LPG as an alternative transport fuel can help reach the EU's climate and energy goals

Position on the Proposal for Alternative Fuels Infrastructure Regulation

The European LPG industry is fully committed to reaching carbon neutrality in road transport by 2050 at the latest. LPG is the number one alternative fuel in Europe and with its clean burning properties, it has provided more environmental benefits to date than any other alternative fuel. On a well-to-wheel basis, LPG's carbon footprint is up to 23%[1] lower compared to petrol and has been observed to emits significantly less s carbon dioxide (CO2) and particulates compared to gasoline and lower oxides of nitrogen (NOx) and particulates compared to diesel[2].

Now and beyond 2030, LPG can be readily replaced with its defossilised version bioLPG or be increasingly blended with renewable DME (rDME). BioLPG is produced from renewable and organic feedstocks and can reduce LPG's carbon footprint by up to 80%, depending on the feedstock used. Chemically identical to conventional LPG, it carries the same emissions properties, significantly contributing to better air quality. BioLPG can be blended at any rate with LPG and still be used in existing infrastructure. It means that distributors and consumers do not need to change or upgrade their equipment to switch to a renewable alternative energy solution. Similarly, rDME is a gaseous fuel produced from a wide range of renewable feedstock, including waste streams and residues. Chemically similar to LPG, it can be blended with LPG up to 20% and used in existing vehicles[3].

The proposal for the Alternative Fuels Infrastructure Regulation (AFIR) defines alternative fuels and presents a crucial opportunity to ensure a technologically neutral approach in road transport and ensure all viable technologies, including LPG and its defossilised version bioLPG and rDME, can play a role in decarbonising EU's transport sector.

Liquid Gas Europe calls on EU policy makers to take the following legislative recommendations into account:

1. **Keep the scope of the definition of alternative fuels, including LPG,** to respect a technologically neutral approach and ensure all alternative fuels and technologies can play a role in decarbonising the EU's transport sector.
2. **Clarify the definition of alternative fuels to ensure bioLPG and rDME are recognised as renewable fuels** which can decarbonise the transport sector.
3. **Consider the social aspects of the energy transition and ensure "no one is left behind"** by retaining access to affordable mobility.
4. **Ensure consistency across legislation** to provide the right market signal and encourage the uptake of all alternative fuels in Europe.

[1] LPG's Carbon Footprint Relative to Other Fuels. (2019). Atlantic Consulting

[2] Ryskamp R. (2017). Emissions and Performance of Liquefied Petroleum Gas as a Transportation Fuel: A Review.

[3] https://www.aboutdme.org/aboutdme/files/cclibraryfiles/filename/000000004184/rDME_Fact_Sheet_Transport.pdf

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1. **Keep the scope of the definition of alternative fuels, including LPG**, to respect a technologically neutral approach and ensure all fuels and technologies can play a role in decarbonising the EU's transport sector.

Liquid Gas Europe welcomes the revision of the Alternative Fuels Infrastructure Directive and that LPG continues to be included in the scope of the definition of alternative fuels[4].

Indeed, LPG as a transport fuel is the number one alternative fuel in the EU with over 8 million vehicles[5] in circulation. It represents 77% of the existing alternative fuel fleet, both through aftermarket conversions and a large offering of new vehicles. Looking at environmental benefits compared to conventional fuels, LPG's carbon footprint is up to 23%[6] lower compared to petrol. As such, LPG has arguably provided more environmental benefits to date than any other alternative fuel on the market. LPG also has a strong historical presence in many markets and customers have developed confidence in its use as a cleaner fuel.

We welcome that the Regulation acknowledges the importance of such a mature fuel by keeping LPG in the definition of alternative fuels. Such definition sends the right signal to enable continuous support to a fuel with a track record of success that provides environmental benefits through millions of vehicles already on the road. Forward-looking, this also stimulates investments in bioLPG and rDME – fuels that will increasingly decarbonise LPG towards carbon neutrality in 2050.

2. **Clarify the definition of alternative fuels to ensure bioLPG and rDME are recognised as renewable fuels** which can decarbonise the transport sector.

Given the significance of the transport sector in the drive towards climate neutrality, a progressive uptake of renewable fuels is essential to achieve these objectives. For this reason, it is important to consider LPG in the context of bioLPG and blending fuel with similar properties, rDME. Replacing or blending LPG with these fuels can immediately reduce life cycle GHG emissions. **Liquid Gas Europe welcomes that renewable fuels are included in the scope of the definition of alternative fuels. However, we ask for more clarity on which type of renewable fuels are included, especially regarding different production pathways.**

BioLPG is a gaseous fuel produced from renewable and organic feedstock and readily available in growing quantities in several European markets. The carbon footprint of bioLPG is up to 80% lower than that of conventional LPG, dependent on the feedstock used. Importantly, bioLPG is a drop-in fuel that can be blended at any rate with LPG and still be used in existing infrastructure. It means that distributors and consumers do not need to change or upgrade their equipment to switch to a renewable alternative energy solution.

Similarly, rDME is a gaseous fuel produced from a wide range of renewable feedstock, including waste streams and residues. It is chemically similar, but not identical to LPG. Existing LPG vehicles can use a

[4] In the proposal for the Alternative Fuels Infrastructure Regulation COM(2021) 559 , LPG is included in the definition of "alternative fossil fuels" for a transitional phase in Article 2, paragraphs 3b.

[5] Statistical Review of Global LPG. (2020). WLPGA/Argus. Largest markets for LPG in transport are Italy (2,5 million vehicles), Poland (3,2 million vehicles) and Germany 370 000 vehicles). Data refers to vehicles in circulation in 2019.

[6] LPG's Carbon Footprint Relative to Other Fuels. (2019). Atlantic Consulting

blend of up to 20% rDME in LPG[7]. In this respect, bioLPG and rDME can play a particularly important role in decarbonising transport, given their ease of storage and transport, and the widespread availability of existing infrastructures and vehicles for distribution. The proposed definition of alternative fuels should provide more clarity on which type of fuels are considered renewable, in line with the Renewable Energy Directive.

3. **Consider the social aspects of the energy transition and ensure "no one is left behind"** by retaining access to affordable mobility and the capability of bioLPG and rDME to progressively decarbonise the legacy vehicle fleet.

The scale of the effort required by the 2050 decarbonisation objective is not the same for all 27 EU Member States. Indeed, millions of EU citizens and businesses, especially in many Central, Eastern and Southern EU Countries rely on older, inexpensive, and often second-hand vehicles. With technological alternatives out of their reach, these EU citizens will be left behind during the transition and more significantly, low-income families will find it harder to preserve their fundamental mobility rights. Reducing pollutant emissions while enabling access to affordable mobility are key advantages of LPG and cannot be overlooked.

With over 8 million vehicles[8] running on LPG in the EU, either through new car purchases or retrofits of existing cars, LPG is already clearly consumer-oriented and has provided more environmental benefits to date than any other alternative fuel. Beyond 2030, LPG can be replaced with its defossilised version bioLPG or be increasingly blended with rDME, demonstrating the ability of such renewable fuels to further decarbonise the existing LPG vehicles fleet and ensure "no-one is left behind".

At the same time, de-fossilising the legacy fleet of existing vehicles is critical to achieving climate targets as they will dominate the CO2 emissions of European traffic in the upcoming years[9]. There are almost 180 million petrol vehicles in use in the EU[10], which could be retrofitted to LPG. **Retrofitting of existing petrol vehicles to LPG and further replacing and blending with bioLPG and rDME could contribute to CO2 reduction on a Well-to-Wheel and Tank-to-Wheel basis significantly to achieve the climate targets.**

Liquid Gas Europe urges the EU Institutions to revise the proposal with the above-mentioned recommendation and work out an enabling regulatory framework that values and supports all technologies. **By supporting fuels with a track record of success, such as LPG, and incentivising the uptake of renewable fuels such as bioLPG and rDME, we help the most vulnerable citizens to keep their fundamental mobility rights while decreasing their mobility carbon footprint.**

4. **Ensure consistency across legislation** to promote and develop alternative fuels in Europe.

We welcome the proposal for Alternative Fuels Infrastructure Regulation, especially the definition of alternative fuels, which continues to define LPG as a transitional alternative fuel. We also welcome the scope of the definition of alternative fuels, which includes renewable fuels – biogas, biofuels, renewable

[7] https://www.aboutdme.org/aboutdme/files/cclibraryfiles/filename/000000004184/rDME_Fact_Sheet_Transport.pdf
[8] Statistical Review of Global LPG. (2020). WLPGA/Argus. Largest markets for LPG in transport are Italy (2,5 million vehicles), Poland (3,2 million vehicles) and Germany 370 000 vehicles). Data refers to vehicles in circulation in 2019.
[9] Future fuels: FVV Fuels Study IV. (2021). Frontier Economics. FVV Funds.
[10] Vehicles in use in Europe 2017. (2017). European Automobile Manufacturers Associations. Data refers to 2015.

fuels of non-biological origin and recycled carbon fuels, synthetic and paraffinic fuels produced from renewable energy.

To ensure rapid uptake of renewable fuels in the EU market across all sectors, including bioLPG and rDME, it is important to signal to the industry and the citizens that production and use of renewable fuels will be supported in the long term by coherent legislation and policies. This can only be achieved if measures and incentives are consistent across legislative files.

The proposal for CO2 Standards for Cars and Vans Regulation should be revised to also incentivise the uptake of renewable fuels. For example, emissions should be measured on a Well-to-Wheel approach, instead of at the tailpipe, which clearly favours electric vehicles and does not consider the life cycle environmental gains of renewable fuels nor the support of renewable fuels in the decarbonisation of legacy vehicle fleet.

About us:

Liquid Gas Europe is the authoritative voice for the European Liquefied Petroleum Gas (LPG) industry and is composed of national LPG associations, main European LPG suppliers, distributors and equipment manufacturers. With the support of its Taskforces of industry experts, Liquid Gas Europe is actively involved in concrete initiatives and programmes to ensure the sustainable, safe and efficient development of LPG in Europe.

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Transparency Register: 63503202933-02