marcogaz

Ecodesign and Labelling – Review of ENER Lots 1 & 2

Analysis and Recommendations

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Contact

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ABOUT MARCOGAZ

Founded in 1968, MARCOGAZ is the technical association of the European gas industry. It represents 29 member organisations from 20 countries. Its mission encompasses monitoring and policy advisory activities related to the European technical regulation, standardisation and certification with respect to safety and integrity of gas systems and equipment, rational use of energy as well as environment, health and safety issues. It is registered in Brussels under number BE0877 785 464.

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Introduction

Under the EU Ecodesign and Energy Labelling framework, products entering the Single Market must meet minimum environmental performance requirements and provide transparent information to end users. This position paper presents MARCOGAZ's views on the ongoing revision of Ecodesign and Energy Labelling Regulations for space and water heaters (ENER Lots 1 & 2).

MARCOGAZ fully supports the original objectives of Ecodesign: ensuring market access and consumer information while improving environmental performance, based on harmonised standards and sound technical principles. However, the proposed measures raise concerns regarding technological neutrality and practical feasibility. Several provisions, when combined, risk excluding entire categories of products without clear justification, potentially limiting consumer choice and slowing the energy transition.

Technical Issues

While the draft revision initially appears to introduce moderate requirements for fuel boilers—particularly regarding space heating efficiency—a detailed analysis shows that the cumulative effect of new provisions is highly restrictive.

The proposed minimum seasonal space heating efficiency of 92% for **boilers above 70 kW** is thermodynamically unattainable for most models, effectively **removing them from the market** (*see Annex 1.3*). For boilers below 70 kW, the space heating threshold alone may seem achievable, but when combined with significantly stricter water heating requirements, many products—especially combination boilers—will fail to comply (*see Annex 1.2 and 1.5*). **MARCOGAZ estimates that approximately 50% of B1 boilers and 15% of other boiler types could be excluded**. **Additionally**,

- The introduction of a turndown ratio requirement could eliminate widely used appliances without delivering proportional efficiency gains, increasing costs for consumers (*see Annex 1.4*).
- The new V40 criterion, originally designed for storage water heaters, is applied to combination appliances without adequate adaptation or validation. This approach **would effectively ban boilers with instantaneous or micro-accumulated hot water production**, further reducing market diversity (*see Annex 1.6*).

Changes to calculation methods for seasonal efficiency introduce biases that contradict existing standards and disproportionately affect hybrid heat pumps (*see Annex 1.7 and 1.8*). For example, the proposed method could reduce declared seasonal efficiency for hybrids from 154% under the current standard to 107%, creating uncertainty for manufacturers and end-users. Moreover, making the compensation method mandatory within five years is premature, as it is not yet fully tested or validated, particularly for hybrid systems (*see Annex 1.9*).

Technological Neutrality

True neutrality means applying equivalent requirements across all heating technologies—gas, electric, and hybrid—without bias. **The current draft imposes stricter conditions on fuel boilers** while

maintaining lenient thresholds for electric boilers and heat pumps, justified by assumptions about future grid decarbonization (recital 10). If the ultimate objective of EU climate policy is decarbonisation, Ecodesign and energy labelling should act as comprehensive tools that assess both energy efficiency and environmental impact. **A framework focused solely on appliance-level metrics fails to capture the full potential of technologies capable of operating with renewable energy carriers**. The EPBD already recognises renewable gases—such as biomethane and hydrogen—as eligible for zero-emission buildings. **Ecodesign should align with this approach** by enabling appliances designed for renewable gases to reflect their true decarbonisation potential in efficiency ratings and labels. Penalising such solutions through restrictive thresholds undermines consumer choice, risks deepening energy poverty, and ultimately hinders the energy transition.

Conclusions and Recommendations

The layered approach of requirements could unintentionally restrict consumer choice, increase costs, and hinder decarbonisation objectives. A de facto ban on gas boilers could disproportionately impact households with limited income, particularly those living in older, less efficient buildings where alternatives like heat pumps require costly retrofits. Reducing boiler options may drive up prices due to lower competition, leaving vulnerable families facing higher replacement costs and additional carbon taxes. This risks deepening energy poverty and undermining the principle of a fair and inclusive energy transition.

MARCOGAZ urges policymakers to assess the combined impact of all measures, ensure transparency in regulatory intent, and avoid unintended exclusions. Requirements should be recalibrated based on objective efficiency distributions across technologies, validated through harmonised methodologies, phased with realistic transition periods, and preceded by holistic impact assessments.

MARCOGAZ recommends:

- Setting realistic efficiency targets for boilers above and below 70 kW, based on comprehensive impact assessments before prohibiting technologies and to preserve the principle of technology neutrality promoted by EPBD.
- Addressing turndown ratio requirements more flexibly, for example by setting a minimum of 30% for gas appliances.
- Evaluating the relevance and practicality of the V40 indicator for combination heaters before regulatory adoption, ensuring proportional and technically sound requirements.
- Maintaining current calculation methods aligned with standards or providing transparent technical justification before adopting new approaches, particularly for hybrid heat pumps.
- Restoring comprehensive package labelling for all combinations (*see Annex 1.10*), introducing specific labels for high-temperature appliances (*see Annex 1.11*), and incorporating a flexibility index for demand response (*see Annex 1.12*).

Annex: Detailed Technical Elements

1.1. Introduction

This position paper presents MARCOGAZ's perspective on the ongoing revision of the ongoing review of Ecodesign and Energy Labelling Regulations for space and water heaters (ENER Lots 1 & 2). The latest draft introduces numerous amendments compared to the April 2023 Commission proposal. Assessing the implications of these changes requires careful analysis and an open, structured dialogue with all stakeholders—particularly manufacturers of gas appliances who may be affected.

To support this qualitative assessment, MARCOGAZ has drawn on adapted market data from the European Commission's EPREL database. We remain available to clarify assumptions, discuss methodologies, and collaborate on calculations, and we welcome constructive engagement to ensure a balanced and practicable outcome.

1.2. Minimal space heating requirements for boilers with power rated output inferior or equal to 70kW

The "*ANNEXES to the COMMISSION REGULATION setting ecodesign requirements for space heaters, combination heaters, temperature controls, solar devices, shower water heat recovery devices and packages of those products, amending and repealing Commission Regulation (EU) 813/2013 and repealing Council Directive 92/42/EEC*" provide a new set of energy efficiency thresholds, as copied in Table 1.

Table 1

Minimal seasonal space-heating efficiency

No.	Heater type	$\eta_{s,h}$ (%)
1.	B1 fuel boiler space-heater with a standard-rated heat output of 10 kW or less	76
2.	B1 fuel boiler combination heater with a standard-rated heat output of 30 kW or less	76
3.	Fuel boiler heater with a standard-rated heat output of more than 70 kW (*η1* and *η4)*	92 *(η1)* 95 (*η4)*
4.	Fuel boiler heater other than indicated in rows 1-3, for which fuel is declared as the main space-heating energy source	92
5.	Electric boiler heater	48
6.	Others*	100

** packages are not included ; there are no minimal seasonal space-heating efficiency requirements for packages, only for heaters included in packages*

Table 1: minimal space heating efficiency from the December 2025 draft

The updated Ecodesign draft sets a minimum seasonal space heating efficiency of 92% for boilers with a rated output of 70 kW or less (except for B1 boilers). While this threshold is achievable for **most** condensing boilers, it is unattainable for low-temperature boilers defined by the now-abrogated EU Boiler Efficiency Directive (92/42/EEC), as showed in Table 2. B1 gas boilers remain largely unaffected by the changes of performance thresholds.

Boilers < 70kW

Nb data from EPREL: 6555 boilers	Nb data used for statistics	Proposed minimal requirement (draft December 2025)	% boilers achieving new space heating requirement
B1 fuel boilers	177	76%	95%
Other fuel boilers: condensing boilers	6 291	92%	91%
Other fuel boilers: low temperature boilers	260		0%

Hypothesis:

- Distinction between technolgies of boilers is done through efficiency only (not filter available in EPREL)
- Efficiencies for Fuel boilers have been incremented by 1% (impact change of PEF from 2,5 to 1,9)

Table 2: Analysis from the EPREL Database, processed by Marcogaz (space heating for fuel boilers)

As a result, **low-temperature boilers are effectively excluded from the market**. While the purpose of Ecodesign is to encourage the adoption of higher-efficiency appliances, any increase in minimum performance requirements should be carefully assessed for real-world impact.

In practice, replacing low-temperature boilers with heat pumps is often not feasible due to technical and building constraints, as previously explained by Marcogaz[1]. Consequently, customers needing to replace their existing low-temperature boiler may be forced to choose a B1 boiler—with lower efficiency, typically around 76%—or resort to electric boilers or direct electric heating (such as convectors), which can have efficiencies as low as 50%.

Marcogaz encourages the Commission to take a careful and proportionate approach before withdrawing entire categories of technology from the market. Such decisions should be based on comprehensive impact assessments carried out in close collaboration with stakeholders. This process will help prevent unintended consequences—such as increased energy consumption for end-users—and ensure that the overarching objectives of the Directive are fully respected.

1.3. Minimal space heating requirements for boilers with power rated output superior to 70kW and inferior or equal to 1MW

For boilers above 70 kW and up to 1 MW, the draft introduces two minimum seasonal efficiency requirements:

- η_1 = 92% % (“space-heating efficiency at 30 % of the standard-rated heat input Phs”, “in a 30/50 temperature regime”)
- η_4 = 95% (“efficiency at standard-rated heat output”, “in the 60/80 temperature regime”

As a first comment, Marcogaz reminds that part load efficiency, especially at 30/50 temperature regime, is higher than full load efficiency, there seem to be an inversion between propose η_1 and η_4 values. **Corrected requirements should therefore be read as η_1 = 95% % and η_4 = 92%.**

[1] An affordable, efficient, and technically feasible decarbonization of residential heating – Position paper

This is a significant tightening compared to the previous 86% requirement[2]. Two main issues arise:

- **Elimination of Non-Condensing Technologies**: Conventional and low-temperature boilers, which typically operate below 90% efficiency, will not comply with either η1 or η4 and will be banned from the EU market. Replacing these appliances by condensing boilers could be feasible but with additional costs (prepare the exhaust ducts for condensing fumes, drain for condensates…).
- **Risk for Condensing Boilers at Maximum Output:** to our knowledge, even condensing boilers, while efficient under partial load, **will struggle to meet the 92% threshold at full capacity** due to conditions not favorable to condensation mode (60/08 temperature regime). **Almost all large-capacity condensing boilers could therefore also be excluded, despite being marketed as high-efficiency solutions.**

Marcogaz strongly recommends to set η_1 to 95%, but **align η_4 with realistic values**, such as the 87% proposed in the 2023 draft.

1.4. Turn-down ratio

The draft introduces a new "turndown ratio" requirement for fuel boilers ≤70 kW, despite recital 11 acknowledging its limited effect on standard-rated efficiency "*A lower turndown ratio can significantly increase heating energy efficiency in real operating conditions, although **it has only a limited effect on the standard-rated efficiency of fuel boilers**. For that reason, a minimum turndown ratio should be applied to fuel boiler heaters with a rated output lower than or equal to 70 kW*".

While a lower turndown ratio can improve comfort and reduce cycling losses in real operating conditions, **its impact on declared seasonal efficiency is marginal**. Imposing this requirement risks excluding widely used, mass-market appliances—typically with turndown ratios above 20%—in favor of more advanced models, which may be costlier and sometimes impractical to install due to technical constraints.

If the Commission's objective is to enhance end-user comfort, Marcogaz recommends applying this criterion **consistently to all appliances** capable of modulation, not only fuel boilers.

We recognize the exemption for B1 boilers, which are not technologically suited to low turndown ratios. To avoid unnecessary market disruption and additional costs for consumers, **Marcogaz proposes setting the minimum turndown ratio for gas boilers (except B1) at 30%,** while requirements for other appliances should be based on verified manufacturer data.

1.5. Minimal water heating energy-efficiency requirements

The new draft significantly increases minimum water heating efficiency requirements for boilers, except for electric boilers (Table 3). The requirements for electric boilers are simply adjusted to reflect the new Primary Energy Factor (PEF) for electricity (from 2.5 to 1.9), resulting in no real increase. For

[2] Commission Regulation (EU) No 813/2013 of 2 August 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for space heaters and combination heaters

other appliances, the requirements are raised—sometimes nearly doubled for certain profiles (M to XL).

Regulation 813/2013 Tier 2	3XS	XXS	XS	S	M	L	XL	XXL	3XL	4XL
All appliances	32%	32%	32%	32%	36%	37%	38%	60%	64%	64%
All electric appliances with CC=1,9	42%	42%	42%	42%	47%	49%	50%	79%	84%	84%

Review project - Draft December 2025	3XS	XXS	XS	S	M	L	XL	XXL	3XL	4XL
electric combination boiler	42%	42%	42%	42%	48%	49%	49%	83%	88%	88%
B1 boiler heater with a standard-rated heat output of 30 kW or less	45%	45%	45%	45%	70%	70%	75%	76%	76%	76%
Heater other* than indicated in rows 1-2	45%	45%	45%	45%	70%	75%	80%	83%	88%	88%

Table 3: Current and proposed minimal water heating requirements

The current draft introduces specific requirements for B1 boilers only below 30 kW, which implicitly imposes **unattainable standards on B1 boilers between 30 and 70 kW**—effectively removing them from the market. In addition, **more than half of B1 boilers under 30 kW would be excluded** due to stricter water-heating efficiency thresholds (Table 4). This is particularly challenging for high-demand profiles (L and XL), where replacing these units with condensing boilers is often impractical, and electric alternatives would require higher voltage supply and additional space for storage.

B1 Boilers < 70kW

Nb data from EPREL: 177 boilers	Nb data used for statistics	% boilers achieving new space heating requirement	% boilers achieving new water heating requirement	**% boilers achieving both new requirement**
TOTAL	**168**	**0%**	**46%**	**46%**
Profile S	0	0%		
Profile M	27	0%	0%	0%
Profile L	8	0%	75%	75%
Profile XL	126	0%	57%	57%
Profile XXL	7	0%	0%	0%

Hypothesis:
- Effiencies for both water heating and space heating have been incremented by 1% (impact change of PEF)
- Are used for calculations, the data from combi boilers with both usable data for space and water heating

Table 4: Analysis from the EPREL Database, processed by Marcogaz (water heating for B1 fuel boilers)

Analysis of EPREL data (Table 5) indicates that similar constraints apply to other fuel boilers: approximately 16% of appliances risk being banned, mainly because of new water-heating requirements combined with space-heating thresholds(see 1.2). This is concerning because one of the main advantages of gas technology is its ability to deliver high power, yet the combined requirements would eliminate a significant share of systems designed for large load profiles (L or XXL).

Boilers < 70kW (except B1)

Nb data from EPREL: 6551 boilers	Nb data used for statistics	% boilers achieving new space heating requirement	% boilers achieving new water heating requirement	**% boilers achieving both new requirement**
TOTAL	**3 613**	**93%**	**86%**	**84%**
Profile S	0			
Profile M	87	91%	95%	86%
Profile L	177	76%	78%	64%
Profile XL	3 066	95%	95%	92%
Profile XXL	283	77%	59%	58%

Hypothesis:

- Effiencies for both water heating and space heating have been incremented by 1% (impact change of PEF)
- Are used for calculations, the data from combi boilers with both usable data for space and water heating

Table 5: Analysis from the EPREL Database, processed by Marcogaz (water heating for other fuel boilers)

Lastly, The draft introduces an "ambient correction term" (Qcor), defined as a factor accounting "*which considers the fact that the place where the combination heater is installed is not an isothermal place, expressed in kWh* and used in the calculation of water-heating energy efficiency (Annex III, 5.2). However, its application is restricted to load profiles S to L, contrary to EN 13203-2, which applies Qcor to all profiles. In practice, excluding XL profiles penalizes boilers by approximately 4%, leading to the **effective removal of all B1 boilers, nearly 40% of condensing boilers with instantaneous hot water production, and around 30% of others**. **MARCOGAZ therefore recommends reinstating the Qcor factor for all profiles**, including XL, to ensure consistency with standards and avoid disproportionate impacts.

While electric boilers retain relatively lenient minimum efficiency requirements—justified by the expectation of grid decarbonization—gas boilers face much stricter seasonal efficiency targets. Marcogaz recommends recalibrating these thresholds to reflect technical feasibility and real-world conditions, ensuring that the regulation does not unintentionally restrict proven technologies without a comprehensive impact assessment.

1.6. New criteria: V40

The draft introduces a new V40 requirement for combination heaters (appliances with or without integrated water storage). V40 is defined as the "'*mixed water at 40 °C' (V40), expressed in litres, is the equivalent of 40 °C water that the heater can deliver in standard conditions*". However, the methodology for V40 is not detailed in the draft's annexes, and the referenced standard (EN 13203-2:2021) was not designed for combination heaters.

Moreover, the indent (141) refers to "standard conditions" which are not defined.

2.3. Mixed water at 40 °C amount requirements

The minimum amount of mixed water at 40 °C that can be provided by a combination heater shall not fall below the values indicated in Table 3.

Table 3

Minimum amount of mixed water at 40 °C

	Declared load profile					
	M	L	XL	XXL	3XL	4XL
Mixed water at 40 °C (litres)	65	130	210	300	520	1040

Table 6: extract from Ecodesign ENER LOT 1 Review draft from December 2025

While this indicator is relevant for storage water heaters, its applicability to combination heaters raises significant concerns:

- **Methodology Gap**: The draft does not provide a clear calculation method for V40, and the referenced standard (EN 13203-2:2021) was not designed for combination heaters.
- **Mismatch with Standards**: EN 13203-1:2025 explicitly states that V40 applies only to storage water heaters (EN 89:2015): chapter 7 (Calculation of V40 - Mixed water at 40 °C (V40)), "*NOTE 1 This requirement applies only for storage water heaters according to EN 89:2015*". Applying this requirement to combi boilers with instantaneous or very small storage capacity would be technically inappropriate and would effectively exclude these products from the market.
- **Testing Limitations:** The standard methodology assumes maintaining nominal temperature for 10 hours and then withdrawing stored water at maximum flow until the outlet temperature drops below 40 °C. This approach cannot be applied to appliances without significant storage volume (typically combi boilers with instantaneous or very small capacities for hot water production).
- **Need for Validation:** Any new requirement should be accompanied by a clear, validated calculation method and supported by testing before implementation.
- **Scope Consistency**: If adopted, V40 should apply to all Lot 1 appliances with storage capacity, for which no limit range is defined (mini and maxi storage capacity in liters), including electric and hybrid heat pumps and cogeneration units.

Marcogaz calls for a thorough evaluation of the relevance and practicality of the V40 indicator for combination heaters before regulatory adoption, ensuring that requirements are proportionate, technically sound, and harmonized with existing standards. Until the method's validity and applicability are demonstrated, MARCOGAZ recommends not applying the V40 criterion to equipment covered by Lot 1.

1.7. Calculation methods: seasonal space heating efficiency (η_s)

The draft revision introduces a change to the calculation of seasonal space heating efficiency (η_s). Under Regulation 813/2013 (transitional methods) and the relevant standards (EN 15502, EN 14825,

etc.), η_s is calculated by taking the seasonal space heating efficiency in active mode (for boilers, or its equivalent for heat pumps) and subtracting correction factors that account for controls, auxiliary energy, and standby losses.

$$\eta_s = \frac{\eta_{son}}{CC} - \sum F(i)$$

Equation 1 for boilers (current standards)

$$\eta_s = \frac{SCOP}{CC} - \sum F(i)$$

Equation 2 for electric and hybrid heat pumps (current standards)

Where

η_s is the seasonal space-heating efficiency

η_{son} is the seasonal space-heating energy efficiency in active mode

SCOP : seasonal coefficient of performance for heat pumps

ΣF(i) is the sum of the values of correction factors for controls, auxiliary energy and standby heat loss, calculated and applied in accordance. These losses are compatibilized in primary energy (divided by CC when electricity consumption is considered), by homogeneity

CC is the conversion coefficient (=1 for gas consumption ; = 1,9 for electricity consumption)

In the **new draft (Annex III – Measurements and calculations)**, the contribution of losses (ΣF(i)) is **scaled differently**:

- for boilers, by a term linked to ηson;
- for electric and hybrid heat pumps, by a term linked to SCOP/CC.

$$\eta_s = \frac{\eta_{son}}{CC} * (1 - \sum F(i))$$

Equation 3 for boilers (draft dec. 2025), with CC=1

$$\eta_s = \frac{SCOP}{CC} * (1 - \sum F(i))$$

Equation 4 for electric and hybrid heat pumps (draft dec. 2025)

Preliminary calculations indicate that the proposed adjustment to the loss term would have uneven effects across technologies:

- **Boilers:** Since thermodynamically $\eta_{son} < 1$, the loss term decreases compared to the current approach, resulting in a modest increase of approximately +0.2 percentage points in η_s.
- **Electric and Hybrid Heat Pumps:** As SCOP generally exceeds the conversion coefficient (1.9), the loss term increases under the new approach, potentially reducing calculated efficiency by up to 3 percentage points depending on the product.

In practice, systems that are more efficient in real operating conditions appear to be penalized under the revised methodology, without any published technical justification for this change.

Marcogaz Recommendation: Revert to the current, standard-aligned method or, at minimum, provide a transparent technical rationale supported by evidence before adopting the new scaling approach.

1.8. Calculation methods: Direct impact on Hybrid Heat Pump

Beyond the generic change showed in 1.7, the draft modifies how **hybrid heat pumps** are calculated:

- To harmonise with electric heat pumps, the draft aligns the expression for SCOPon (active mode) as seen in Figure 1, but it does not apply the conversion coefficient (CC) correction to the backup heater input as required by EN 14825 (Figure 2).
- Practically, **this treats the boiler backup as if it carried an electricity CC penalty**, inflating its primary-energy contribution by a factor of ~1.9 compared with the current standard practice.

2.2. Electric heat-pump heaters and hybrid heat-pump heaters

(a) The seasonal space-heating efficiency $\eta_{s,h}$ expressed in %, for electric heat-pump heaters shall be calculated in the following way:

$$\eta_{s,h} = \frac{1}{CC} \times SCOP \times \left(1 - \frac{\sum F(i)}{100\%}\right)$$

With

3.5. Electric heat-pump heaters and hybrid heat-pump heaters

(a) The active mode seasonal coefficient of performance $SCOP_{on}$ is calculated in the following way:

$$SCOP_{on} = \frac{\sum_{j=1}^{n} h_j \times P_h(T_j)}{\sum_{j=1}^{n} h_j \left[\frac{P_h(T_j) - P_{add}(T_j)}{COP_{bin}(T_j)} + Input_{add}(T_j)\right]}$$

Where

(ii) for fuel heat pumps with fuel backup heater:

$$Input_{add}(T_j) = \frac{fuelbu(T_j)}{\eta_{s,h,fuelbu}} \times (1 - F(1))$$

Figure 1: EtaS calculation proposal from Annex III, for electric and hybrid heat pumps

In the current formula (EN 14825), the input from the back-up heater is corrected from the Conversion Coefficient CC.

$$Input_{add}(T_j) = \frac{P_{sup}(T_j)}{\eta_{s,fb} \times CC} \times \left(\frac{\eta_{son} - F(1)}{\eta_{son}}\right)$$

Figure 2 : EtaS calculation for hybrid heat pumps from current EN 14825

Consequence: the hybrid's overall ηs is **artificially lowered**, not due to poorer real-world performance but because of a **methodological inconsistency** with EN 14825.

Illustrative scenario (order of magnitude):

- Space-heating need = **100** (arbitrary units);
- **70%** covered by heat pump (SCOP = 4); **30%** by boiler (η = 95%);
- Correction factors ΣF(i) set to zero for simplicity.

Under the **draft**, the boiler share is effectively **over-weighted** (as if multiplied by **CC = 1.9**), reducing the **computed** ηs versus today's EN 14825-consistent result—**even though the physical performance is unchanged**.

$$\eta_s = \frac{SCOP}{CC} * (1 - \sum F(i)) = \frac{1}{1,9} * \frac{100}{\frac{70\% * 30}{4} + \frac{30\% * 100}{0,95}} = 107\%$$

Equation 5: EtaS with error on boiler back-up (draft)

$$\eta_s = \frac{SCOP}{CC} * (1 - \sum F(i)) = \frac{1}{1,9} * \frac{100}{\frac{70\% * 30}{4} + \frac{30\% * 100}{0,95 * 1,9}} = 154\%$$

Equation 6: EtaS with error corrected on boiler back-up (current EN 14825)

Marcogaz request: correct the hybrid calculation to remain compliant with **EN 14825**, ensuring the backup boiler input is treated with the **proper CC handling** (as in the current standard).

1.9. Measurement methods for electric and hybrid heat pumps

The draft mandates a major methodological shift: within four years of entry into force (~2030 for new models; ~2033 for all), manufacturers must use the "compensation method" exclusively. Today, industry can choose between separate or combined methods (and package approaches for hybrids).

Key concerns:

- **End of package methods for hybrids**: common on-site assemblies would lose a recognised evaluation route, since combination of appliances on-site is common practice today.
- **Maturity of the compensation method**: it is still under development and not yet under a fully harmonised standard.
  - The initial approach was flagged as **not ready** during the **Ecotest** work in **2019**; CEN/TC 113 improvements are **ongoing**.
  - An **EU-sponsored Round Robin Test (EISMEA)** is planned for **2026/2027** to check **reproducibility** and performance impacts.
  - The current RRT design focuses on **electric heat pumps**; **only one** hybrid unit is expected to be tested, which is **insufficient** to validate robustness for hybrid technologies.

Making the compensation method compulsory in 5 years creates uncertainty for manufacturers planning product development and compliance strategies.

- **Risk of Inconsistent Result and unpredictable label shifts**, due to an unvalidated method: Without robust validation, the compensation method may produce results that differ significantly from current approaches, leading to unpredictable shifts in product classification and labelling.
- Impact on Hybrids and Innovation: Hybrid systems—already subject to complex performance assessments—will bear the brunt of this change. If the method is not adapted or ready, these products could be penalized despite delivering high efficiency in practice.
- **Compliance Burden and Market Distortion**: Imposing an untested method as the sole option could create a compliance bottleneck, increase costs for manufacturers, and distort competition between technologies. Moreover, manufacturers may face retroactive adjustments if the method evolves after implementation.

Marcogaz position and proposal:

- **Support** the compensation method's development (it can better reflect real performance), **but** keep **transitional flexibility** until it is **fully validated** and **standardised**.
- Include a **review clause (e.g., by 2028)** allowing the Commission to **assess maturity** and **adjust the timeline** accordingly (as envisaged in the **2023 draft**).
- Until then, **maintain the option** of **separate/combined/package methods** to ensure **continuity**, **comparability**, and **fair competition**.

1.10. Packages

The draft restricts the definition of a "package" to combinations with solar or shower heat recovery devices. This narrow scope excludes other widely adopted configurations—such as boilers combined with heat pumps—that are common in real-world installations.

Currently, package labelling provides end-users with a clear, consolidated efficiency rating for the entire system. Removing this option would reduce transparency: customers and installers would only see separate labels for individual components, making it harder to assess overall system performance.

This change also risks limiting access to subsidies and tax incentives, which often depend on the package label class (e.g., A+, A++). Hybrid systems assembled on-site could be excluded from these schemes, even when their actual performance surpasses that of single-generator solutions. Such restrictions create barriers for technologies that support decarbonisation, peak-load reduction, and energy optimisation in existing buildings.

Key Risks:

- **Loss of transparency for consumers: no unified label for hybrid systems.**
- **Distortion of incentive frameworks: efficient solutions may be penalised.**

Marcogaz Recommendation: Extend the definition of "package" to include all types of appliance combinations, not just solar or shower recovery systems, ensuring fair treatment and preserving consumer clarity and access to incentives.

The draft Ecodesign and Energy Labelling proposals redefine the concept of a "package" so that it applies only to combinations involving solar devices or shower heat recovery devices. This change excludes other mature and widely used generator couplings—such as boilers combined with heat pumps—that are commonly installed on-site in real-world projects.

1.11. Labelling

The new draft lacks a comprehensive benchmark for energy labels. Marcogaz's analysis shows:

- B1 boilers and electric boilers would both receive a G label, despite a 30-point gap in seasonal efficiency. Label E should embark the best condensing boilers to highlight performance efforts.
- **Hybrid heat pumps may not reach label C in spite of performances equivalent to electric heat pumps, especially in high temperature emission, the lower level of label C should be adapted to include the best hybrid heat pumps.**

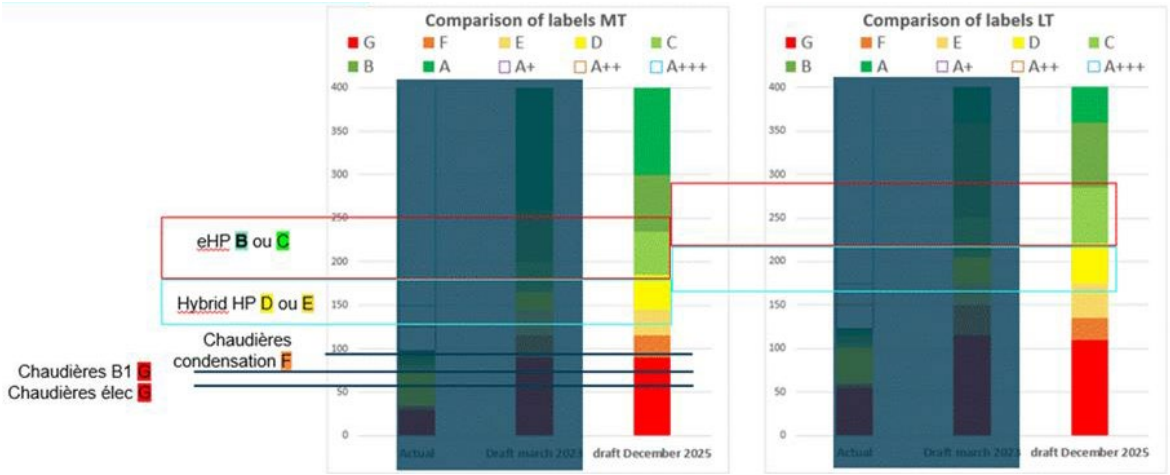

Figure 3: space heating energy labels and expected positioning of energy systems (Marcogaz)

The proposal focuses only on medium and low temperature labels, while many appliances are installed in existing buildings without network modifications. Customers may expect higher performance than what is reflected in the proposed labelling.

Marcogaz supports a specific label for high-temperature appliances to ensure end-users receive complete and relevant information, through the then misused 2 temperature regimes proposed in Labelling, which may result in a change of appliance choice, or hopefully a decision for additional efforts in transitioning to medium or low temperature.

1.12. Flexibility

A major omission in the draft is the lack of recognition for electrical flexibility, especially from hybrid heat pumps. Flexibility—the ability to modulate or shift electricity consumption in response to grid signals or renewable peaks—is requested from ZEB as it is crucial for integrating renewables and maintaining grid stability.

Why it matters:

- Grid stability and decarbonisation: Flexible appliances help balance supply and demand, enabling more renewables.
- Cost efficiency: Flexibility allows optimisation of energy use during off-peak periods, reducing costs.
- Policy alignment: The EU energy strategy prioritises demand-side flexibility, yet it is absent from current performance metrics and labelling.

Hybrid systems, combining electricity and gas, are uniquely positioned to deliver flexibility—operating the heat pump during renewable peaks and switching to gas when the grid is constrained, even for long durations such as what can happen if a cold snap occur during a Dunkelflaute.

The draft focuses only on static efficiency indicators, missing dynamic capabilities like load-shifting and smart controls. Without incentives for flexibility, progress towards climate targets may slow, and innovative products may be undervalued.

Marcogaz recommends introducing a dedicated metric or bonus for flexibility in Ecodesign and labelling, such as a “Flexibility Index” or an energy class gain for load-shifting capacity.