Brussels, 30 July 2021

Liquid Gas Europe response to the European Commission's public consultation on the revision on the revised Climate, Energy and Environmental Aid Guidelines (CEEAG)

1. Introduction

Liquid Gas Europe, as the voice of the European LPG industry, is committed to support the ambitious climate and energy goals set by the EU for 2050, having pledged to meet LPG's demand by 2050 entirely with bioLPG.

In the quest to achieve EU climate goals, ensuring that the Green Transition is performed in a fair, just, and inclusive manner for all will be key. Therefore, access to funding and state aid for the most competitive, innovative, and socially conscious options which will be part in the future energy-mix is important.

Harnessing the spirit behind European cooperation and the founding principles of European law, it is paramount that European legislation facilitates, but does not hinder, Member States to reach their Climate, Energy and Environmental targets. Therefore, the revised Climate, Energy and Environmental Aid Guidelines (CEEAG) should incorporate both Union's objectives and the diverse perspectives of regions and markets within Europe. On this point further, Liquid Gas Europe would like to bring forward the following feedback to the ongoing consultation on CEEAG.

2. Key principles for the CEEAG: sustainability, health, and technology neutrality

Taking into account the need for a fully functional, secure, and accessible internal energy market, European measures aiming at reducing greenhouse gases emissions should not come at the price of increased air pollutant emissions. Air pollution a is considered by the World Health Organisation as the biggest environmental risk to health in the EU.[1]

Liquid Gas Europe would like to bring to the European Commission's attention the evidence-based record of accomplishment of LPG as a contributor to furthering sustainability and health due to its GHG and air pollution reduction properties. As such, we welcome that the aid measures covered by the proposed CEEAG include not only measures to remove GHG emissions, but measures for the prevention of air quality, providing "…*aid for the prevention or reduction of pollution other than from greenhouse gases…"* as stated in point 2.2., article 15(f)).

LPG is a readily available, low-carbon fuel whose use can immediately benefit the transition process both of transport and heating sector.
LPG enables 25% reductions in CO_2 emissions in comparison to oil and 50% CO_2 emission reductions when switching from a coal boiler to a domestic heating appliance,[2] being oil and coal referenced as the most polluting energy sources in the proposed CEEAG. Furthermore, contrary to liquid and solid fuels, LPG emits virtually no black carbon, which is the second largest contributor to climate change after CO_2. LPG domestic heating appliances produce 60% less particulate matter than oil boilers and 99% less

[1] European Court of Auditors (2018), Special report no 23/2018: Air pollution: Our health still insufficiently protected, available online at: https://www.eca.europa.eu/Lists/ECADocuments/SR18_23/SR_AIR_QUALITY
[2] Ecuity Economics elaboration based on IPCC Emissions Factor Database

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particulate matter than woody biomass stoves, hence being a driver not only of GHG reductions but also for better air quality.[3]

According to the European Alternative Fuels Observatory, LPG represents the most widely used alternative fuel in Europe.[4] LPG can reduce the impact (pollutants and GHG) on new registrations but also of the existing fleet with retrofit, this aspect being of direct relevance in the current socio-economic context of the COVID-19 Pandemic, which lowered significantly the purchasing power of families (e.g. no renewable of circulating fleet).

To achieve the climate objectives of the EU and ensure security of supply in the internal energy market, all renewable and low-carbon energy alternatives will be necessary. As such, Liquid Gas Europe considers unfortunate the selection of one technology over another as default choice in the proposed CEEAG, and would like to stress that the LPG industry has pledged to meet LPG's demand by 2050 entirely with bioLPG, hence being at the forefront of fostering innovation and sustainable growth.[5]

It is highly advised that the technology neutral principle should oversee the revised Climate, Energy and Environmental Aid Guidelines to ensure liquid fuels with a proven record of accomplishment, but also emerging renewable energy choices such as bioLPG to stimulate innovation and competition in the industry. It is for this reason that the current provision for member states to choose to exempt bioLPG from taxation at national level should remain, and that the proposed CEEAG remain as flexible and technology neutral as possible.

3. Definitions

Liquid Gas Europe would like to recall the importance of consistency between the proposed CEEAG and the rest of Green Deal and Smart & Sustainable Mobility legislative initiatives to achieve proper implementation and achieve the objectives under the European Green Deal. As such, it urges the Commission to align the definitions under chapter 2.4. CEEAG with the definitions under the recently announced proposals under the 'Fit for 55'package, as it currently relates to Directive 2018/2001/EU and not the new proposals, which makes it difficult to assess. Most notably the **definition of Biogas** under the Renewable Energy Directive and the definition of low-carbon and alternative fuels, among which (bio)-LPG is included, should be included in the CEEAG.

Furthermore, the definition of **clean transport vehicle** should be aligned with the ambition collected in several legislative pieces on the need to define clean vehicles according to a WTW or life cycle analysis (LCA) approach. Liquid Gas Europe strongly encourages the use of WTW methodology because of the scientific evidence showing that greenhouse gas emissions are associated not only with vehicle use, but also production, hence the need for a holistic pathway.[6]

4. On Environmental Taxation

As the readily available alternative to coal and oil, increased demand for LPG and bio-LPG will require investments for vehicles and infrastructure (e.g., refuelling points), to contribute to the climate objectives of the EU. It should further be noted that any present and future investment in LPG will be

[3] INNOVHUB (2017), Studio comparativo sulle emissioni di apparecchi a gas GPL gasolio e pellet, available online at https://assogasliquidi.federchimica.it/docs/default-source/default-document-library/executive-summary-studio-innovhub.pdf.

[4] www.eafo.eu .

[5] BioLPG: A survey of markets, feedstocks, process technologies, projects and environmental impact, Altantic Consulting (2018) Commissioned by Liquid Gas Europe.

[6] https://www.frontier-economics.com/media/4643/carbon-abatement-costs.pdf; https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/jec-well-wheels-report-v5.

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enhanced by the increasing volumes of rLPG and bioLPG, which are drop-in solutions that enhance flexibility within the future energy mix.

Following the current State Aid Guidelines (EEAG), Liquid Gas Europe asks for clarification in which chapter of the current proposal is state aid considered for bio-LPG production.

5. Aid for clean mobility

Once raised the need for an inclusive and technology neutral definition of clean transport vehicle in the CEEAG, which as it currently stands, Liquid Gas Europe rejects due to its curtailment for LPG and bioLPG to access state aid for rolling out infrastructure for road transport.

Regarding specifically paragraphs 161-162 of the CEEAG, Liquid Gas Europe finds extremely unfortunate the European Commission's consideration that the conditions for granting state aid are inapplicable to gaseous fuels. In particular, given the science-based acknowledgement that gas is relevant for the green transition, concretely in hard to abate sectors and those circumstances where other alternatives are not readily available, furthermore considering the paramount role of gas to ensure continuous security supply throughout the Green transition. Further, on paragraph 163, Liquid Gas Europe strongly rejects the statement that addresses LPG as one of the 'most polluting fossil fuel' in transport

LPG in the transport sector, as previously mentioned, not only contributes to the reduction of greenhouse gases emissions, but also to improve air quality. Furthermore, in a pollution-comparison test performed on gasoline, diesel, LPG and CNG, real cars sold in Europe were examined as of their emissions, including GHG, NOx and PM. The results showed that LPG was the least polluting of the test group, and petrol the most.[7] Furthermore, data from real driving emission tests showing that LPG produce 98% less NOx emissions than diesel cars, and 90% less particulate matter and 45% less carbon monoxide than gasoline cars.[8] This contribution is for instance clearly recognised in the draft proposal of the Energy Taxation Directive which places the fossil based LPG among fuels that "still have some potential to contribute to decarbonisation in the short and medium term".[9] Renewable based BioLPG can additionally provide up to 80% emissions reduction compared to conventional LPG.[10]

LPG is and alternative fuel able to support the transition both on new vehicles and existing ones. For the new vehicles, gaseous fuels as LPG are able to reduce emissions if compared to traditional fuels, as clearly stated, for example, in the Emissions Inventory presented by the Italian Institute for environment protection (ISPRA) that highlights the reductions on regulated emissions that LPG can produce.

In particular, if compared to gasoline and Diesel engines, LPG reductions can be summarized[11]:

- CO2: -23,4% compared to petrol, -3,3% compared to diesel
- NOx: -62,4% compared to petrol, -95,1% compared to diesel
- PMexhaust: -92,3% compared to petrol, -92,9% compared to diesel
- PM2.5: -4,9% compared to petrol, -5,4% compared to diesel

[7] Atlantic Consulting, A comparative Impact Assessment of car-and-van fuels: Petrol, diesel, LPG and CNG.
[8] Measuring emission performance of Autogas cars " in Real Driving Conditions (2016) Liquid Gas Europe.
[9] https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_3662.
[10] Liquid Gas Europe (2021), BioLPG, a renewable pathway toward 2050.
[11] http://www.sinanet.isprambiente.it/it/sia-ispra/fetransp/, for the comparison emission factors of Euro 6 vehicles of medium segment have been considered.

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Furthermore, gas technology is able to produce beneficial effects on existing vehicles as well, by converting vehicles to LPG it is possible to achieve relevant results on CO2 reduction, up to -10%, PM up to -99% and NOx up to -90%. The recent study made by Innovhub Stazione Sperimentale prer Ie Combustibili on 5 LPG Euro 6 cars tested in RDE conditions clearly shows the following results:

- Significant decrease of PN emission with LPG, according to previous research
- Very low NOX emissions for both fuels
- Significant decrease in CO2 emission with LPG feeding for all cycles (around - 10%)
- Very low differences on CO, HC emissions comparing gasoline vs LPG feeding → low importance of cold start phase in RDE tests

LPG industry, according to official data on emissions, opposes from the definition of LPG as one of the most polluting fuels as defined in entry 163 of the Draft Communication and asks for a revision of the text to confirm LPG in the list of alternative and renewable fuels for public procurement, in consistency with article 2(3) of the proposal for a Regulation on the deployment of alternative fuels infrastructure.[12]

Additionally, the increasing volumes of bioLPG and renewableLPG available in the market make LPG far from being locked in fossil-based technologies, as instead stated in the same entry of the document (163). In this regard, it is worth noticing that the chemical equivalence of the conventional product with the one produced from bio and renewable pathways make bioLPG and renewableLPG drop in solutions, that can be directly implemented both in the existing distributing infrastructure that in the running fleet. This characteristic gives any investment in the actual logistic of LPG a double dimension, that can be enhanced with time with the growing availability of bio and renewable volumes.

Therefore, LPG and its renewable counterparts, are far from being the most polluting fossil fuel, but an alternative to gasoline and diesel already widely available in the market, leading to a direct and immediate contribution to the European climate objectives. These environmental attributes are not only acknowledge and supported by recently published legislative energy proposals, such as the Alternative Fuels Infrastructure Directive, where LPG is present in the definitions of alternative and low-carbon fuels, as stated above, but also in by international agencies such as the International Energy Agency' Net zero by 2050 Report – A roadmap for the Global Energy Sector, which mentions that in the net-zero emissions scenario, concerning the vehicles fleet, they see the share of LPG rise from 20% in recent years to almost 60% in 2050, in contrast to demand for diesel and gasoline, which fall from 55% to 15%.[13]

In light of the data, Liquid Gas Europe urges the European Commission to revisit the definition of 'most polluting fuels' and ensuring that the environmental and health attributes of LPG in contrast to other fuels are considered to enable LPG and bio-LPG, its fully renewable counterpart, to compete in the internal market in equality of conditions with other energy sources, to contribute to a socially conscious, secure and innovative future energy-mix.

[12] European Commission Proposal, COM(2021) 559 final, for a Regulation of the European Parliament and of the Council on the deployment of alternative fuels infrastructure, and repealing Directive 2014/94/EU of the European Parliament and of the Council.
[13] https://www.iea.org/reports/net-zero-by-2050, p.102.

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