

**AEGPL Position Paper on the Proposal for a
Directive amending Directive 2010/31/EU on the energy performance of
buildings**

AEGPL, the European LPG Association, welcomes the proposal for a Directive amending Directive 2010/31/EU on the Energy Performance of Buildings Directive and is keen to contribute to the policy debate on this topic. We believe that, in order to achieve the 2030 climate, energy and air quality goals, ambitious measures need to be taken and we think that many of the proposed changes to the EPBD are a significant improvement compared to the current text.

However, we think that the Directive should include more measures aimed to tackle the issue air pollution. According to European Environment Agency's data, the heating sector is responsible for the majority of particulate matter emissions in the European Union.¹ Not acknowledging this fact in the Directive would be a missed opportunity to start tackling air pollution, which is responsible for 467.000 premature death in Europe each year.

Rural buildings: old, inefficient and carbon intensive

The European Commission is pushing for decarbonising the European building stock and making it more efficient. AEGPL welcomes this effort, as we believe that important savings can and should be achieved in this sector.

LPG is a low-carbon gaseous fuel, which is widely used for heating and cooking in areas not covered by the natural gas grid – i.e. Off-grid Europe. In those areas, mostly peri-urban and rural areas, solid and liquid fuels make up the large majority of the energy mix of the building sector, whose combustion generates high carbon emissions.

In addition, buildings located in off-grid areas tend to be older, hence less insulated, and more likely to rely on obsolete and inefficient heating appliances. Energy poverty is a critical problem in rural areas not only because of the lower average income of rural households, but also because of the lower energy performance of rural buildings. Energy efficiency measures have proven not to be very effective in those areas, **as off-grid buildings' energy consumption roughly remained unchanged over the past 10 years.** Since **19% of EU households are located in off-grid areas**, we believe that the EU can achieve important improvements in energy efficiency and can drastically cut CO₂ emissions if measures targeted at those areas were adopted.²

Proposed amendment

Proposal for a directive

Article 1 – point 2 – a

¹ See European Environment Agency, Air pollutants by source sector (env_air_emis) (sourced online: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=env_air_emis&lang=en)

² AEGPL (2011), *Beyond the Gas Grid* and Eurostat, *Complete energy balances – annual data (nrg_110a)* (sourced online: http://ec.europa.eu/eurostat/web/products-datasets/-/nrg_110a)

Directive (EU) No 31/2010
Article 2.2. – point 2

<i>Text proposed by the Commission</i>	<i>Amendment</i>
'In addition, the long term renovation strategy shall contribute to the alleviation of energy poverty	'In addition, the long term renovation strategy shall contribute to the alleviation of energy poverty particularly in rural areas.

A low-hanging fruit to decarbonise the building stock in Off-Grid Europe and increase its energy efficiency would be replacing existing boilers with better performing ones, fuelled by lower carbon fuels such as LPG. Simply replacing a conventional oil or coal boiler with a condensing LPG boiler brings about **energy efficiency savings in the range of 20 to 30%**. In addition, due to LPG's lower carbon intensity, switching from a conventional oil or coal boiler to a condensing LPG boiler **could cut CO2 emissions by 33% to 50%**.³

Therefore, we believe that the EU should consider fuel switching to lower carbon fuels such as LPG as part of the solution for the decarbonisation of the EU building sector in off-grid areas.

The heating sector: a major source of air pollution in the EU

The heating sector usually does not strike as one of the main sources of air pollution. However, EEA data shows that the building sector is by far the largest emitter of particulate matter (PM) and one of the main sources of nitrogen oxides (NOx) in the EU.⁴ The reason is that high polluting solid and liquid fuels represent a large share of the energy mix in this sector (22% in 2014).⁵

In particular, in the residential sector, which consumes the most energy, those fuels represented 28% of the energy mix in 2014.⁶ Therefore, it is not surprising that the **heating sector produces 58% of EU's fine particulate matter (PM2.5) emissions and 14% of EU's NOx emissions.**⁷

Since in off-grid areas clean energy choices are limited, consumers often have to rely more on those high polluting fuels. In those areas, liquid and solid fuels made up 72% of the residential energy mix in 2014, up from 68% in 2004.⁸

A wider uptake of LPG could greatly help, because its combustion produces negligible PM emissions and low levels of NOx emissions. An LPG boiler typically emits between 60% and 85% less NOx than a heating appliance running on coal or biomass, and 40% less than one fuelled by heating oil. In terms of particulate matter, a biomass stove can generate up to 4000 times higher emissions than an LPG

³ VHK (2011), *Development of European Ecolabel Criteria for Water-based Heaters. Policy Analysis*

⁴ EEA, *Air pollutants by source sector*

⁵ See Eurostat, *Complete energy balances – annual data*

⁶ *Ibid.*

⁷ EEA, *Air pollutants by source sector*

⁸ AEGPL, *Beyond the Gas Grid*

appliance for the same thermal output. Moreover, heating appliances fuelled by coal and heating oil respectively have 100 times and 10 times higher emissions than an LPG boiler.⁹

We believe that a wider uptake of LPG in off-grid areas could greatly help to cut air pollution not only in rural and peri-urban areas, but also in urban areas. It needs to be noted that the natural gas network does not cover a large number of small and mid-sized cities, but also some fringe districts of large capitals. Even two entire EU countries, i.e. Cyprus and Malta, currently do not have any natural gas network. In off-grid areas, “illegal” levels of air pollution are commonly registered, because less clean fuels are used for heating. Therefore, those areas would greatly benefit from tailored measures aiming at stimulating the uptake of cleaner fuels, such as LPG.

In addition, as particulate matter is not only a local pollutant, but also a regional pollutant, its impact on air quality goes way beyond the particular spot in which it is emitted. In regions surrounded by mountains, like the Italian Po Valley, PM emissions produced in rural areas significantly contribute to also worsen air quality in cities. This is because the wind moves particulate matter around the region, but is unable to disperse them beyond it, as the mountains represent a natural barrier. Hence, even if reducing pollutant emissions from buildings in cities would help, it would not, by itself, solve the problem of poor urban air quality. For this reason, we believe that it is fundamental to also cut pollutant emissions from rural buildings and that LPG can greatly help in doing so.

Policy recommendations: find common solutions and raise consumer awareness

AEGPL believes that the EPBD should not only aim at improving the energy efficiency of the building stock and at tackling climate change, but also at reducing pollutant emissions. The recently revised NEC Directive features for the first time a binding reduction target for PM2.5. The EU will need to reduce PM2.5 emissions by 49% by 2030, compared to 2005 levels. Currently, several Member States are emitting ‘unhealthy’ and soon to be illegal levels of PM2.5 and limited progress has been achieved so far. According to projections developed by the International Institute for Applied Systems Analysis, which rely on a GAINS model, current policy will only deliver a reduction of 32% of PM2.5 by 2030.¹⁰ More needs to be done to achieve this target in particular in the building sector, which is the only sector in which a trend of increase in PM2.5 emissions has been observed.¹¹ As today the building sector produces 58% of the total PM2.5 emissions, it is evident that, if the EU wants to achieve the limit set in the NEC directive, it needs to reverse this trend.

Proposed amendment	
Proposal for a regulation	
recital 6 a (new)	
<i>Text proposed by the Commission</i>	<i>Amendment</i>

⁹ AEGPL analysis based on typical heating appliances emission values contained in JRC (2013), *Development of European Ecolabel Criteria for Water-based Heaters* and VHK (2011), *Development of European Ecolabel Criteria for Water-based Heaters. Policy Analysis*

¹⁰ For further information, see the dedicated website <http://www.iiasa.ac.at/web/home/research/researchPrograms/air/GAINS.en.html>

¹¹ EEA, *Air pollutants by source sector*

(6a) The Union is committed to reduce fine particulate matter (PM 2.5) emissions by 49% by 2030. To meet this goal, it is fundamental to put forward measures aiming at reducing emissions from the heating sector, as the “commercial, institutional and households” sector produced, in 2014, 56% of the PM2.5 emissions in the EU. In some countries, this sector represents over 80% of the total PM2.5 emissions. Raising awareness of the environmental impact of the energy use in buildings could stimulate users to switch to less-polluting fuels or appliances.

We believe that the EU can and should simultaneously tackle air pollution, improve the energy efficiency and fight climate change and we think that there are several solutions that allow to do so. The negative trend of increase in particulate emissions generated from the heating sector is the result of policies designed to cut CO2 emissions without considering their effects on air quality. Many Member States stimulated for example the uptake of solid biomass for heating. As a result, as also acknowledged by the European Commission in its EU Strategy on Heating and Cooling, in some Member States, today, ‘the use of biomass in households contributes to more than 50% of their national emissions of particulate matter’.¹²

In its Environmental Implementation Review, the European Commission noted that “To reduce PM emissions from domestic heating, measures addressing solid fuel burning need to be implemented 18 Member States. This practice has already been banned in some cities suffering from high levels of air pollution”¹³. As explained above, LPG offers clear benefits in terms of both CO2 and pollutant emissions and we believe that the EU and Member States should rely on it as it is a powerful and cost effective tool to simultaneously tackle climate change and air pollution, especially in areas not covered by the natural gas grid.

Proposed amendment

Proposal for a directive

Article 1 – point 2 – a

Directive (EU) No 31/2010

Article 2.2.

¹² Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *an EU Strategy on Heating and Cooling*, page 6 footnote 11, COM(2016) 51 (retrieved online:

https://ec.europa.eu/energy/sites/ener/files/documents/1_EN_ACT_part1_v14.pdf)

¹³ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *The EU Environmental Implementation Review: Common challenges and how to combine efforts to deliver better results*, COM(2017) 63, (retrieved online:

http://ec.europa.eu/environment/eir/pdf/comm_en.pdf)

<i>Text proposed by the Commission</i>	<i>Amendment</i>
<p>'2. In their long-term renovation strategy referred to in paragraph 1, Member States shall set out a roadmap with clear milestones and measures to deliver on the long-term 2050 goal to decarbonise their national building stock, with specific milestones for 2030.</p>	<p>'2. In their long-term renovation strategy referred to in paragraph 1, Member States shall set out a roadmap with clear milestones and measures to deliver on the long-term 2050 goal to decarbonise their national building stock, with specific milestones for 2030 and on the pollutant emission objectives set in the Directive (EU) 2016/2284 on the reduction of national emissions of certain atmospheric pollutants.</p>

Moreover, we believe that, while consumers are well aware of the impact of their mobility choices on air pollution, this is not the case for their heating habits. We think that, if clear messages on the environmental impact of the heating systems they rely on were effectively passed on to consumers, they would make more sustainable choices.

Energy performance certificates would be an ideal place to feature this information. Consumers are now used to consulting them in order to retrieve information on the energy consumption of buildings that they intend to purchase or rent. Featuring additional information on pollutant emissions has the potential to effectively promote more sustainable choices in heating.

Proposed amendment	
Proposal for a directive	
Article 1 – point 6a (new)	
Directive (EU) No 31/2010	
Article 11 – paragraph 1a (new)	
<i>Text proposed by the Commission</i>	<i>Amendment</i>
	<p>(6a) Article 11 is amended as follows: (a) Paragraph 1a is inserted: 1a. The energy performance certificate may also include information on the indoor and outdoor pollutant emissions generated by the building's heating system.</p>

We hope you will give our proposals due consideration in the legislative review of the Energy Performance of Buildings Directive. We will be happy to discuss this further with you, should you have any questions.

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About AEGPL (The European LPG Association)

AEGPL is the sole representative of the LPG industry at European level, representing national LPG Associations as well as distributors and equipment manufacturers from across Europe. Our mission is to engage with EU decision-makers and the wider policy community in order to optimise the contribution that LPG - as a clean and immediately available energy source - can make to meeting Europe's energy and environmental challenges.