



POSITION BY EHPA and EPEE

on

ErP ENER Lot 1 – Eco-design and labelling requirements for boilers: EC working documents *February 2012*

EHPA and EPEE welcome the new working documents and appreciate the efforts of the Commission to consolidate all the comments received during former consultations.

This measure should be approved as soon as possible so that finally we are able to achieve the targets to reduce energy consumption in Europe.

We welcome the fact that the main issues of concern for our industry have been addressed in the proposal and hope that these can be maintained. As such:

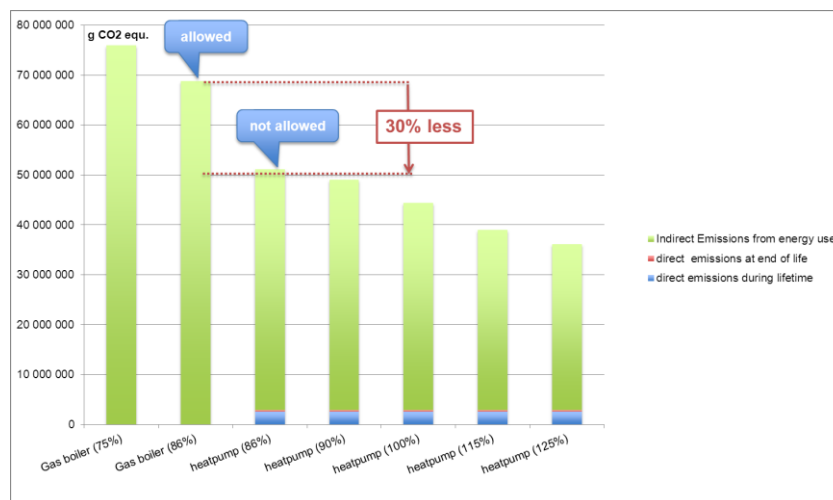
- EHPA and EPEE support the inclusion of low temperature applications
- EHPA and EPEE support the fact that heat pumps are able to perform both at 55°C and 35°C can show the efficiency for both applications.
- EHPA and EPEE welcome the changes and clarifications regarding the so-called “installer label”

In order to support the process further, we have evaluated the documents and have the following concerns to address:

- The 3rd tier of the ecodesign requirement should be deleted.
- The ecodesign requirements for sound power should be deleted, or limited in Pdesign at -10°C to 10KW.
- The scope of the energy label requirements should be limited to 70kW (output power).
- Both Energy labels should clearly show the units/systems efficiency (as a percentage of primary energy).
- The Energy label for heat pumps shall only require mandatory indication of the efficiency on average climate, for warmer and colder climate this should be optional.
- The Energy label for heat pumps should make the indoor sound power level optional, as not all heat pumps are used indoors.
- Energy labels for combi heaters should include the possibility to show the efficiency of low temperature applications.
- Energy labels for packages should also include the possibility to label for low temperature applications.
- Implementation of both measures should start at the end of the year, or the beginning of the year, to coincide with the issue date of catalogues/product data in the industry.
- EHPA and EPEE support the inclusion of module H and module B+F; however module H should be maintained.

Ecodesign requirements

The ecodesign requirement tries to achieve a level of ambition where it is not necessary and lacks a level playing field. From an ecodesign perspective, separate requirements for heat pumps are not useful in view of energy savings in Europe. Products with low CO₂ emissions have to achieve higher targets than the conventional technologies which have higher CO₂ emissions, even at the same levels of efficiency, as shown in the graph below:



We understand that requirements should be set in order to prevent poor quality heat pumps from entering the market to replace existing technologies, which do not improve on energy use reductions and CO₂ emissions. Therefore, we feel that the present first tier is acceptable, but that a 3rd tier should be deleted. At this point, a level playing field will be lost, and competitive heat pumps will be prevented from entering the market. On top of this, the 3rd tier will create an even bigger price difference between technologies and will consequently increase the barrier for more environmentally friendly products. As this is a new and growing technology, it is necessary to drive it, not to bring it to a halt. As such, EHPA and EPEE request the deletion of the 3rd tier for minimum efficiency requirements of heat pumps, and postpone it until the next revision of the ecodesign requirements. At that time it will be possible to re-evaluate new levels.

NOTE 1: Calculation based on TEWI proposed in draft ecolabel criteria of 2011.

NOTE 2: It should be clear that the etas calculated for Ecodesign is determined on a different base than the 155% defined in RES-directive. Ecodesign values will be lower due to all the losses that are included. This applies to both medium and low temperature applications.

NOTE 3: The Commission should take into consideration, that the **emissions per kWh of electricity** as well as the **primary energy factor** are expected to improve in the future as a result of more renewable sources in the electricity production mix. **As a direct consequence, emissions from heat pumps will decline continuously** independent of the units efficiency. This could be reflected by a flexibilisation of the PEF in the Ecodesign Framework Directive and would then show also in the ETA values. It is an additional reason why separate requirements should not be accepted, as they would negatively affect this potential.

The ecodesign requirements for sound power should be deleted, despite the fact that the proposal limited the requirements to 70kW. We propose to delete the requirements or to limit the requirements to 10kW.

There is no priority in this lot regarding sound power and the trade-off of including this requirement would be clearly on energy efficiency. The requirement is not useful in terms of reducing CO₂ emissions in Europe. Besides that, products are increasingly designed in a way that sound power is more and more reduced anyways. Furthermore, in bigger capacity classes over 12kW, the products are sold in applications that are required to be licensed by local authorities, which demand that products meet these sound power requirements.

Furthermore, there are still uncertainties regarding the data, which have been presented to the Commission:

1. Sound power levels of indoor and outdoor units have been mixed.
2. Sound power levels are mostly available in cooling mode and not in heating mode
3. The heating capacity at 7°C is much higher than P_{designh} at -10°C. The database does not consider this effect. For now, higher capacity units will have to comply with requirements intended for lower capacity units.

Based on this, we strongly advice to delete the minimum, or to restrict to 12kW (or 10kW for P_{designh}). It is clear that in the first instance, we require the necessary data before deciding on minimum requirements.

It should be noted that the sound power for electric driven heat pumps should be measured according to EN12102 (at present not included in the transitional method) at the rated condition specified in table 3 of the annexes.

Energy label requirements

The scope of the energy label requirements should be limited to 70kW (output power). At levels above 70kW we clearly move away from residential applications. In these sizes a professional building engineer or architect will evaluate and select the best solution for the application they need. At this point a singular value (A, B or C...) on a label will not be sufficient. Moreover, the end-user, who is clearly the target for the energy label, is not the selecting party.

Both Energy labels should clearly show the units/systems efficiency (as a percentage of primary energy). This will allow an equal comparison, especially since there are different scales between low temperature and medium temperature units. Furthermore, due to an increase of the upper level energy classes, a wider range of products will be available in the same energy class. As such, the differentiation can only be visualized by documenting the efficiency in addition to the energy class. We can understand that this is less important for fossil fuel heaters, due to their versatile scale, but for the top range products all packed in the upper scales, it is a necessity.

- The Commission should be aware that these products are in general not sold in supermarkets/off the shelf but are offered within a direct expert - client relation.
- At least the label will most likely be shown to the end user by an installer. Thus, an expert will be available to explain the meaning of the data and its impact on heating costs to the consumer.
- Furthermore, consumers are usually able to understand that a bigger value means better performance.

- In addition, there is a precedent in ENER lot 10, where the percentage has been indicated, especially for this purpose.

The Energy label for heat pumps shall only require mandatory indication of the efficiency on average climate, for warmer and colder climate this should be optional. In case the manufacturer chooses not to label for a certain climate, then a cross should be marked on the label. This is also in line with Ecodesign ENER lot 10 on air conditioners.

The Energy label for heat pumps should make the indoor sound power level optional as not all heat pumps are used indoors. There is no indoor unit running (only floor heating or radiator heating, or the so called hydrobox which is a heat exchanger only). Some heat pumps are also used indoors, and in that case, it should be required to indicate indoor sound power level. However, for others it should be possible to add a cross.

Energy labels for combi-heaters should include the possibility to show the efficiency of low temperature applications. Although space heating is limited to 35°C applications only, it is still possible to produce the necessary sanitary hot water by applying a backup heater. As such, these products can provide hot water and space heating for different temperature applications.

Energy labels for packages should also include the possibility to label for low temperature applications. Packages will also be provided for low temperature applications. In this case, it should be possible to provide the label and the data.

General comments for both ecodesign and energy label

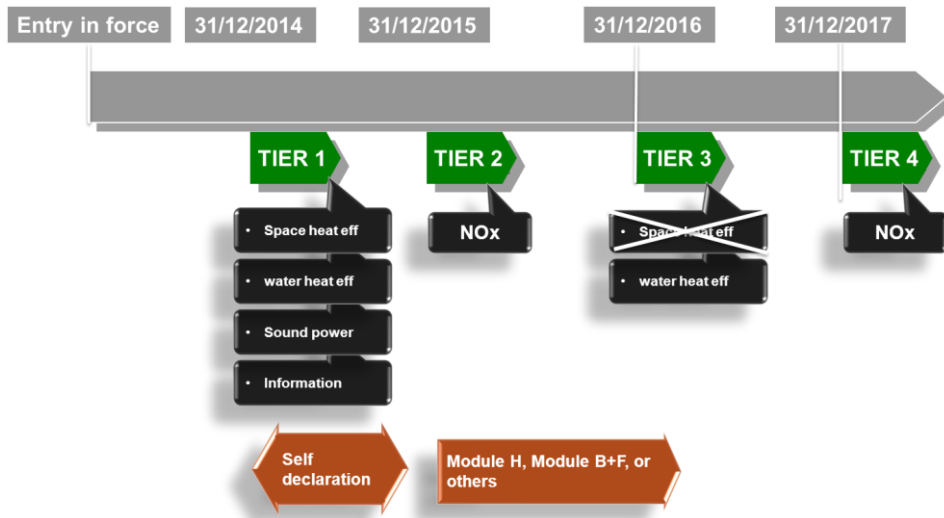
EHPA and EPEE clearly appreciate that the lower capacity limit has disappeared and that the measure now applies to all products between 0 and 400kW rated heat-output.

EHPA and EPEE support the inclusion of module H and module B+F but more time is required to set it up without affecting the implementation date of the measure. For the heat pump industry the approach is new (despite voluntary schemes). Hence, additional time is needed to set up the necessary notified bodies and processes need to be enabled this compliance assessment for these products. As such, we would like to request to start the implementation at the proposed date, but to allow more time to set up the necessary compliance according to module H or B+F. We suggest implementing module H or B+F 3 years after entry into force, meanwhile, self-declaration as foreseen in the framework directive should be applied. It is not our wish to delay any further implementation of the measure, so a delay in implementation of the module is more appropriate.

EHPA and EPEE want to emphasize that module H has to be maintained, but other modules can be added as well.

Implementation of both measures should start at the end of the year or the beginning of the year, to coincide with the issue date of catalogues/product data in the industry. It is a well-known fact that the industry presents its catalogues to the market in January. The information requirements will affect this cycle and should hence take this economic factor into account. As such we propose to start the minimum requirements from the end of

December 2014 or the beginning January 2015, in line with the start 2 years after entry into force of both measures.



Technical comments

Ecodesign (and if necessary also to be aligned in energy label)

- Annex I (39)** it is not understood why WTOL is only applicable to water(brine)-to-water units and not to air-to-water units as it is defined as the maximum outlet water temperature from which the manufacturer is able to declare a heating capacity. The declaration of WTOL in Table 2 also refers only to water(brine)-to-water units.
- Annex I (56)&(59)** Definition of T_m and T_P for DHW changed from temperature to temperature rise - tables with load profiles are still the same. This is not in line with the current standards and will lead to increasing DHW temperatures by 10K up to 65°C. We suggest to delete the wording "rise", to align with existing standards.
- Annex III**
 - (a)** the ambient condition is set to 20°C, while usually in standards a range for the ambient temperature is allowed.
→ extend 20°C to a range around 20°C. Otherwise it would be mandatory to set the allowable deviation for this ambient temperature.
 - (c)** The annual equivalent hours are now specified at 2066 hours. This is not in line with the standard prEN 14825, that now specifies the following:

Table D.2 — Number of hours used for calculation of reference SCOP

	Heating only			Reversible		
	"A"	"W"	"C"	"A"	"W"	"C"
Off mode (Hoff)	3 672 h	4 345 h	2 189 h	0 h	0 h	0 h
Thermostat off (Hto)	179 h	755 h	131 h	179 h	755 h	131 h
Standby(Hsb)	0 h	0 h	0 h	0 h	0 h	0 h
Equivalent active hours for heating (Hhe)	1 400 h	1 400 h	2 100 h	1 400 h	1 400 h	2 100 h

(f) The SCOP shall be corrected by the electricity consumption of ground water heat pump(s). The power input of these liquid pumps is depending on the installation and is not known by the manufacturer when establishing the heat pump on the market.

Energy label

4. **Product fiche, figure 3: Figure 3:** Little mistake in sign, must be plus instead of minus, (on point 3).
5. **Annex IV, figure 3&4:** The etas of the supplementary boiler is not clearly defined and should be specified. For electric back up heater, this should be $1/CC = 40\%$ or in another way defined. For now it is not specified, and could create problems for externally installed electric backup heaters.

Communication (transitional method)

6. **Communication document on testing and calculation p.12 5.1 calculation of seasonal space heating energy efficiency** For determination of $\eta_s = (1/CC) \cdot SCOP - \sum F(i)$ F(2) for the auxiliary pumps are considered to be too high. 5 % for ground water pumps is acceptable, but for brine water pump it is too high regarding to high efficiency brine pumps (EC-Pumps). We suggest for brine pump 2,5 %. Following differentiation should be made:

F(2)=5 % for ground water pump; 2,5 % for brine pump

EHPA	EPEE
<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>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.</p> <p>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>www.epeeglobal.org</p>