

EU ECOLABEL FOR WATER BASED HEATERS AND AMENDMENT TO EU ECOLABEL FOR HEAT PUMPS

EEB, INFORSE and BEUC comments to the criteria proposal to be
voted on 22 November

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Summary

The European Commission has presented a proposal for a Commission Decision establishing criteria for the award of the EU Ecolabel for water-based heaters. The background information on this process, including the latest version of the criteria and the technical report, can be found in the Website of the Joint Research Centre of the European Commission¹.

The EEB, BEUC and INFORSE welcome the proposal for an Ecolabel for this product group and acknowledge that the criteria proposed go beyond Ecodesing mandatory requirements for most hydronic heating products covered. However, we would like to reiterate our strong disagreement with the ambition level for the energy efficiency set for heat pumps as most ground source heat pumps and many air source heat pumps available on the market will be able to comply with the criterion on energy efficiency, as we showed in our comments from 5th of July², which are still relevant for the discussion.

EEB, BEUC and INFORSE strongly call for more ambitious requirements for heat pumps setting the TEWI value at least below 130 and not 150 as proposed.

In addition, NGOs call for the use of low-GWP refrigerants (below 150), since the global warming potential (GWP) of the refrigerant is the other main environmental aspect of heat pumps.

The European Commission has also presented an amendment to extend validity of the criteria for air to air heat pumps until 2016. EEB and BEUC would recommend instead to do a fast revision of the energy efficiency criteria to align them with the A-labelled air to air heat pumps.

¹ <http://susproc.jrc.ec.europa.eu/heating/whatsnew.html>

² <http://www.eeb.org/?LinkServID=2032E45D-5056-B741-DBC09DD1C0722834&showMeta=0&aa>



EU Ecolabel for air to air heat pumps

EEB, BEUC and INFORSE cannot support an extension of the validity of the current criteria until 2016 as the current energy efficiency requirements for this Ecolabel are very weak.

Instead of extending the validity of the current criteria until 2016, NGOs would strongly recommend doing a quick revision of the energy related criteria aligning them with the energy efficiency criteria of A-labelled air-air heat pumps.

EU Ecolabel for water based heaters

Criterion 1. Energy efficiency

EEB, BEUC and INFORSE would like to reiterate that there is currently an important loop hole in the efficiency calculation for heat pumps, as according to the Ecodesign methodology it is important to specify that the efficiency calculation should be for normal-temperature heat pumps, not for low-temperature heat pumps. In Ecodesign regulation, the requirement for seasonal space-heating energy efficiency for low-temperature heat pumps is 115% (tier 1 requirements) while for normal-temperature heat pumps it is 100%³. To clarify that in the EU Ecolabel proposal, we suggest to include that for heat pumps that can only operate as low-temperature heat pumps, the seasonal space-heating energy efficiency value, calculated according to the Ecodesign methodology, should be subtracted 15% to make them equal with normal-temperature heat pumps.

Criterion 2. TEWI value

EEB, BEUC and INFORSE call for the European Commission and Member States to lower the maximum TEWI value (in g CO₂-equivalent/kWh delivered heat) to 130 or lower with the additional requirement that they are filled with a low-GWP refrigerant. Today there are refrigerants on the market with GWP around 150 that are plug-in replacement for the refrigerants normally used for heat pumps with GWP in the range of 1500 – 4000. This will require a lower TEWI value of 130 or lower, not the 150 proposed in the draft.

In the comments provided on 19th of June and 5th of July 2013 we presented several examples through which we estimated that the appropriate limit values could be expected to be in the range of 107 – 133. This is also consistent with the request made by Germany to lower the TEWI values to 110.

NGOs would like to stress that the proposed TEWI value of 150 for heat pumps will result in little difference between the efficiency of Ecolabelled heat pumps and the Ecodesign minimum-efficiency in the second tier of the Ecodesign of hydraulic heater from September 2017, as shown in the table below. Then all

³ In Ecodesign there is a distinction between normal temperature heat pumps that are tested with 55°C forward temperature (i.e. good for radiators) and low-temperature heat pumps that are tested with 35°C forward temperature (i.e. good for floor heating, but not good for radiators). There is a difference of Ecodesign minimum requirements for the two types of heat pumps: 100% minimum efficiency for normal-temperature heat pumps and 115% for low-temperature heat pumps. This is because if a normal temperature heat pump is tested as a low-temperature heat pump, it will have about 15% higher efficiency. The TEWI calculation is based on the energy efficiency calculated according to the Ecodesign methodology, but the EU Ecolabel proposal fails to specify this distinction between normal-temperature heat pumps or a low-temperature heat pumps.

heat pumps with low greenhouse warming potential (GWP) will have TEWI values below 150, making them eligible for ecolabels, while also many heat pumps with the most popular refrigerent today (R407c) will have TEWI values below 150. For calculation of the TEWI value, it is important to specify that for low-temperature heat pumps, the seasonal efficiency tested with a forward temperature of 35°C should be reduced by 15% to set them on equal level with normal temperature heat pumps tested with a forward temperature of 55°C. Lack of this requirement will create a loophole for inefficient heat pumps.

If this loophole is not addressed, most low temperature heat pumps will have TEWI values that will make them eligible for the EU Ecolabel in the first Ecodesign tier (expected 2015) and all in the second tier.

With the proposed TEWI value of 150, many A+ labelled heat pumps will have TEWI values that will make them eligible for the EU Ecolabel. A+ is the lowest permitted class for heat pumps, when Ecodesign and energy labelling requirements will enter into force (expected in 2015).

In the table below the TEWI values for heat pumps with seasonal efficiencies on the lower limits of coming Ecodesign requirements and within Energy Label classes are shown.

	GWP 150	R407c (GWP 1610)
Ecodesign 2015	155	174
Ecodesign 2017	141	160
Ecodesign lowT 2015	135	154
Ecodesign lowT 2017	125	143
A+	125- 159	143- 177
A++	104-125	122-143
A+++	Below 104	Below 122
A LowT	127 - 135	145 - 154
A+ LowT lowes eff = high TEWI	127	145



Left column for heat pumps with low-GWP refrigerant (GWP = 150) and right column with normal refrigerant (R407c). The yellow fields are heat pumps not meeting the proposed Ecolabel criteria of TEWI= 150, green fields are heat pumps meeting the Ecolabel criteria of TEWI = 130 proposed by NGOs. Values for low temperature heat pumps are not adjusted for their lower capability (i.e. with the loophole described above)

Criterion 3. Refrigerant

EEB, BEUC and INFORSE call on the European Commission and Member States to reduce the maximal GWP to 150. Since the global warming potential (GWP) of the refrigerant is one of the two main environmental impacts of heat pumps, the criterion addressing refrigerants directly is important. The figure of 150 (which is consistent with the limit in the "F-gas" Directive) still allows some HFCs, such as R152a and R161, and new fluorocarbon blends from some refrigerant manufacturers, rather than allowing only natural refrigerants.

In our comments from 18th of June and 5th of July we provided a number of studies showing that heat pumps using refrigerants below 150 GWP can have at least equal efficiency, typically higher, than heat pumps with normal GWP refrigerants.

Criterion 5. CO emissions from solid fuel heaters

EEB, BEUC and INFORSE recommend to revise this value, as the change for automatically stoked solid fuel heaters has been almost doubled.

Criterion 7. Particulate matters (PM)

EEB, BEUC and INFORSE would like to keep the particle emission limits of 15 mg/Nm³ as proposed in the previous draft. The limit of 20 mg/Nm³ was proposed as Ecodesign criteria, but was not adopted as expected this fall. As no EU-wide Ecodesign criteria were adopted for air pollution from boilers, some countries may introduce the proposed limit as national limit, making this limit irrelevant for EU Ecolabel in those countries.

END