

Position Paper: NGVA Europe position on fuel tax for NG/biomethane powered vehicles

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A Position Paper of NGVA Europe prepared by:
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The passenger car market

Passenger cars able to run on natural gas currently include two fuel systems - one for the normal fuel (natural gas/biomethane) and another one for gasoline (for use in areas yet without an adequate gas refuelling infrastructure). It logically follows that the product cost will be somewhat higher than the cost of a corresponding gasoline fuelled car. Normally the NG powered cars are sold at retail prices corresponding with a similar diesel powered car.

NG refuelling stations represent a larger investment than corresponding stations for conventional liquid fuels. There is also an added operational cost due to the need to deliver the gas at a high pressure. The additional CAPEX and OPEX costs are, of course, included in the gas pricing calculations. Gas distribution costs, on the other hand, are frequently cheaper than the distribution costs for liquid fuels (supply via pipeline instead of tank trailers).

Notwithstanding the totally somewhat higher distribution costs the present retail price for natural gas/biomethane is usually in most European countries significantly lower than the retail prices for gasoline or diesel. Since the new car price is roughly on par with a corresponding diesel powered car the rational buyer would quickly establish considerable savings over time if choosing an NGV.

From a societal point-of-view the use of NGVs means substantially reduced greenhouse gas emissions, reduced emission of pollutants, and reduced reliance on crude oil. The possibility to use up to 100 % biomethane instead of natural gas (chemically in principle the same product, it is only the age which differs) also offers very promising opportunities for high efficiency domestic production of biomethane from all types of organic waste and other biomass resources.

The main drawbacks with the NGVs have been a relatively low operating range with full gas tanks, a limited choice of vehicle offers, and, at least in some areas, a less well developed refuelling infrastructure.

Following the introduction in 2001 of new and clear rules on the European Whole Vehicle Type Approval of gas powered vehicles we have seen a widening and successively improved offer of OEM produced NG powered cars. We have in parallel also seen very significant investments in a public re-fuelling infrastructure (Sweden, Germany, the Netherlands, Luxembourg, the Czech Republic, Austria, Bulgaria, Lichtenstein, Switzerland, and Italy). Most other European countries are now making efforts to also provide an adequate public re-fuelling infrastructure (some of these countries are already to a considerable extent using natural gas as a fuel for depot based buses and trucks).

2009 will be remembered as the year when NG vehicles, with downsized turbo engines for reduced fuel consumption, substantially increased operating range, and improved vehicle performance, suddenly increased the attractiveness of these vehicles. We have not yet seen the full effect of these new products, but early indications from Sweden are very positive – five times higher NGV sales.

The very tough demands on reduced CO2 emissions planned for introduction over the period 2012-2015 will also support OEM investments in the development of NGVs.

The German government a few years ago took the precaution to legislate that the fuel tax on NG used as a vehicle fuel would not be increased until 2018 earliest (regardless of any increases of the fuel tax on conventional fuels). This legislation has provided car makers, infrastructure providers, and the general car buying public with the assurance of stable and favourable fuel taxation during the market expansion phase. NGVA Europe supports this approach, and would hope that similar strategies will also be introduced in other countries right across Europe.

[Natural gas can successively be replaced by renewable biomethane](#)

Contrary to many other discussed fuel options natural gas is available already today in large volumes and offers immediate relief concerning crude oil reliance and CO2 emissions. Biomethane is also an option available already today and has large future volume potentials. Waste based biomethane will, of course, not be affected by the current questioning of various other biofuels (food vs fuel, deforestation threats, uncontrolled emissions in foreign countries, etc).

[Increasing volumes will lead to reduced vehicle costs and further optimized engines](#)

Finally, the costs of the natural gas fuelled vehicles will decrease over time as a result of much higher production volumes, and eventually the removal of the need to also offer a possibility to drive the vehicles on gasoline. When the time is ripe to go for dedicated natural gas powered vehicles (a question entirely related to the rate of expansion of the re-fuelling infrastructure) it will also be possible to optimize the vehicles for gas only. This will provide further benefits concerning reduced fuel demands and CO₂ emissions. To ensure that we reach this point as soon as possible **it is essential to provide continued fiscal advantages during the market expansion phase.**

[Natural gas is also a fuel well suited for commercial vehicles](#)

In addition to the light duty vehicles discussed above, there is also a well spread use of NG powered medium/heavy duty buses and other commercial vehicles. In comparison with standard diesel fuelled vehicles these vehicles offer superior environmental performance - much lower NO_x emissions, virtually no particulate emissions, and roughly halved noise and vibrations. The engine technology applied is usually dedicated spark ignited engines. Some OEM manufacturers still use the lean burn concept, but the trend is clearly in the direction of stoichiometric engines using 3-way catalytic converters. Spark ignited engines have traditionally been less fuel efficient than compression ignited engines, but this fuel efficiency disadvantage is to a large extent eliminated due to the downsizing strategy. At full engine load there is no efficiency disadvantage, and the trick is to minimize the time the engine is operating at a low load. Thanks to the inherent CO₂ advantage when burning methane instead of diesel, state-of-the art NG engines will offer significantly reduced CO₂-emissions.

Natural gas powered vans, trucks and buses help to solve air quality issues, CO₂-issues, and required oil substitution. Also for these vehicles it is important to keep fuel taxes at a minimum during the market expansion phase. European countries at an increasing rate recognize the benefits offered, and not only keep fuel tax at a minimum, but also offer various incentives to help speed up the market development. Italy, by far largest European NGV market, has taken many initiatives concerning various incentives, thus setting a good example for other European countries.

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