

**Common position on
ErP ENER Lot 1 – Eco-design and labelling requirements for
boilers and comi-boilers: EC working documents April 2011**

Brussels, 6 May 2011

Dear Madam, Dear Sir,

EHPA, EPEE and Eurovent represent the manufacturers and associations of Heat Pump, Refrigeration and Air-Conditioning equipment in Europe. We welcome the consultation documents for the energy label and eco-design requirements on boilers, which were recently issued by the European Commission.

The three associations appreciate

1. **that all products use the same eco design minimum efficiency requirements and the same labelling scale for medium temperature application;**
2. **the inclusion of Eco-design and labelling requirements for low temperature applications;**
3. the move to a product approach.

We urge the Commission to maintain these points and to be firm in creating an implementing measure that provides consumer guidance towards more energy efficient products.

In order to clarify the measure, to ensure proper understanding by all users and thus to increase the impact of the implementing measure, we believe the following issues need further attention:

4. Definition of the **scope**: all boilers below 400kW output energy are included; output should be based on Pdesignh for heatpumps,
5. Boilers that can serve both high temperature and low temperature application should be given the **opportunity to label both application levels,**
6. For the **low temperature scale**, A+ level can only be achieved if renewables are used. A+ should start from 115% instead of 123%,
7. Maximum **sound power requirements** should be deleted or limited to products with capacities below 12kW. These requirements should evenly apply to all boilers,
8. The use of the **A+++** label should be possible as from the entry into force of the measure,
9. **Positioning of the label in the box: Adding the energy label to the product in the packaging is not practical in case of split systems, a simplification is required,**
10. **The energy label layout must be optimized to enhance readability and to avoid confusion,**
11. **To achieve quick market impact, the measure should start on Jan. 2013,**
12. **The inclusion of requirements for low GWP refrigerants is not effective and should be dropped.**

Other more detailed technical comments can be found at the end of this position paper.

We hope that this document will contribute in a positive way. If there is need for further clarification, we are more than happy to provide any additional information.

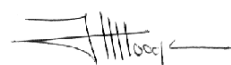
Kind regards,



Thomas Nowak
EHPA



Andrea Voigt
EPEE



Joop Hoogkamer
EUROVENT

1. The energy label should be provided for all products on the same scale, independent of the energy source.

EHPA, EPEE and Eurovent would like to emphasize that the energy label should remain, as proposed by the European Commission, for the condition of 55°C on one scale, independently from the energy source.

2. EHPA, EPEE and Eurovent support the inclusion of low temperature application

EHPA, EPEE and Eurovent clearly support the approach:

An energy label that differentiates between 55°C and 35°C applications shows the customer that low temperature heating systems are more efficient. It guides consumer decisions towards more energy efficient solutions thus allowing well-informed decisions

EHPA, EPEE and Eurovent support the proposal of splitting the energy labels based on the application level, and agrees to the provisions of having a separate energy label for products used in low temperature application.

This approach will deliver a clear message to consumers when they make a choice for a heating system. In most cases, consumers are already aware of the heat distribution system they wish to use in their building. Therefore, a separate label for low temperature application is fitting for this approach.

The possibility to label at 35°C application reflects the fact that low temperature applications are increasingly used – in new buildings and in the renovation sector. Currently, they are estimated to take up about 20% of the heating market and should be considered consequently. The market trends go towards low temperature applications, especially in view of net zero energy buildings, passive houses and basic energy efficiency tendencies. Even in the renovation markets, low temperature radiators are increasingly used, for such radiators, a 55°C rating is not representative. Many larger systems employed in commercial applications are used at a 45°C level. Consequently products are designed to achieve high efficiencies at low heat distribution temperature. Sometimes these products can not – by design – achieve 55°C or higher, a fact that should be clearly identified to the consumer.

3. A clear definition of the scope: all boilers below 400kW are included, and should be based on P_{designh} for heatpumps.

We propose that the scope should cover all products below 400kW and should be defined based on P_{designh} in line with prEN 14825

Scope definition

“this regulation establishes ecodesign requirements for the placing on the market and putting into service boilers with a rated output of no less than 4 kW and no more than up to 400 kW, hereinafter called ‘boilers’.

Rated output means

The heat output of a fossil fuel boiler or the full load the heat pump is declared for.

Declared capacity of a heat pump means

Full load (P_{designh}) or the heating load the heat pump is declared for at the extreme temperature for average climate (-10°C).

The present scope is based on power input.

Assuming an average seasonal efficiency for heat pumps (SPF) of 3 would result in a scope from 12 (4kWx3) to 1,2 MW (400kWx3). This means not only that 12kW output heat pumps are excluded, but also that 1,2MW output heat pumps are included. This is much different from fossil fuel burners or

microCHP that only have a scope of 4-400kW rated power input which means that the capacity only ranges around 4-400kW output. We believe that this is not the intention of the European Commission. All boilers below 400kW should be in scope, a lower limit is not necessary.

4. Boilers that can serve for both high temperature and low temperature application should be given the opportunity to label both application levels.

EHPA, EPEE, Eurovent propose that boilers can be labelled both for medium temperature and high temperature applications.

We propose to modify the definition as follows:

“~~low temperature~~ heat pump for low temperature application” means a ~~an air to water~~ heat pump that is specifically designed for low temperature application, and that cannot deliver heating water with an outlet temperature of 52°C at inlet dry (wet) bulb temperature of -7°C (-8°C) under the reference design conditions for average climate;

The energy label should be modified: see point 9 for more details.

The efforts of the European Commission to include the low temperature application are very much appreciated.

However, the use of the energy label is limited only to air to water heat pumps that cannot achieve 52°C at -7°C ambient conditions, which we consider unprecise. As all types of heat pumps can be designed specifically for low temperatures the **definition for low temperature heat pumps should be enhanced accordingly.**

The possibility to apply the energy label for low temperature application should be provided to all heat pumps and all heat generators that can be used both in low and medium temperature applications. This will also enhance the quality of information supplied to consumers.

5. For the low temperature scale, A+ level can only be achieved if renewables are used.

EHPA, EPEE and Eurovent propose to reduce the gap in line with the statement in the notes where to achieve an A+ label, the use of renewables is required. As such A+ should start for low temperature application at 115% and not at 123%.

The present energy label scales will confuse consumers, as demonstrated by following example:

A consumer must choose for a low temperature application between:

- a fossil fuel boiler of 96% and
- a low temperature heat pump of 122%.

Although the efficiency differs by 26%, **both products are labelled with A, thus** it is difficult for the consumer to choose the best option.

Having the same scale would complicate matters, but at least for the low temperature scale, A+ should start at an efficiency level of 115%. This means that to achieve A+, the use of renewables is necessary (which is in line with the Notes to the working documents). The RES Directive explains that heat pumps use renewable energy when achieving a seasonal efficiency of 115%. To create congruent requirements this value should also be used in ErP.

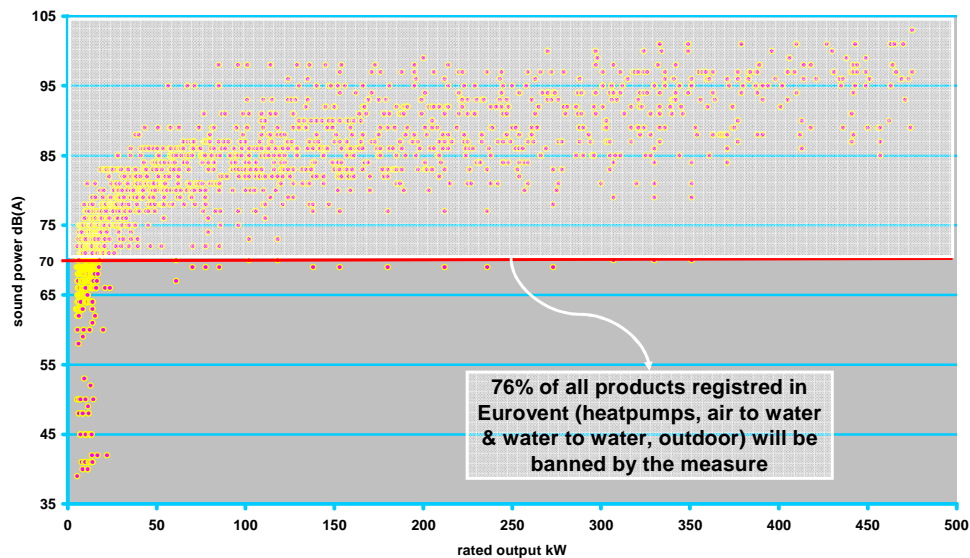
6. Maximum sound power requirements should be deleted or limited to 12kW applications only. These requirements should not be restricted to heat pumps only but to all heat generators.

EHPA, EPEE and Eurovent propose deleting the requirements or limiting the requirement to 12kW products. In case the requirements are limited to 12kW, the requirement should apply to all boilers.

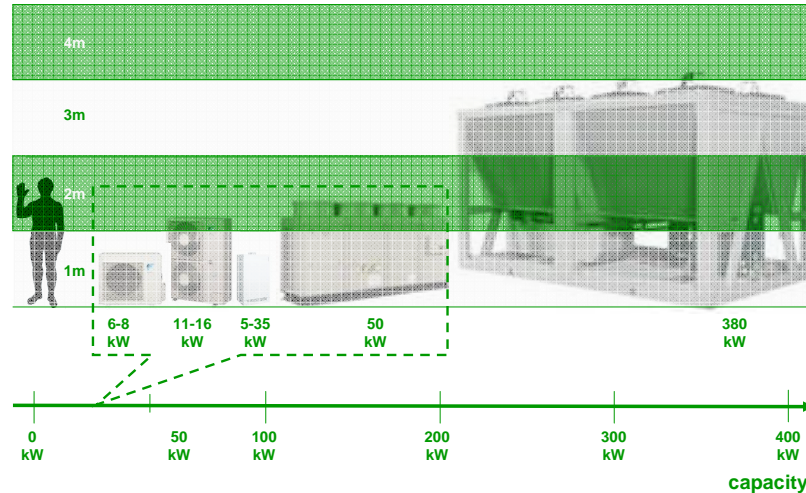
It is very clear that these requirements have been copied from ErP ENER lot 10 proposals where the scope is limited to 12kW output. These requirements cannot neither be extended to 1.2MW products nor to 400kW output products; it is technically not feasible to achieve these low sound power requirements for such large units. In addition, sound power requirements are regulated in local and national legislation, where the specific location is known, and where it is evaluated if it is possible to install such a product and if necessary to mitigate the impact at the location.

Furthermore, EHPA, EPEE and Eurovent find that the requirements should apply to all boilers in order to create a level playing field.

In the following figure, we give you an idea of sound power levels now indicated in the Eurovent database for air to water and water to water heat pumps (LCP) in relation to the requirements for outdoor units above 12kW.



Impression of sizes of products in scope



7. Timeline and introduction of A+++ label

EHPA, EPEE and Eurovent propose to start immediately with the introduction of A+++ at the start of the requirements and to omit immediately E, F and G class.

It is now understood that the introduction of A++ and A+++ label can be done voluntary and is not mandatory. In addition, the A++ label is only mandatory after 3 years. Adding A+++ remains voluntary throughout the timeline of the measure.

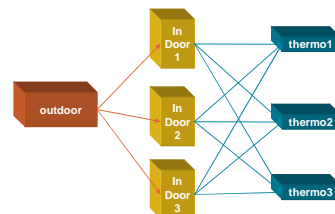
From current set-up of the energy classes, heat pumps will populate A+, A++ and A+++ classes from the start of the measure. It is not only confusing to the consumer, that the label varies depending on the product (ie for heat pumps, products will show a label A+++ to G, for gas boilers, the same label will only show A+ to G), but also a guiding function is diluted, if it is not obvious, that very efficient products exists already today.

Due to the minimum requirements, it is also true that the lower classes will have no meaning, since the products below E class will be banned in the first tier already (excluding requirement for heat pumps with low GWP refrigerants).

8. Adding the energy label to the product in the packaging is not practical in case of split systems, simplification is required, in a practical way.

EHPA, EPEE and Eurovent propose that for “split” type heat pumps, one energy label of one chosen combination is added to the packaging on the outdoor, and the other possible labels are shown on free access websites.

EHPA, EPEE AND EUROVENT understand from the requirements that the energy label has to be added with the product in the packaging. Since a lot of heat pumps are considered to be “split” type, which allows for different sets of combinations, we believe that this is not an appropriate solution.



Furthermore, a heat pump can not be considered in the same way as a television set, a washing machine or light bulb, where the products

→ For 1 outdoor, 9 labels are necessary



are in general displayed in shops.

EHPA, EPEE and EUROVENT support the fact that the energy label should be shown at the appropriate time when the consumer is making a choice. In that sense, adding the label in the packaging is not a good solution. The consumer only receives the packaged product from the installer once he has made the choice, and as such the information should be shown well on beforehand.

9. The energy label layout

EHPA, EPEE and Eurovent propose to modify the energy label to improve readability and include the possibility to label on both 55°C and 35°C for those heatpumps that are able to. Please refer to Annex I for detailed proposals

As stated before, heatpumps that can achieve both 55°C and 35°C should be labelled accordingly. In annex I you can find 2 proposals how to show performance at both the low and the medium temperature level.

The energy label should be clear and data provided should be easy to identify by the consumer when choosing a product. We suggest emphasizing the efficiency and capacity on the energy label. (Please refer to annex I for detailed proposals.)

Furthermore, on the energy label, the indication of capacity should pertain to the load the heat pump can cover at the extreme temperature of the climate. For now, it is specified to use the rated capacity at 7°C ambient condition, which is certainly not a reference for the average climate.

Also the energy label for fossil fuel boilers and microCHP should specify that the rating has been done for 55°C, in order to clearly align with the labels for heat pumps.

It should be clear that for all boilers it is necessary that the indication of efficiency is maintained on the energy label.

10. Installer label

I. Fossil fuel boilers

Proposal is to delete factors 12,9 and 9

For the evaluation of auxiliary heat pumps, the formula seems to be incorrect.

The factors 12,9,9 imply that the heat pump can only contribute positively when efficiency is higher than 108% (2.7, for air to water). We believe that this is incorrect. A heat pump contributes positively as soon as the efficiency is higher than that of the fossil fuel boiler it supports. The merit should be calculated correctly. As such, the factors 12,9,9 should be deleted.

II. Heat pumps

- As a follow up of our position to allow for heat pumps to label both applications, we suggest omitting the effect of low temperature and allow these heat pumps to have 2 energy labels.
- For the installer It is not possible to add an additional electrical heater with the heatpump.

III. Low temperature heat pumps

- The installer labels should be merged together for heat pumps. There is no difference between heat pumps for low temperature and other heat pumps on the installer label.



IV. Water heater label

- The water heater label should also apply for heat pumps.

11. The lower minimum efficiency requirements for low GWP heat pumps are meaningless for 55°C

EPEE, Eurovent and EHPA propose having the same minimum requirement for all heat pumps regardless of the refrigerant contents.

The proposed relaxation of minimum requirements for low GWP requirements are only meaningful if the requirements are set high enough that in the development of new technologies with low GWP refrigerants would not be hampered. The aim of this measure is clearly to improve the efficiency of total heating in Europe and the lowest efficient products will be taken out of the market. Heat pumps with low GWP refrigerants are expected to have efficiencies far above the minimum requirements of the measure.

As such, we propose to delete the reduced minimum requirements for heatpumps using low GWP refrigerants.

It should however be clear that **the requirements for heat pumps, fossil fuel boilers and micro chp should be the same** (except for heat pumps for low temperature application), in order to create a level playing field, avoid market disturbances and ensure a competitive European measure.

12. Detailed comments.

14.1 Ecodesign requirements

a) Definitions

- Annex I (50) degradation coefficient: the definition is not in line with prEN 14825. 0.25 should be changed to 0.9.

- Annex I (64) The definition of GWP should be more precise. We suggest using the same definition as provided in ecodesign lot 10 as follows:
‘Global warming potential’ (GWP) means the measure of how much 1 kg of the refrigerant applied in the vapour compression cycle is estimated to contribute to global warming, expressed in kg CO₂ equivalents over a 100 year time horizon;
“GWP values considered will be those set out in Annex 1 of Regulation (EC) No 842/2006 of the European Parliament and of the Council
For fluorinated refrigerants, the GWP values shall be those published in the third assessment report (TAR) adopted by the Intergovernmental Panel on Climate Change (2001 IPCC GWP values for a 100 year period).
For non-fluorinated gases, the GWP values are those published in the First IPCC assessment over a 100 year period.
GWP values for mixtures of refrigerants shall be based on the formula stated in Annex I of the Regulation 842/2006.”
For refrigerants not included in these references, the most recent reports of IPCC have to be used as a reference.
¹(OJ L 161, 14.6.2006, p. 1.)
² IPCC Third Assessment Climate Change 2001. A Report of the Intergovernmental Panel on Climate Change: <http://www.ipcc.ch/pub/reports.htm>.
³ Climate Change, The IPCC Scientific Assessment, J.T Houghton, G.J.Jenkins, J.J. Ephraums (ed.) Cambridge University Press, Cambridge (UK) 1990

- ANNEX I (43): modify the definition as follows, in line with the informal draft of prEN 14825:
“capacity control” means the ability of the unit to change its capacity by changing the volumetric flow rate, to be indicated as ‘fixed’ if the unit cannot change its volumetric flow rate, ~~‘staged’ if the volumetric flow rate is changed or varied in series of not more than two steps, or ‘variable’ if the volumetric flow rate is changed or varied in series of three two or more steps;~~

b) Product information requirements (annex I.3.ii)

It is required to place the rated output on the nameplate.

We suggest using Pdesignh, which is the full load the heat pump is declared for the extreme condition for average climate at -10°C. This is in line with prEN 14825, and also with table 7 in the measure where it is required to declare it. Also, when converting to seasonal performance indication, the full capacity at 7°C is not meaningful in that calculation.

As such, table 9 needs to be modified accordingly

c) Product information requirements (annex I.3.table 7 & 8)

- delete “staged” due to changes in definition
- in ** replace 0.25 by 0.9
- note *** should be deleted as it is not applicable for air to water, water to water and ground to water heat pumps.

d) Annex III 4-3rd paragraph

We believe that the average of the 3 results should be used as a basis to assess compliance



14.2 Energy label requirements

a) Definitions

The same comments as for Ecodesign requirements apply.

- (66) Should be split in 2 definitions to avoid confusion.

b) Annex II labels – label 3 and 4

- The energy label should present the nominal capacity. However, this is not defined. Pdesignh should be mentioned on the energy label, pertaining to the load the product can cover at extreme conditions. (this would be the load at -10°C for average climate)
- The label should be clearer towards the consumer: we propose that the efficiency for average climate is added into a box, so that the consumer can easily identify the values. Please refer to annex I for details.

c) Product fiche requirements

With regard to the consideration of the advantages for **night setback for medium temperature heat pumps**, the proposed fiche is suggestion an advantage of 6%. This can not generally be applied to heat pump systems and should thus be deleted for this technology.

14.3 transitional method

Chapter C 1.1 class IX controls should also apply to heatpumps, so we propose to delete the reference to burners and replace the word with “boilers”.

EHPA	EPEE	Eurovent
<p>EHPA was established in the year 2000 to promote awareness and proper deployment of heat pump technology in the European market place for residential, commercial and industrial applications. EHPA today has 91 members representing the majority of actors in the European Heat Pump Industry. The association aims to provide technical and economic input to European, national and local authorities in legislative, regulatory and energy efficiency matters. All activities are aimed at overcoming market barriers and dissemination of information in order to speed up market development of heat pumps for heating, cooling and hot water production. It is the declared aim of the association to make heat pumps a core technology in the development towards a more energy efficient, RES based, sustainable energy system.</p> <p style="text-align: center;">www.ehpa.org</p>	<p>The European Partnership for Energy and the Environment (EPEE) represents the refrigeration, air-conditioning and heat pump industry in Europe. Founded in the year 2000, EPEE’s membership is composed of 40 member companies and national associations across Europe realising a turnover of over 30 billion Euros and employing more than 200,000 people in Europe. As an expert association, EPEE is supporting safe, environmentally and economically viable technologies with the objective of promoting a better understanding of the sector in the EU and contributing to the development of effective European policies.</p> <p style="text-align: center;">www.epeeglobal.org</p>	<p>Eurovent, the European Committee of Air Handling and Refrigeration is the representative of the European refrigeration, air conditioning, air handling, heating and ventilation industry and represents trade associations from European and non-European countries. Eurovent represents over 1,000 companies in 14 European countries, employing 150,000 employees who jointly generate more than € 25 billion of annual output. Eurovent was initially founded in 1958 and has been functioning under its current name since 1964. Eurovent has become over the years a well-known and respected stakeholder in all industry related matters and, in particular, in climate change and energy efficiency.</p> <p style="text-align: center;">www.eurovent-association.eu</p>

ANNEX I –proposals for modification of the energy label

Proposal 1: In case 2 labels for heatpumps that are suitable for both 55°C and 35°C and modification of fossil fuel label

Present label

Climate moved down to improve readability/comparability with other technologies

Enhance visibility of efficiency and capacity

Enhance indication of application limitation

Allow to label 2 applications

Label for heat pumps

New proposal

2 LABELS FOR HEATPUMP SUITABLE FOR 55°C AND 35°C

LABEL FOR HEATPUMP SUITABLE ONLY FOR 35°C

Present label

New proposal

Enhance visibility of rating condition

Proposal 2: Other possibility to provide In case 2 labels for heatpumps that are suitable for both 55°C and 35°C

Present label

Climate moved down to improve readability/comparability with other technologies

Enhance visibility of efficiency and capacity

Enhance indication of application limitation

Allow to label 2 applications

Label for heat pumps

New proposal

LABEL FOR HEATPUMP SUITABLE FOR 55°C AND 35°C

LABEL FOR HEATPUMP SUITABLE ONLY FOR 35°C

Label for fossil fuel boilers

Present label

New proposal

Enhance visibility of rating condition

Proposal 3: modification of labels in case the present labels are maintained

