



Mid-term review of the 2011 White Paper on transport

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Introduction

1. Eurogas welcomes the European Commission's review of the 2011 White Paper on transport. The timing allows for the decisions of the European Council made on the 2030 framework for climate and energy to be integrated into an updated White Paper, in particular the binding target for reducing greenhouse gas (GHG) emissions. The European Commission's 2011 White Paper is a roadmap to a Single European Transport Area, which was followed by a number of legislative proposals on the different modes (i.e. road, rail, air, sea and inland waterways) of transport.
2. We have yet to fully realise the results of the legislation arising from the White Paper, such as the Alternative Fuels Directive¹, which seeks to create a move towards switching to more sustainable fuels. It is of paramount importance that the approach taken as a result of decisions made in this Directive continues to be supported in any revised White Paper. For example, the White Paper recognises the value of the development of infrastructure networks for compressed natural gas (CNG) and liquefied natural gas (LNG). These decisions should not be undermined by any future policy proposals arising. This is consistent with the statement in the White Paper that 'Infrastructure shapes mobility'.
3. The underlying principle in the White Paper that market measures should be used wherever possible should also be maintained following this review. This requires continued effort to eliminate remaining internal market barriers.

The role of gas in transport

4. The introduction of gas-based modes of transport offers **competition** to a sector dominated by one fuel source. Experience in other energy sectors, such as power generation, shows the value of such competition by driving cost-efficiency, innovation and delivering options for the customer. Each energy source will bring different strengths and weaknesses. Having a good mix provides much better opportunities for Europe to achieve its long-term goals. It also increases the likelihood of technological breakthroughs. Policy support in the areas of vehicle development and supporting infrastructure in particular is essential to realise this increased competition and expected cost-efficiency.

¹ Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 on the deployment of alternative fuels infrastructure

- The use of gas offers considerable benefits in **air quality**, as it is virtually free of particulate matter emissions and has a very low nitrogen oxide (NO_x) output. Given the fact that there are approximately 400 000 premature deaths each year in Europe due to bad air quality (which is ten times higher than the number of deaths from road accidents), using gas in transport can help towards significant health improvements and the reduction of carcinogenic diseases. It is to be noted that the air quality in cities is measured by NO₂, a component of NO_x, and the NGVs produce zero NO₂.

The figure below for heavy-duty vehicles demonstrates that gas comfortably meets existing EU legislation with regard to particulate matter and NO_x emissions. Euro 6 has been the current legislation limit for trucks since January 2014.



Figure: Assessment of CNG for particulate matter and NO_x emissions for heavy-duty vehicles. Source: Natural & bio Gas Vehicle Association.

- The use of gas offers considerable benefits in **noise reduction**, as drive assemblies running on natural gas are quieter than those running on diesel fuel.
- The use of gas offers considerable benefits in reducing **greenhouse gas emissions**. Gas has very favourable carbon dioxide (CO₂) emissions versus petrol and diesel. According to the Natural & bio Gas Vehicle Association (NGVA), up to 25 % less CO₂ emissions are released on average for light-duty vehicles and up-to 15 % less for heavy-duty vehicles. A new generation of heavy gas engines is expected to increase this advantage to 20%. In addition, the use of biomethane and renewable power-to-gas technologies enable virtually carbon-free mobility. In big cities it is possible to reach the so-called “virtuous circle”, where the domestic garbage is taken to a biogas plant, the biogas is later purified to biomethane and injected into the gas grid, in volumes sufficient to fuel all the garbage collection fleet. This is already working in Madrid (450 garbage trucks). Natural gas vehicles (NGVs) also compare favourably with electric vehicles when the emissions from the production of electricity are included in the comparison.

8. In gas-based transport, Europe is the **technological leader** in the world. This advantage should be not only maintained but also strengthened. European car manufacturers produce gas-based vehicles for transport, complying with the most stringent regulations, while most non-European manufacturers convert oil-based vehicles or are still on lower regulatory levels (China). This relative advantage will only be maintained if the manufacturers see policy measures that support the use of gas in transport.
9. Gas is an abundant energy source and will be able to accommodate additional demand placed on it from transport. It also can be stored offering flexibility to make the energy available whenever the consumer requires it.
10. The use of gas-based transport ensures that there is no reduction in **mobility** to European citizens as it can offer alternatives to all modes of road and maritime transport.
11. Biomethane and gas produced using power-to-gas facilities offer additional means to introduce **renewable energy** into the transport sector. This helps Member States to achieve the 10 % target for renewables in transport fuels and to enhance the greenhouse gas reducing benefits of gas in transport. It is to be noted that biomethane, the renewable alternative of methane based on natural gas, is the same product --CH₄-- allowing any proportion of mixing. This situation is unique and far from the cases of bioethanol with petrol or biodiesel with diesel.

Objectives of the White Paper

12. Eurogas believes that the White Paper's objectives should be updated to sharpen their effectiveness. The following points address the three objectives described in the [accompanying background paper to the Mid-term review](#)².
13. Objective 1: It is proposed that the first objective is revised to deliver the new 2030 greenhouse gas reduction target of at least 40 %, with transport making a specific contribution. The current objective is to reduce greenhouse gas emissions in transport by around 60 % by 2050. Basing the objective on such a distant date makes it more difficult to measure progress, especially after only four years. It should be noted that this 40 % target is in line with the European Union's (EU) longer-term ambitions for an 80-95 % reduction in greenhouse gas emissions by 2050. Such an approach will mean that any resultant policy measures can be assessed in a more concrete fashion than is currently the case.

² See <http://ec.europa.eu/transport/media/consultations/doc/2015-white-paper-2011-midterm-review/background.pdf>

14. Objective 2: This objective seeks a drastic reduction in the oil dependency ratio of transport-related activities by 2050 but does not identify the characteristics of the energy mix it seeks. The objective could be revised to state, for example, that the energy sources for transport are 'competitive' and 'diverse', or that there should be at least two alternative modes of transport by 2030, each having 10 % of the market share. This would put the focus on what the EU wants to see by a defined date, rather than what it does not want to see.
15. The third objective of limiting the growth of congestion continues to be relevant and appropriate.
16. A fourth objective is proposed, to address the impact that transport has on air quality, particularly in urban areas. Reducing greenhouse gas emissions alone may not meet this objective and its importance warrants a separate objective.

Assessment of the White Paper

17. It is clear that many measures have been put in place as a result of the White Paper. However the results so far do not show a tangible contribution towards reaching the three objectives. For example, the benefits of gas in transport outlined above have not been realised in any real scale to date. The Alternative Fuels Directive is a key piece of legislation and its implementation should be closely monitored to ensure it is put into effect properly.
18. Natural gas, together with electricity, hydrogen, biofuels, and liquefied petroleum gas (LPG) has been identified, at the current stage, as one of the main alternative fuels with a potential for long-term oil substitution. A supportive taxation framework for alternative fuels recognising the different characteristics in different transport modes in respect of air quality and greenhouse gas emissions can be a useful means to promote emerging transport modes such as gas-based transport. Any such framework should be consistent in scope and timeframe with the Directive on the deployment of alternative fuels infrastructure.

The ten goals of the White Paper

19. **Goal number 1:** to halve the use of conventionally fuelled cars in urban transport by 2030 and to phase them out completely by 2050 is not appropriate. This goal contradicts the principle in the White Paper of using market-based approaches, where possible. It does not ensure that air quality improvements in cities are carried out in the most cost-effective manner and rules out options to achieve this improvement, including

supportive taxation for alternative fuels. The goal should specify an air quality target for 2030 in cities and let the market decide on the way this is achieved. Whether this is through conventionally fuelled cars or not is irrelevant. The current version also unnecessarily excludes, for example, carbon-neutral biomethane buses and other clean technologies still relying on combustion engine technology.

20. **Goal number 3:** once again this goal, which suggests 30 % of road freight above 300 km should be shifted to rail and waterborne transport by 2030, is too narrow. The goal for transport above 300 km should be widened to, for example, which improvements in air quality and CO₂ emissions are sought for this sector. Road, rail and waterborne options should then compete to provide the necessary solutions.
21. It is noted that there is no goal relating to technological innovation. This is an area where Europe is particularly strong in the transport sector. Maintaining this position must be a feature of European policy, not only for reasons of jobs and growth, but also as it is the key ingredient for ensuring that the other goals and overall objectives are met.

Tangible interventions

Support

22. A road pricing framework (city taxes, tolls) which recognises differences in the effects of different transport modes (e.g. air quality) can be a tool to support the introduction of new transport modes.
23. Support should be made available for research and development in specific technological developments of gas in transport. For example, advances such as motor efficiency offer reductions in energy use and GHG emissions, and infrastructure development offers potentially greater customer choice and cost effectiveness .
24. Public procurement should prioritise transport modes that emit less particulate matter, NO_x and GHGs, and make less noise. The type of approach used in the Energy Performance of Buildings Directive³, where there is a special requirement for public bodies to act first, provides useful guidance on how this can be done. This could include a legal requirement to have a minimum number of alternative modes of transport in its fleets (for example, 20 %).

³ Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings

25. A LNG Blue Corridor Number 2 and a CNG Blue Corridor Number 1 should be created. These corridors mobilise a mass of expertise from industrial partners and research institutes as a first phase in the staged rollout of refuelling stations along a defined geographical corridor.
26. If support schemes are provided to electric refuelling home stations, then support should also be offered for CNG home-refuelling appliances.
27. In cases where grid operators are required to develop the infrastructure for gas in transport in accordance with the implementation of the Alternative Fuels Directive, they should be allowed to include the costs in their regulated asset base and receive a fair return on investment.
28. Eurogas does not support subsidies to promote mature technologies. However if other mature technologies are being subsidised, then gas-based vehicles should be treated on an equal basis. Alternative technologies should be also weighted against its actual contribution to the replacement of oil derivatives. Electric vehicles are good in cities, but when talking about long distance road transport and maritime transport, the large energy consumers, there is only an alternative to diesel, and this is LNG.

Air quality and emissions

29. Stricter noise, particulate matter and NO_x emission regulations should be considered for cities and densely populated areas in order to encourage the use of low-emitting transport modes, such as NGVs.

Information and standardisation

30. Standards for refuelling points which can be adopted by means of an implementing act should be put in place as soon as possible. Fuel should be sold on a litre-equivalent basis.
31. Guidance documents should be elaborated to facilitate Member States with the drafting of the National Policy Frameworks.

Underlying assessment

32. A comparison of greenhouse gas emissions from different transport modes should be based on a comprehensive analysis. This includes not only the fuel or electricity used but also GHG emissions arising from the manufacturing and disposal of the vehicle. All

relevant stakeholders, including the gas industry, should be involved in the preparation of such studies.

33. The inclusion of hydrogen, synthetic methane and biomethane as clean alternative fuels should be considered in future policy initiatives. Biomethane has already a European standard allowing it to be injected in the gas grid.