LPG - The smart alternative, everywhere you need it

11.01.2019 I POSITION PAPER

Liquid Gas Europe's Position Paper on the Strategy for long-term EU greenhouse gas emissions reductions

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On 28 November, the European Commission issued a Communication titled "A Clean Planet for all", outlining its vision for long term decarbonisation. The European LPG industry would like to share some suggestions to the European Parliament to make sure the EU decarbonisation strategy can effectively deliver the best possible results for European citizens and businesses.

Air pollution is a silent killer in Europe, it causes 400 000 premature deaths in the EU and is considered by the World Health Organisation as the biggest environmental risk to health in the EU. Man-made air pollution is generated by the combustion of fuels, hence improving energy efficiency or switching to less polluting fuels can greatly help addressing this problem.

For this reason, we firmly believe that climate change and air pollution are two sides of the same coin and that there are plenty of no-regret options that can help cutting both greenhouse gas and pollutant emissions simultaneously, both in the short-medium term and in the long term.

1. Europe's best kept secret: the environmental impact of the heating sector

Heating our homes and our offices is responsible for a large share of EU's greenhouse gas and pollutant emissions. 14% of EU's CO2 emissions and 57% of EU's particulate matter emissions have been generated by that sector in 2016. EU policies have been ineffective in improving its environmental profile particularly as regards air pollution as, over the past 10 years, PM emissions only decreased by 4%.

One of the key reasons for the high environmental impact of the sector is that solid and liquid fuels (i.e. coal, peat, heating oil and solid biomass) represent today 21% of the energy mix in the heating sector. The use of these fuels is connected to much higher pollutant emissions than gaseous fuels or electricity. These fuels are mostly used in rural areas, where the natural gas grid is generally unavailable, and where they represent roughly 2/3 of the energy mix.

2. Rural areas need a dedicated approach

The "electrification of everything", which implies vastly strengthening the existing distribution grid, seems a hardly realistic option in rural areas considering that the existing electric networks would require huge investments for taking the necessary increased load and for optimising its distribution.

As rural households represent 17% of the total number of houses in the EU and considering their comparatively higher environmental impact, we believe that any strategy aimed at improving the environmental performance of the heating sector cannot ignore the specificities of rural areas. We therefore very much welcome the recent initiative from the European Parliament to promote an "EU Agenda for Rural, Mountainous and Remote Areas" 2018/2720(RSP), but regret that this problematic was not at all referred to in the Commission strategy.

We expect that the trend, which is leading to a more decentralised energy system, where prosumers, users locally producing renewable energy would take a larger role, will be more marked in rural areas.

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The reason is that rural houses tend to be larger, hence they can more easily accommodate renewable technologies, such as solar panels. Due to the intermittent nature of decentralised renewable electricity, the move towards this model will also require the inclusion of low-carbon fuels to act as a partner or back-up.

3. LPG and renewable LPG: the keys to decarbonising rural heating

Being a clean burning fuel and having much lower CO2 emissions than most energy options available in rural areas, LPG has a role to play in the decarbonisation of the heating sector. Simply switching from a conventional coal or oil boiler to a condensing LPG one can reduce CO2 emissions by 50% or 25%, respectively, without compromising on the house's thermal comfort. At the same time, LPG boilers emit 80-99% less particulate matter than boilers relying on solid and liquid fuels.

These benefits further increase when LPG is used in cutting edge appliances, such as micro-CHP's, or in combination with renewable technologies, such as solar panels and gas heat pumps.

In addition, renewable LPG, which has recently been launched into the market, can further increase these benefits, as it has up to 94% less CO2 emissions compared to its conventional equivalent. The gradual increase of the renewable content in LPG will have no impact on the end-user as it can be used with the same appliances, engines as conventional LPG. Now available in modest quantities, reputable studies concluded that there is sufficient non-food feedstock so that the industry can possibly satisfy 100% of the LPG demand with renewable LPG by 2050. However, legal clarity and policy support will be needed to achieve this result.

4. Transport should be fixed, too

In 2016, road transport was responsible for 25% of EU's greenhouse gas emissions and for 39% and 10% of EU's NOx and PM emissions respectively. The sector's environmental impact is related to its heavy reliance on conventional fuels, i.e. petrol and diesel, which represent 97% of the fuel mix in the EU. Rolling out alternative fuels could greatly help to reduce the environmental footprint of the sector.

Today, LPG is the most popular alternative fuel in Europe. With 8 million vehicles on EU's streets, LPG already contributes to the Union's decarbonisation and air quality agenda by delivering important benefits. Recent emission tests ran under real driving conditions show that LPG vehicles produce 98% less NOx emissions than diesel cars. In addition, they emit 90% less particulates and 45% less carbon monoxide than gasoline cars.

A well-to-wheel analysis by the EU's Joint Research Centre, EUCAR and CONCAWE, which is used as a reference for the EU's Fuel Quality Directive, shows that LPG also has evident benefits in terms of greenhouse gas emissions. The study highlights that LPG vehicles produce 23% less well-to-wheel GHG emissions than diesel and 21% less than petrol. In the future, these benefits will significantly increase, when renewable LPG will be rolled out in large quantities and become dominant in the LPG mix.

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5. Our suggestions to the EU institutions

1. Recognise in the EU long-term decarbonisation strategy that:
   - **Affordability** and **cost-efficiency** are key to make the energy transition a reality, especially in rural areas
   - **Clean-burning fuels** such as LPG are a **key partner** for enabling the wider uptake of locally produced renewable electricity
2. Maintain a **technology-neutral approach in EU energy efficiency policies**, especially when comparing electric appliances and similar appliances running on primary energy in the context of the ecodesign and energy labelling schemes.
3. **Factor in the cost efficiency of renewable fuels** ("drop-in" benefit) versus standalone technologies requiring dedicated infrastructure when assessing the different pathways for long-term decarbonisation.
4. Earmark R&D European funds from **Horizon Europe** for the **decarbonisation** of the rural energy mix.
5. Take into account that **retrofitting technologies**, for instance converting a gasoline car to run on LPG or BioLPG, can help decarbonising in a cost-efficient manner the existing fleet of vehicles.
6. **Create stable and predictable sustainability criteria for bioenergy,** to give the right signal to the market to invest in necessary renewable fuel production infrastructures.

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Liquid Gas Europe's membership is composed by national LPG associations, the main European LPG suppliers, distributors and equipment manufacturers. With the support of its working groups of industry experts, Liquid Gas Europe is actively involved in concrete initiatives and programs to ensure the sustainable, safe and efficient development of LPG in Europe.

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