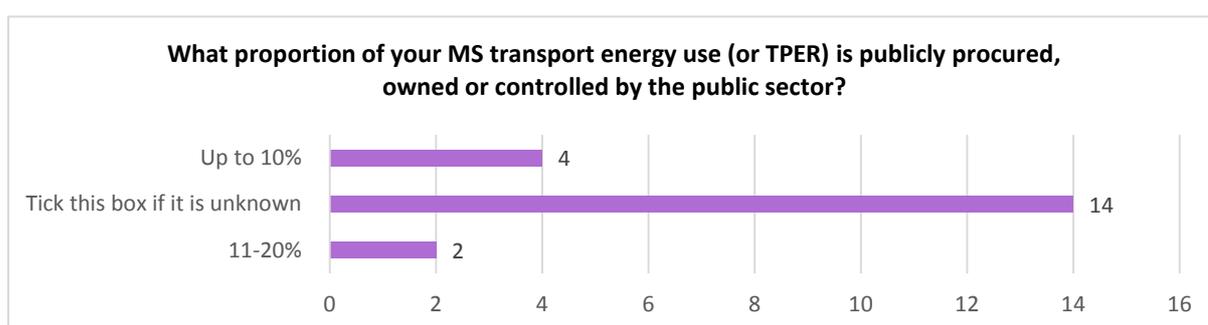
¹ OECD (2012), Energy, OECD Green Growth Studies, OECD Publishing. <http://dx.doi.org/10.1787/9789264115118-en>

2 Recommendations/Conclusions

The survey provided the following main findings and conclusions:

- Transport has managed to avoid being a subject of stringent EU regulations on energy efficiency. The revision of the EED should explicitly address transport in a more demanding way.
- For the majority of MS, total transport energy use makes up at least 26% of Total Primary Energy Requirement (TPER), with five MS reporting transport energy use at over 30% TPER.
- Most MS (70%) do not know how much public sector transport energy use is, or its share of MS's TPER (fig. 1).

Figure 1: Knowledge on how much of the transport energy use (or TPER) is publicly procured, owned or procured by the public sector



- Energy improvements in transport reported in the National Energy Efficiency Action Plans (NEEAP) are not adequate in relation to energy consumption and energy saving potential offered by modern technology. MS would rather avoid declarations and are not willing to set ambitious energy saving targets for energy reduction in transport. Within the NEEAP's, transport is targeted to deliver from 5% of total savings (5 MS: 25% of respondents) to 11-30% of total energy savings by (10 MS: 50% of respondents).
- Progress being made in transport is reported very differently by MS (NEEAP 2014). For example, some NEEAPs reveal missing data, some that no monitoring system is in place and others that no ambitious target is set for transport. It was concluded that there is a need to set energy saving goals for transports.
- Knowledge on energy consumption in transport and related statistical data is limited which indirectly confirms the low priority of transport in the work of MS compared to lower energy consumption and GHG emissions.
- Energy efficiency measures currently used/planned in public transport services are mostly focused on implementation of the Clean Vehicle Directive (CVD)² criteria (60%) and energy efficient tyres (45%). A few monitor the performance against CVD criteria, use eco-driving programs and life costings.
- An understanding of the benefits and business case for improving energy efficiency can only be based on hard data. Good data, with simple but trusted savings calculation methods, may remove many of the funding and cost barriers cited by MS.
- Improving fuel efficiency for cost reduction reasons can also contribute to better transport services.

² <http://www.clean-fleets.eu/about-clean-fleets/clean-vehicles-directive/>

- Fuel comprises 30% or more of a vehicle's operational cost. Small changes in fuel efficiency can therefore make a big difference to the cost of providing a service and to the profitability of SME suppliers.
- MS provided a list of barriers to energy efficiency in transport as well as a number of opportunities that might contribute to the development of more energy efficient public transport and inspire more active EU and MS responses at all levels, constituting an invigorated and coordinated approach.
- There may be a role for better reference standards and/or provision of guidance, support and expertise to reduce transaction costs and provide much needed confidence across procurement personnel in both public and private sectors.
- There was common support for the need to start thinking about on business and social models of private companies providing public transport services in those MS where such services are currently dominated by large state or municipal owned enterprises
- Accreditation of energy auditors in transport is a problem and requires special attention from governments. A common EU-wide approach to preparing training standards would be of value.
- Ten MS reported examples of best practice to be shared; sixteen made suggestions to improve strategic links between energy efficiency and transport. This indicates strong interest in the topic a potential for shared learning and the transfer of knowledge and practical solutions between MS.
- The results of this survey show there is excellent potential sharing knowledge and experience of delivering measured energy savings in public transport procurement at the EU level.
- The impact of the EED on improving energy efficiency in transport is surprisingly low. It was assessed as marginal by 65% respondents and important by only 10%. However, it is positive that all MS implement Article 8 including transport: some also cover transport and fuel suppliers in their Article 7 implementation.
- When asked about implementation of the CVD, 40% of respondents are able to report on compliance, with 45% don't know. 25% of these responding countries (5 MS) confirmed that between 76% and 100% of public transport tenders comply with the CVD.

It is worth mentioning the Clean Fleets project that assists public authorities and fleet operators with the implementation of the CVD and the procurement or leasing of clean and energy-efficient vehicles³. It provides a lot of documentation and training on the public procurement of clean vehicles compliant to the CVD.

³ <http://www.clean-fleets.eu/home/>

3 Practical Examples

Mr Marc Ringel (Germany) presented as part of the meeting “Case study: E-mobility and car sharing in Germany’s Stuttgart region”. He demonstrated the achievements in transport policy in Stuttgart and more broadly in some other regions in Germany. He presented the long-term consequent approach of alternative mobility options in the town (Box 2), a long term programme called “LivingLab BW^e” (Box 3) and a car sharing programme in Stuttgart (Box 4).

Box 2. Mobility in Stuttgart – alternatives

- Public transport
 - 1million users of public transport in the metro region
 - 15 underground lines, 7 urban railway, 9 regional railway lines
 - 56 bus lines with 504 stops (667 km)
 - Free transport of bikes in off-peak hours
- Cycling
 - 450 rental bikes
 - 180 km of bicycle tracks
 - 7,000 places in bike sheds
- Since 2010: e-mobility & car sharing

Box 3. Policy outline LivingLab BW^e

- 2,000 e-mobiles in Stuttgart & Karlsruhe by 2015 → reached: the two towns are Germany’s top 2 e-car regions at present
- 1,000 recharging stations
- Public Private Partnership: cluster of some 100 partners
- Dedicated focus on inter-modality and connectivity (coordination via ICT – apps, online-booking)
- Annual calls for proposals on demonstration projects (€3.5million until 2020)
- Projects need to link to “status quo”

Box 4. Mobility concept Stuttgart – car sharing

- Since 2010: Model region for sustainable mobility
- City concept with the “classical” targets: emissions, public mobility etc.
- E-mobility: state-funded demo projects → quickly abolished for positive framework conditions (licensing, parking space, ...)
- No public support for one concept. Rather market based approach to allow all operators to get into business
- Multitude of concepts: traditional car rental, station based short term car rental, floating e-cars & e-bikes

Mr Conor Molloy (Ireland) gave a presentation on the topic “Transport Energy”. He provided a review of a variety of methods enabling energy efficiency increases in transport. His presentation covered the present legal framework as well as a number of cases illustrating programmes aimed at energy savings in Irish transport companies. The main message of the presentation was the conclusion that savings are possible and can be attained with relative

ease and low cost investments if the programme is well designed and carried out with appropriate determination (fig. 2 and fig. 3). The presentation demonstrated the full complexity of the programmes and a need for seeking integrated solutions. Potential benefits of transport energy saving were also presented (fig. 4).

Figure 2: Simple tips how to save energy in transport

Got organised

- Weekly fuel review
- Weekly feedback to drivers (screen in drivers' room)

Speed limiters reduced

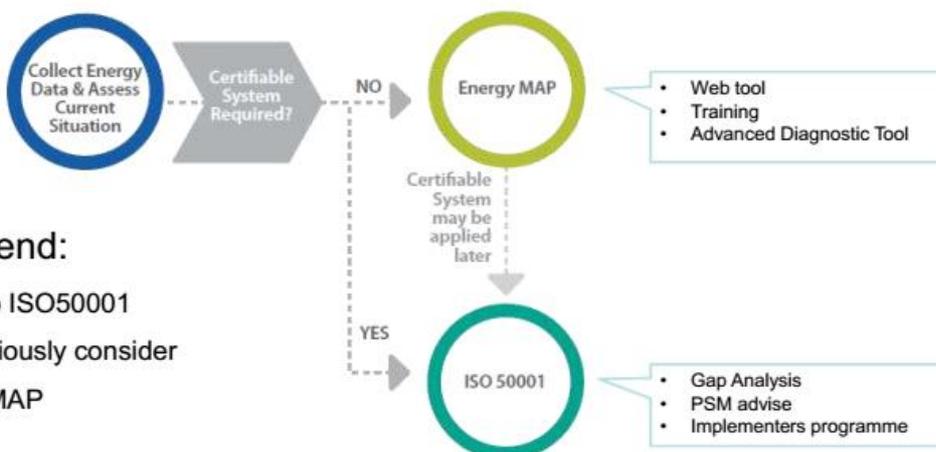
- 93+kph to 85kph (57 to 52mph, limit is 60mph(96kph))

Detail maintenance

- Tyre pressures monitored
- Batteries replaced (idling reduced)
- Idling reduction (15% to < 5% of engine hours)
- + Many more actions



Figure 3: Public bodies to lead by example – subject to art.8 (audits) of the EED – Irish case



- Energy spend:
 - > € 5m should do ISO50001
 - > € 1m < 5m, seriously consider
 - < € 1m, Energy MAP



Figure 4: Potential benefits of transport energy saving

Why look at transport energy saving?

Energy is 20-30+% of fleet operational costs

20-30%
of costs

Typical return identified in savings from energy audit is ? %

10% saving 

- i.e. 2-3% in profit or € 100,000 saving on a € 1m fuel bill

2-3% profit

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The Concerted Action for the Energy Efficiency Directive (CA EED) was launched by Intelligent Energy Europe (IEE) in spring 2013 to provide a structured framework for the exchange of information between the 29 Member States during their implementation of the Energy Efficiency Directive (EED).

For further information please visit www.ca-eed.eu or contact the CA EED Coordinator Lucinda Maclagan at lucinda.maclagan@rvo.nl



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