Liquid Gas Europe's Response to the European Commission's Consultation on Energy Labelling Regulation for space heaters

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Introduction

Achieving climate neutrality by 2050 will require leveraging all available solutions: in particular, LGE emphasizes the vital contribution of renewable liquid gases (rLGs) – such as bioLPG (biopropane) and renewable dimethyl ether (rDME) – to delivering decarbonised, affordable heating for Europe's citizens, especially in rural and off-grid areas. These sustainable fuels are drop-in alternatives to conventional LPG that can cut lifecycle greenhouse gas emissions by over 80% while using existing distribution infrastructure. They offer an immediate pathway to decarbonise heating in homes and businesses that are beyond the gas grid or where electrification is prohibitively costly, or where the installation of heat pumps is not possible due to limited space (e.g. in block apartments), all while aligning with the EU's climate targets, energy security aims, and air quality objectives. With the right policy framework in place, Europe's rLG supply could scale up significantly – studies indicate bioLPG alone could meet ~40% of EU LPG demand by 2040 (and potentially 100% by 2050) given supportive conditions – thereby contributing to a resilient, decarbonised heating sector that leaves no community behind.
LPG and rLG present typically much lower particulate matter, NOx and SOx emissions than liquid fuels and biomass for the same energy output.

Summary of analysis

- LGE supports clearer consumer information, but warns that a single A–G scale can be misleading across technologies because the test conditions/metrics differ (e.g., combustion vs SCOP).
- The format also risks poor differentiation within boiler families (e.g., condensing boilers clustered in one class), undermining meaningful comparison and incentives to improve.

Key asks

- Clarify in recitals/product fiche that the A–G class reflects seasonal primary-energy performance under standardised tests, not building/temperature suitability.
- Improve boiler differentiation (e.g., F+ / F / F-).
- Add a mandatory output-temperature icon (incl. max flow temperature and test regime, e.g. “tested at 60/80°C”).
- Include an off-grid / renewable-ready indicator (e.g., “renewable-ready LPG/bioLPG” or an off-grid suitability field).

1. The single A-G scale can mislead consumers by comparing technologies via different metrics

The LPG sector supports clearer consumer information and the simplification to an A–G scale. However the methodology is technology-specific, and does not put the different technologies on an equal footing when it comes to their efficiency classes.

- The Delegated Regulation explicitly aims to use a single A–G scale for boilers and heat pumps to simplify comparison and to “drive the transition to renewable heating solutions such as heat pumps”
- For consumers, an A vs C on the same scale is perceived as a simple efficiency ranking, yet the underlying physics and test conditions (high-temperature combustion vs low-temperature SCOP) are completely different.

Liquid Gas Europe finds that the labelling format doesn’t provide complete information to the end users and consumers and in its nature has limitations. All condensing boilers irrespective of their efficiency levels (between 92% the minimum level and 97% the theoretical maximum) would be classified with a “class F” and hence wouldn’t reflect the real performance level in comparison to other products of the same family. The same applies to B1 boilers, which would have the same efficiency class as electric boilers, which have 30% lower seasonal efficiency.

This system would represent a mis-interpretation of labels, doesn’t provide useful information to the consumer to be able to compare condensing boilers and could also demotivate the manufacturers from improving their systems.

⇨ Ask:

- Acknowledge in the recitals and product fiche that the A–G scale compares seasonal primary-energy performance under standardised test conditions, not technology suitability for particular buildings or temperature regimes.
- Consider a F+ / F / F- on the label to indicate varying seasonal space-heating efficiency across types of boilers

2. Label must show output-temperature capability, especially for boilers

The Regulation misses the one parameter consumers most need to know before choosing heating technology: what temperature does it deliver? Annex II Table 1 and Table 2 clearly discriminate LPG and bio-LPG boilers by focusing on medium and low-temperature only.

On the label, the seasonal space-heating energy efficiency (item VIII) is determined in accordance with Section 3 of Annex VII, for average climate conditions; for heat-pump heaters and hybrid heat-pump heaters, the space-heating energy-efficiency class on the label must be the one for medium-temperature heating applications, unless the heater cannot operate in medium temperatures, in which case the class for low-temperature heating applications must be shown.

- Annex definitions for heat pumps already distinguish LT (35 °C), MT (55 °C) and HT (65 °C) applications (although HT is optional); consumers see heat-pump temperature information in the technical documentation and database, but boiler labels give no indication of deliverable flow temperature.
- For many rural buildings the decisive question is “Can this system reliably supply 65–80 °C to my existing radiators?” not just which label class is higher. Each heat emitters or radiators of the dwelling unit must be compatible with the labelled space heater, too.

- Most existing rural homes are built for 65–80 °C flow.
- LPG boilers deliver these temperatures easily and with high reliability.

The text does not account for critical real-world operating characteristics — notably required heat-delivery temperature, which determines whether consumers can feasibly adopt heat pumps.

Gas boilers are suitable for older radiators, high heat-loss rural homes, and cold climates. For heat pump, delivering high temperatures drastically reduces COP, increases backup-heater use, and often triggers auxiliary electric heating. Many rural buildings require high-temperature heat to meet heating loads without large-scale radiator upgrades

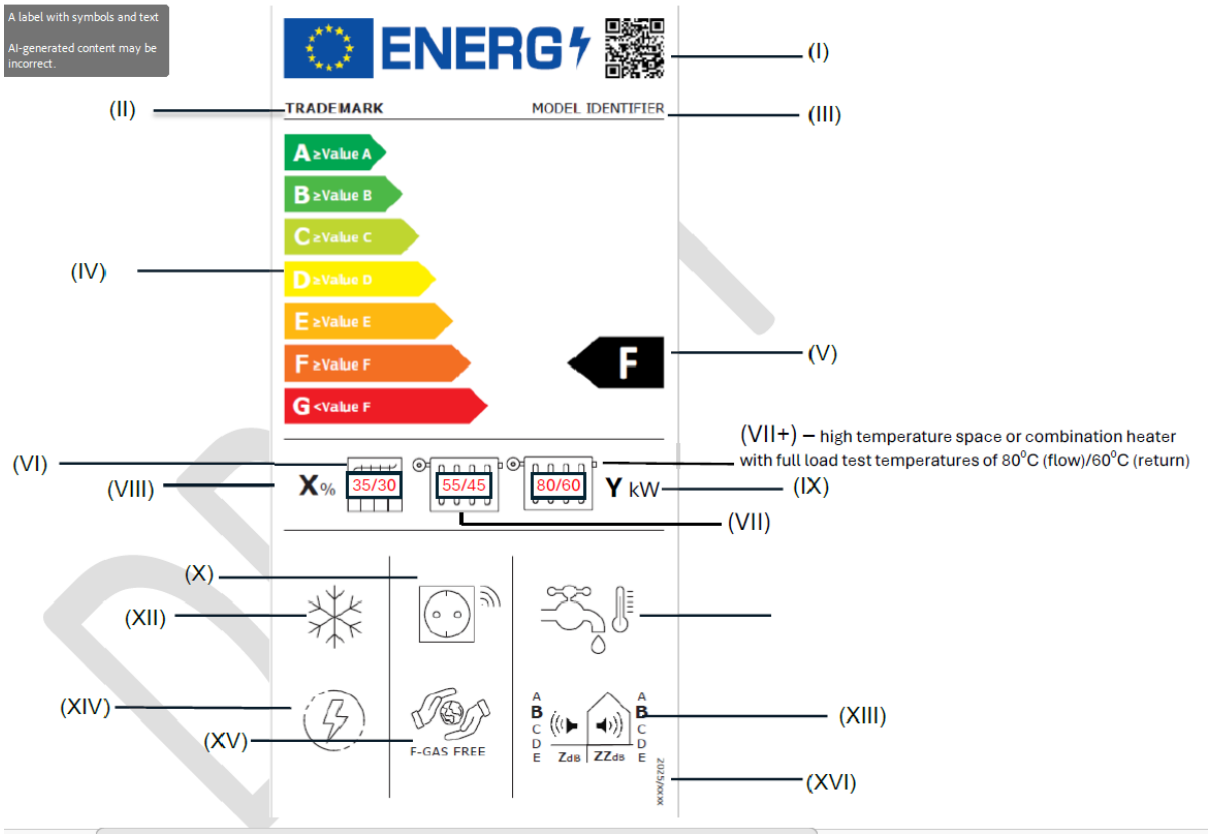
⇨ Ask

- Add a mandatory output-temperature icon for high temperature regimes on the energy label and in the product fiche for all space heaters, with at least:
  – maximum declared flow temperature at design conditions, and
  – the test temperature regime (e.g. “tested at 60/80 °C”).
- Include, in Annex III, the following information on the label :
  - VI : if applicable, the low-temperature heating application with full load test temperatures of flow / return
  - VII : if applicable, the medium-temperature heating application with full load test temperatures of flow / return
  - VII+ : if applicable, the high heating application with full load test temperatures of flow / return
- This allows an F-class LPG boiler that can deliver 80 °C to be transparently compared with an A-class low-temperature heat pump that may only achieve 35 °C in practice.

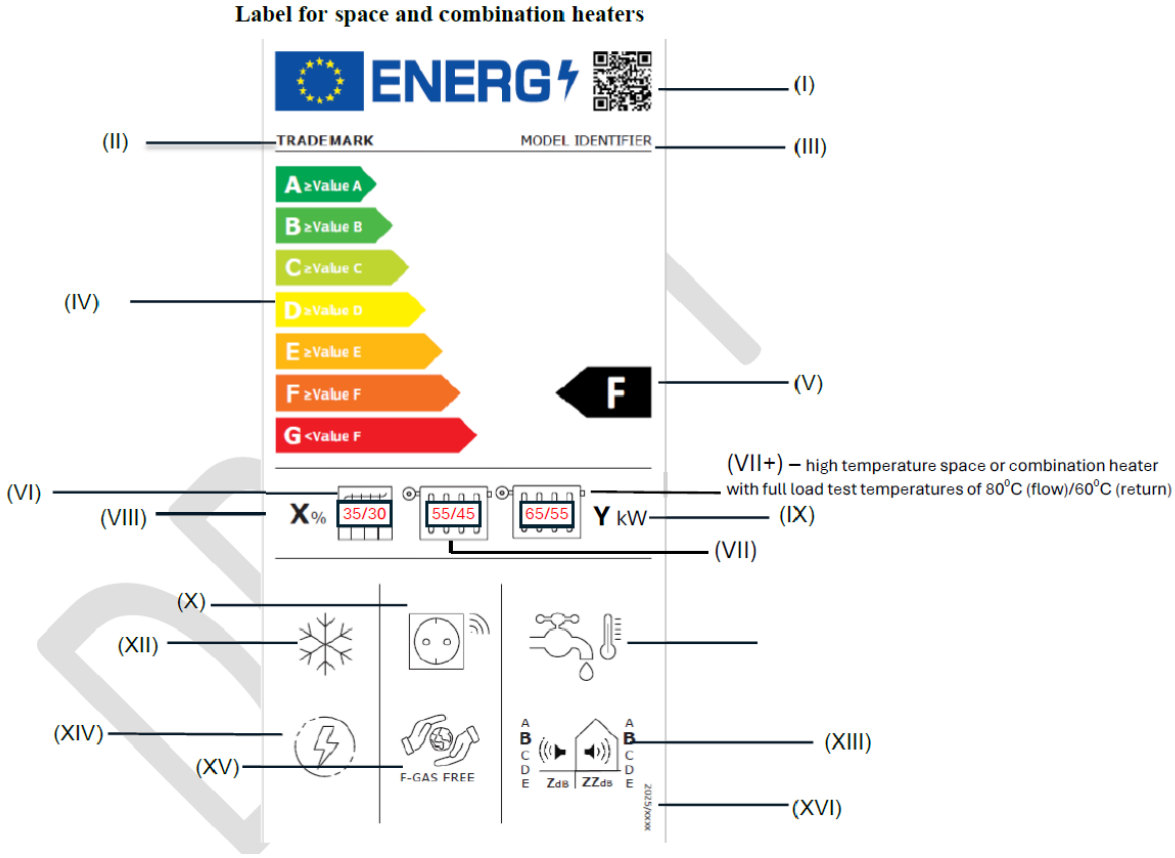
Example of the revised icon:

For combustion boiler:

Label for space and combination heaters



For heat pumps:



3. LPG boilers are fundamentally different from urban heating solutions. They should remain the preferred option in rural, off-gas-grid situations

LPG boilers should not be pushed down the scale by benchmarks suited to urban, low-temperature heat-pump applications (Annex III, page 19-22);

- Label classes are mapped from η_s,h values that were tightened in Ecodesign and re-scaled in Energy Labelling; LPG boilers serving niche, off-grid, high-temperature markets are judged against the same A–G bands as urban heat pumps serving low-temperature floor heating.
- This risks signalling to rural consumers that no combustion boiler is acceptable, even where heat pumps are not technically or economically viable.

⇨ Ask:

- Allow a “renewable-ready LPG/bioLPG” indicator or secondary class (e.g. labelled performance when operated on certified bioLPG), comparable to existing “smart-ready” or “temperature-control” bonuses.
- Alternatively, introduce a dedicated information field for off-grid suitability (e.g. “Designed for off-gas-grid, high-temperature systems”) so that a lower class does not automatically imply an environmentally worse choice than oil or biomass.

ANNEXES

Seasonal space-heating energy-efficiency classes of space heaters and packages for medium-temperature heating applications

Seasonal space-heating energy-efficiency class	Seasonal space-heating efficiency $\eta_{s,h}$, in %
A	300
B	235
C	185
D	145
E	115
F	90
G	< 90