Agora Energiewende

Submission to the European Commission on the draft recast of Commission Regulation 813/2013 (EU) on Ecodesign for Space and Combination Heaters

CONSULTATION

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Summary

The proposed Ecodesign Regulation on space and combination heaters is a chance for climate, industry, and social policy.

In combination with other instruments, Ecodesign is a core building block for reaching EU climate and energy security goals for the buildings sector. In addition, it also has relevance for industry policy and social justice.

Space and combination heaters are the most important product group in Ecodesign. Even with the current rather weak regulation, projected primary energy savings from them account for about a quarter of total Ecodesign savings.[1] Therefore, the proposed recast of the Ecodesign Regulation on space and combination heaters offers an opportunity to tap a huge savings potential.

It is important to maintain the 115% efficiency requirement.

Agora Energiewende's main goal is to support an Energy transition in the heating sector, that

- → contributes to rapid decarbonization in line with the Paris goals;
- → is based on a sound clean-tech industrial development, and
- → is socially just.

Only clear and ambitious Ecodesign rules can achieve these goals, as they

- → provide enough savings to achieve the EU climate and energy security goals;
- → provide clarity for Member States and market actors on what to expect, thus providing security of investment;
- → provide significant net cost savings for consumers, given rising CO2 prices.

Therefore, it is important to maintain the 115% efficiency requirement for the core heating technologies.

Ecodesign and national legislation complement each other, if well designed

Several countries have existing or planned legislation on decarbonizing the heating system in new and/or existing buildings. National legislation and the planned Ecodesign Regulation can complement each other if both are designed in a compatible way. However, there are also cases where conflicts between national legislations and the proposed Ecodesign Regulation arise. In some of these cases, adaptations of the Ecodesign legislation may help to improve compatibility.

Potential changes to the Ecodesign Regulation should be limited to well-defined and narrow technical exemptions and combined with national support policies.

The Ecodesign Regulation will only achieve its climate, industry policy, and social goals if it is ambitious in terms of requirements, does not provide too many loopholes, and is practical to implement within the Ecodesign logic, including providing for market surveillance. Therefore, we propose a combination of two solutions:

1 Ecodesign Impact Accounting. Annual Report 2021. Overview and Status Report, p.17

- **Timing**: Tiered implementation of the 115% requirement, based on technical criteria, and
- **Support**: National support schemes.

As an example, we provide analysis below of how these solutions can help improve compatibility with the planned German Buildings Energy Law.

If the Ecodesign Regulation does not meet its goals, a Clean Heat Market Mechanism should be put in place.

The Ecodesign Regulation provides a timely opportunity that should be seized on. However, if the 115% efficiency requirement cannot be maintained for the most widespread heating technologies, the regulation will fail to deliver on its climate and industrial goals. In this case, alternative instruments must be put in place quickly. This would avoid loss of time in reaching the EU's climate goals and provide a clear signal to heating appliance manufacturers to continue scaling clean heating supply chains.

A "Clean Heat Market Mechanism" would be such an instrument. It would set a fleet-standard that could obligate heating appliance manufacturers to produce minimum shares of specific heating technologies (e.g., heat pumps), or alternatively set fleetwide standards for the average efficiency or CO_2 performance.

The standards would provide greater flexibility to accommodate exceptional cases in the short-term, as well as further increase overall ambition over time in a planned way. The instrument should be taken forward as a recommendation in the upcoming EU Heat Pump Action Plan.

1 Conflicts and compatibility between the draft Ecodesign Regulation for space and combination heaters and (planned) national legislation

Several countries are discussing or drafting legislation on decarbonizing the heating system in new and/or existing building or have already approved it. Examples are the Netherlands (2018/2026), Ireland (2023/2025), Germany (2024/2026), France (2023/TBD), Italy (2022), Luxembourg (2023), Slovakia (2023), Austria (2020/2023), and Denmark (2013). This gives these countries a significant head start on implementation, helping to reinforce the impact of the Ecodesign rules.

National legislation and the Ecodesign Regulation on space heaters can complement each other if both are designed in a compatible way. For example, national legislation can address topics that are not part of Ecodesign, such as the share of renewables in Germany, or it can specifically deal with economic viability of decarbonized heating systems, such as in the Netherlands.

However, there are also cases where conflicts between national legislations and the proposed Ecodesign regulation on space heaters arise.

The following considerations are based on a detailed analysis of the planned German Buildings Energy Law and its compatibility with the draft Ecodesign Regulation, but have been generalized to refer to all Member States.

1.1 Compatibility

Several elements of planned or existing national legislation are in fact already compatible or even supportive to the draft Ecodesign Regulation on space heaters. This is true for:

- All national support **or advice schemes.** They support the implementation of the Ecodesign rules, as they can be used to alleviate some individual situations in which the installation of compliant technologies might be technically difficult or entail excessive up-front cost.
- All national rules that foresee **appropriate transition periods**, e.g., in case of boiler breakdown, expected district heating grid connection, multi-family homes, or age of owner. First, the Ecodesign Regulation on space heaters will enter into force only in 2029. Secondly, under Ecodesign rules, used boilers will remain available for quite some time to support even longer transition periods than 2029. In fact, the Ecodesign Regulation might stimulate boiler exchange and therefore even improve the availability of used boilers.
- All national rules that allow or promote **technologies that are out of scope** of the Ecodesign on space heaters, such as solid biomass heaters, boilers, local space heaters, or district heating.

Other elements of national legislation would only need to be marginally adapted, e.g.

- If national rules allow or even promote the use of **liquid or gaseous biomass** (e.g., HVO or biomethane), Member States would only have to apply the criteria provided in the draft Ecodesign regulation ("specifically designed" for the use of such fuels and "unable to run on fossil fuels"), in order to be exempted from scope.

1.2 Conflicts

The following elements of planned or existing national legislations do potentially conflict with the draft Ecodesign regulation on space heaters:

- allowing or promoting the use of **hydrogen** in stand-alone boilers, or the installation of **hydrogen-ready** stand-alone boilers, as these will not meet the efficiency standards (e.g., in Germany);
- exemptions for **special** types **of buildings**, such as multi-family homes or monuments (NL);
- exemptions in special social **or economic situations,** e.g., if the payback time is too long (NL) or in "cases of hardship" which must be applied for (Germany).

2 Solution space

In the following, various approaches to improve compatibility are presented with their relative advantages and disadvantages. These approaches could be also combined.

2.1 Timing: Delays or conditionality of Ecodesign minimum requirements

Idea: The coming into force of minimum efficiency standards is delayed. Alternatively, their coming into force in 2029 is made dependent on a market assessment done by the Commission in 2028. The mechanism could be similar to Reg. (EU) 1194/2012, Annex III, Point 1.1[2]

Concerns addressed: Provides longer transition periods, which could also help to develop technical solutions for specific types of buildings and bring prices down.

Concerns not addressed: Intended use of hydrogen by Member States

Advantages:

- A delay would be easy to implement within the Ecodesign logic (but could severely endanger climate goals).
- Conditionality provides a better chance for the requirements to enter into force at the planned date and therefore for reaching the climate goals. (It is however more complex to implement, as criteria would need to be specified and agreed upon very clearly.)

Disadvantages: Both variants do not provide a clear signal to industry. The option removes or delays the innovation incentive for European industry, endangering competitiveness. In case of conditionality, security of investment is endangered. A delay would be incompatible with the EU's climate goals, especially new goals for 2040.

2.2 Scope: Technically defined exemptions aor tiered scope

Idea: To exempt certain technologies from the scope; either completely or for the first tier. The exemptions would have to be clearly technologically defined, e.g.,

2 The provision reads: "Stage 3 for mains-voltage filament lamps shall apply only if no later than 30 September 2015, evidence is produced by the Commission through a detailed market assessment and communicated to the Consultation Forum that there are mains-voltage lamps on the market that are:
- compliant with the maximum EEI requirement in stage 3;
- affordable in terms of not entailing excessive costs for the majority of end-users;
- broadly equivalent in terms of consumer-relevant functionality parameters to mains-voltage filament lamps available on the date of entry into force of this Regulation, including in terms of luminous fluxes spanning the full range of reference luminous fluxes listed in Table 6;
- compatible with equipment designed for installation between the mains and filament lamps available on the date of entry into force of this Regulation according to state-of-the-art requirements for compatibility."

- analogous to liquid or gaseous biomass boilers, boilers that are **specifically designed to run on hydrogen and unable to run on CH4**[3] could be exempted or only be covered in a 3rd tier.
- The **size** limit could be redefined
- As a minimum option, the scope could be **restricted to oil boilers.**

Concerns addressed: Depending on the technologies exempted, e.g., intended use of hydrogen by Member States; difficulties in replacing boilers of a certain size

Concerns not addressed: Transition periods, upfront cost, difficulties in specific buildings

Advantages: Relatively easy to implement within Ecodesign logic

Disadvantages: Depending on the size of the exemption, may severely endanger climate goals. May lock in consumers in inefficient technologies. Use of hydrogen is unsure in the heating sector and would in any case be very costly.

2.3 Context: Exemptions based on specific contexts of use

Idea: Exemptions from Ecodesign minimum standards are made, based on specific contexts of use. Such context factors could include:

- Type of building (e.g., monuments);
- Specific technical challenges related to individual buildings;
- Specific economic challenges related to individual situations (e.g. very long payback times);
- Personal "cases of hardship" of an owner, to be confirmed e.g., by a public authority.

To verify such a type of exemption, the manufacturer could be required to provide with the technical documentation of a boiler specific information, such as the address of installation and reason for an exemption. In addition, he should obtain confirming documents (e.g., a document by a municipal authority that certifies a "case of hardship" in the consumer) and present them on request by the market surveillance authorities. The mechanism could be similar to the mechanism foreseen for medium power transformers.[4]

Concerns addressed: Impracticality or lack of economic viability in specific situations

3 We propose this wording, as opposed to "hydrogen ready", to minimize loopholes.

4 Reg. (EU) No 548/2014, Annex I, (1): "'As of the date of application of Tier 2 requirements (1 July 2021), when the one-to-one replacement of an existing medium power transformer entails disproportionate costs associated with their installation, the replacement transformer is, exceptionally, only required to meet Tier 1 requirements for the given rated power. (...)

In this case, the manufacturer, importer, or authorized representative shall include in the technical documentation of the replacement transformer the following information:

- Address and contact details of the commissioner of the replacement transformer
- The station where the replacement transformer is to be installed. This shall be unequivocally identified by either a specific location or a specific installation type (e.g., station or cabin model)
- The technical and/or economic justification of the disproportionate cost (...)

In the above cases, the manufacturer, importer, or authorized representative shall notify the competent national market surveillance authorities."

Concerns not addressed: Intended use of hydrogen by Member States

Advantages: Would preserve most of the positive effects of the Ecodesign Regulation on space heaters while accommodating for specific situations.

Disadvantages: Difficult to implement within the Ecodesign logic. Would entail extended bureaucracy for manufacturers, and manufacturers might decide it is not worth the effort. Difficult to verify by Ecodesign market surveillance authorities. As an alternative, the verification could be done in the context of the EPBD implementation.

2.4 National opening clause

Idea: Currently, the Ecodesign Directive allows MS to go beyond Ecodesign criteria when defining requirements on technical building systems according to the EPBD.[5] This could be extended to go also below Ecodesign requirements for a limited time if the MS proves that duration and extent of the exemption is duly justified and does not compromise national and EU energy and climate goals.

Concerns addressed: Possibly all types of concerns, given an accepted justification for the exemption exists.

Concerns not addressed: None

Advantages: Would accommodate for most concerns by MS

Disadvantages:

- → Unclear how this could be legally implemented. It will probably have to be implemented in the coming ESPR that is currently under discussion. However, it remains open how this would relate to implementing acts that are still based on Directive 2009/125/EC.
- → Could be abused to a great degree. Effects on climate targets would be very much dependent on a stringent EPBD, while it is unclear whether this is to come.

2.5 Support: Ramping up national advice and support schemes

Idea: National support and advice schemes would be strengthened and streamlined with the Ecodesign Regulation for space heaters.

Concerns addressed: Individual situations in which the use of compliant technologies might be technically difficult or entail excessive up-front cost.

Concerns not addressed: Intended use of hydrogen by Member States

Advantages: Easily compatible with Ecodesign logic; would preserve most of the positive effects of the Ecodesign Regulation on space heaters while accommodating for specific situations, compatible with all other solutions.

Disadvantages: On national level, potential challenges in establishing efficient administrative

5 Article 6 Section 1 of the Ecodesign Directive 2009/125/EU reads: "Member States shall not prohibit, restrict or impede the placing on the market and/or putting into service, within their territories, of a product that complies with all the relevant provisions of the applicable implementing measure and bears the CE marking (…) This shall be without prejudice to the energy performance requirements and system requirements set by Member States in accordance with Article 4(1) and Article 8 of Directive 2010/31/EU."

systems for targeting households in specific need of financial support as well as additional costs.

3 Suggested adaptations to the Ecodesign Regulation

The Ecodesign Regulation on space heaters will only achieve the climate, industry policy, and social goals if it is ambitious in terms of requirements, does not provide too many loopholes, and is practical to implement within the Ecodesign logic, including providing for market surveillance. Therefore, we propose a combination of two solutions:

- **Timing**: Tiered implementation of the 115% requirement, based on technical criteria, and
- **Support**: Complementary national support and advice schemes help with installation in specific cases.

Such a combination should be able to provide for both technical and socio-economic concerns. It would avoid implementing difficult procedures that are hard to monitor and be relatively robust to abuse and loopholes.

Example: A concrete implementation that accommodates the envisaged use of **hydrogen** in the German Buildings Energy Law, and maintains restrictions on the use of **liquid or gaseous biomass**, could entail:

- In the second tier of the Ecodesign Regulation the following technologies are exempted:
- gas boilers that are specifically designed to run on hydrogen, and unable to run on CH_4;
- gas and oil boilers that are specifically designed to run on liquid or gaseous biomass, and unable to run on fossil fuels (as currently).
- A third tier is introduced for those technologies.
- The regulation is accompanied by national support and advice schemes.

4 Alternative instrument: Clean Heat Market Mechanism

The Ecodesign Regulation provides a timely opportunity that should be seized on. However, if the 115% efficiency requirement cannot be maintained for the most widespread heating technologies, the regulation will fail to deliver on its climate and industrial goals. In this case, alternative instruments must be put in place quickly in order to avoid loss of time in reaching EU climate goals and ensure that the regulatory framework for space heaters sends a clear signal to the industry to scale the manufacturing of clean heating technologies in order to deliver on these goals.

A "Clean Heat Market Mechanism" along the lines of the UK model would be such an instrument.[6]

The core of such a mechanism is an obligation on the manufacturers of heating appliances to meet certain targets relative to their annual sales. The targets can, for example, refer to:

- a share of specific low-carbon technologies (e.g. (hybrid) heat pumps);
- the average efficiency of the fleet (e.g., using the Ecodesign product performance metrics);

6 UK Department for Energy Security and Net Zero: Clean Heat Market Mechanism. Consultation, March 2023; https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1146981/clean_heat_market_mechanism.pdf

→ the average CO2 emissions of the fleet (e.g., kg CO2/kWh heat delivered), to drive the production of clean and efficient heating appliances.

The advantages of such an instrument are that it would further increase overall ambition over time in a planned way, thus provide a clear development path for industry while at the same time leaving more room to accommodate for individual cases in the short-term.

As the Commission is currently developing the EU Heat Pump Action Plan, the instrument should be taken forward as a recommendation in this plan. This would ensure that the instrument is implemented in a timely manner.

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