

Liquid Gas Europe's Response to the European Commission's Consultation on Ecodesign Regulation for Water Heaters

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Introduction

Liquid Gas Europe (LGE) underlines the role of renewable liquid gases (rLGs)—notably bioLPG (biopropane) and renewable DME—as drop-in solutions that can deliver decarbonised, affordable energy for households, especially in rural and off-grid areas. These fuels can cut lifecycle GHG emissions by over 80% while using existing infrastructure, and LPG/rLG typically show lower PM, NO_x and SO_x emissions than liquid fuels and biomass for the same energy output.

Summary of analysis & asks

LGE is concerned the 2025 draft could unintentionally disadvantage combustion-based LPG water heaters through higher minimum η_{wh} thresholds that heat-pump units are more likely to meet, even where total consumer cost may be higher.

- LGE also flags the new requirement to supply 50°C “out of the box”, which does not reflect common LPG use cases requiring higher-temperature delivery.
- In addition, the proposed circular-economy obligations (e.g., spare parts, disassembly, firmware/software updates) risk being disproportionate for mechanically simple, low-electronics LPG appliances and SMEs.
- Finally, the draft still provides no recognition for appliances capable of operating on renewable liquid gases (rLG).

LGE asks to:

- (1) introduce technology-specific categories or a service/temperature correction for fuel-fired water heaters,
- (2) allow configurable default temperatures / recognise high-temperature capability,
- (3) ensure proportional compliance for non-complex combustion-only products, and
- (4) enable renewable liquid gases (rLG) recognition (e.g., dual declarations or renewable-ready/lifecycle CO₂ disclosure).

1. New water-heating efficiency requirements don't reflect the reality of combustion-based heaters

What changed

The 2025 draft regulation introduces new, higher minimum η_{wh} thresholds by load profile in Annex II, Section 1.2, Table 1 (see Annex), explicitly applying to:

- fuel instantaneous water heaters (FIWH),
- fuel storage water heaters (FSWH),
- thermally driven heat pump water heaters (tdHPWH),
- cogeneration water heaters (CHPWH).

For example:

- LPG FIWH/FSWH must now meet 45 % (3XS) rising to 88 % (3XL–4XL), thresholds that did not exist at this level under 814/2013.

Why this is problematic for LPG

- LPG water heaters are combustion-based and achieving these higher efficiencies required will be challenging. However heat-pump water heaters are very likely to meet the efficiency targets, even with a relatively low Coefficient of Performance. This implies that even heat-pump water heaters performing relatively poorly may be seen as superior to an LPG water heater, although in some circumstances the full cost of the solution to the consumer (capex plus opex) may be higher.
- The new thresholds narrow design margins, particularly for compact and instantaneous LPG appliances.

⇒ **Ask:** Introduce either:

- technology-specific efficiency categories for fuel-fired water heaters, or
- a temperature- or service-capability correction recognising high-temperature, on-demand LPG systems rather than uniform percentage thresholds.

2. Default water supply temperature is too low

What changed

The 2025 draft introduces a new functional requirement in Annex II, Section 1.5.1, mandating that:

“Water heaters shall be able to supply water at 50 °C in ‘out of the box mode’.”

This requirement did not exist in Regulation 814/2013.

The change is justified in recital (12), which notes that heat-pump water heaters commonly use lower set-points and that the reference temperature is reduced to 50 °C for all technologies.

Why this is problematic for LPG

- LPG water heaters are often installed for higher-temperature delivery (hygiene, legacy plumbing, instantaneous draw).
- Forcing a uniform 50 °C default:
 - constrains sub-optimal operation of LPG appliances,
 - aligns settings with heat-pump design philosophy rather than real LPG use.

⇒ Ask: Allow:

- configurable default temperatures, or
- explicit recognition of high-temperature capability in functional and efficiency requirements.

3. Circular economy requirements are not adapted to the robustness and simplicity of LPG water heaters

What changed

The 2025 draft introduces extensive circular-economy requirements in Annex II, Section 1.6, including:

- mandatory spare-part availability for up to 10 years,
- public indicative spare-part pricing,
- non-proprietary disassembly,
- firmware and software update obligations.

These requirements did not exist in Regulation 814/2013.

Why this is problematic for LPG

- Many LPG water heaters are:
 - mechanically simple,
 - long-lived and low-maintenance
 - low-electronics.
- The new obligations impose disproportionate compliance costs, particularly for SMEs and specialist LPG water heaters manufacturers.

⇒ Ask: Apply:

- proportionality exemptions or simplified compliance for
 - non-complex,
 - non-digitally controlled,
 - combustion-only LPG water heaters.

4. Continued lack of recognition for renewable LPG (bioLPG) hampers the achievement of climate and renewable energy targets

What did not change (but remains critical)

As in 814/2013, the draft:

- excludes appliances designed *only* for biogas or bioliquids (recital 9),
- provides no recognition for appliances capable of operating on renewable LPG without modification.

Why this is problematic for LPG

- Renewable LPG is a drop-in fuel already available on the market.

- LPG water heaters can decarbonise without technology change, yet this is invisible in Ecodesign compliance.

⇒ **Ask:** Allow:

- dual declarations (fossil LPG / renewable LPG), or
- a renewable-ready indicator or lifecycle CO₂ disclosure aligned with certified renewable fuels.

Annex

Existing regulation, minimum water-heating efficiency

Declared Load Profile	From 26 Sept 2015	From 26 Sept 2017	From 26 Sept 2018
3XS	22%	32%	—
XXS	23%	32%	—
XS	26%	32%	—
S	26%	32%	—
M	30%	36%	—
L	30%	37%	—
XL	30%	37%	—
XXL	32%	37%	60%
3XL	32%	37%	64%
4XL	32%	38%	64%

Proposed draft regulation, minimum water-heating efficiency (η_{wh})

Heater type	3XS-M	L	XL	XXL	3XL-4XL
Electric instantaneous (EIWH)	42 %	49.7 %	–	83 %	88 %
Electric storage (ESWH)	42 %	47.5 %	48.6 %	48.6 %	–
Fuel instantaneous (FIWH)	45 %	70 %	75 %	80 %	83–88 %
Fuel storage (FSWH)	45 %	70 %	75 %	80 %	83–88 %
Thermally driven HPWH (tdHPWH)	45 %	70 %	75 %	80 %	83–88 %
Cogeneration WH (CHPWH)	45 %	70 %	75 %	80 %	83–88 %
Electric HPWH (eHPWH)	42 %	47.5 %	48.6 %	48.6 %	–

Comparison of maximum NOx emissions (mg/kWh fuel input)