



Joint Position Paper on the Conversion Coefficient (Primary Energy Factor) in the context of Lot1 Energy Labelling & Ecodesign Regulations review

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In the context of the Review study on ecodesign and energy labelling for space heating boilers and combination heaters, European renewable and efficient heat industry associations (Bioenergy Europe, COGEN Europe, EFIEES, EGEC, EHP and Solar Heat Europe/ESTIF) ask that the review includes a dedicated assessment to determine the right method and value for the Conversion Coefficient (CC) used to calculate primary energy consumption of space heaters, in line with Article 7.e of Regulation 813/2013. This would preclude the alternative approach proposed by the European Commission, where the newly adopted EU PEF value in the revised Energy Efficiency Directive is updated in the Lot1 legislation as the new conversion coefficient, without adapting the methodology to the heating sector.

To help deliver the EU energy and climate objective, and to properly inform consumer on the energy performance of their space heaters, it is imperative to use a sound process to assess the validity of the conversion coefficient that reflects the real-world use of such equipment. An automatic update of the conversion coefficient/CC, based on the new EU PEF in the Energy Efficiency Directive, would be technically unfounded and legally inadequate.

From a legal perspective, Article 7.e in Regulation 813/2013 clearly mandates that the Regulation review should look in particular at the “validity of the conversion coefficient /CC of 2.5”, without a direct reference or link to the EU PEF in the EED. At the same time, the EU PEF review carried out in the context of the EED paid no special attention to the heating sector consideration (e.g. seasonal or marginal PEF).

From a technical perspective, calculating a seasonal and marginal EU PEF instead of the average annual PEF adopted in the EED will provide a more accurate and therefore valid assessment of the real heating efficiency of space heaters:

- There is ample evidence that the electricity mix during the heating season (i.e. winter) is already different from its annual average, with higher peaks driven by electric heating, lower solar PV production and the use of fossil capacity to meet demand spikes. This would justify the calculation of a seasonal heating EU PEF to be used for space heaters.
- Scientific evidence, including from EU project Heat Roadmap Europe, shows that electricity demand in Europe could increase three-fold if inefficient electrical heaters are employed to cover heat demand; the same paper stresses that a doubling of electricity demand in Europe is expected in a scenario where all heat is electrified with efficient heat pumps, even when heat demand is



reduced significantly¹. To account for the impact of this additional electricity demand and the specific electricity mix required to meet it, taking a marginal EU PEF approach would be necessary, as further shown in a 2018 study carried out by FfE (The Research Center for Energy Economics)².

- Moreover, the EU PEF in the EED would not provide a correct basis for the LOT1 calculations, as it appears to be based on net calorific values (NCV) while the LOT1 Regulations framework compares heating efficiencies based on gross calorific values³.

For space heating, which is responsible for more than 30% of energy consumption and carbon emissions, underestimating the losses in the electricity system in Europe (via a much lower EU PEF than reality which does not consider key geographical as well as seasonal factors) risks endangering the realisation of both ecodesign/energy labelling as well as broader EU energy and climate objectives:

- distort competition on EU markets, by artificially altering electric appliances positioning in the labelling classes and favouring less efficient electric heaters (mainly imported from non-EU countries);
- jeopardise citizens' trust in key EU Ecodesign/Labelling policies, providing misleading information about the products they are purchasing, thus pushing them to buy less efficient products that will increase their energy bills;
- worsen the overall efficiency and carbon footprint of EU Member States, which will need to meet greater peak electricity demands with inefficient conventional power generation means;
- increase heating costs for small consumers both: 1) directly, as consumers will not save as much energy as the label would indicate & 2) indirectly, given the potential increase in electricity costs associated with heating (e.g. via variable tariffs) following the increased peak demand electricity.

Bioenergy Europe, COGEN Europe, EFIEES, EGEC, EHP and Solar Heat Europe/ESTIF ask that the Lot1 Energy Labelling & Ecodesign Regulations review to takes a transparent and technically sound approach on the conversion coefficient CC, accounting for the specific electricity mix associated with space heating and considering the introduction of a seasonal and marginal EU PEF. Applying the EU PEF in the EED as a one-size-fits-all in the space heaters regulations does not reflect the energy efficiency and decarbonisation potential of this sector and will result in lower impact than foreseen.

¹ Connolly, D, November 2017. Heat Roadmap Europe: Quantitative comparison between the electricity, heating, and cooling sectors for different European countries. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0360544217312124>

² Research Center for Energy Economics (Forschungsstelle für Energiewirtschaft e.V.), (FfE), 2018. EU Displacement Mix. A Simplified Marginal Method to Determine Environmental Factors for Technologies Coupling Heat and Power in the European Union. Retrieved from: https://www.cogeneurope.eu/images/2018_05_15_FfE_EU-Displacement-Mix_Final-Report.pdf

³ While not specified explicitly in the [EU PEF review report](#) from 2016, this would be concluded from the assumptions made in the analysis. Firstly, the majority of electricity statistics use the NCV convention, including the Eurostat & PRIMES data used for the EU PEF. Secondly, the references to NCV in Annexes IV and X of the EED point in the same direction. If that is the case, the EU PEF in the EED will be incompatible with the conversion coefficient/CC in the Lot1 Ecodesign/Labelling Regulations