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**Position of ECOS, EEB, Friends of the Earth Europe,
WWF EPO and INFORSE Europe**
**on the Working document on the Ecodesign & Energy Labelling
of Water heaters & Hot water tanks of JUNE 2010**

Summary

*We welcome the revised Working documents circulated by the European Commission in June 2010, and **reiterate our call for an urgent adoption of Ecodesign and Energy Labelling rules for heating products**. We also make the following important comments:*

- The first two tiers of Ecodesign should be implemented quickly, without extra delays.
- The ambition should afterwards be raised at the level of least-life cycle cost. We propose a 2-year period to refine these levels based on first feed-back from the use of the methodology and updated calculation method
- Limit values for NO_x emissions should be implemented much sooner, and further tiers should be set closer to benchmark values
- Refrigerant fluids in heat pump water heaters are a significant environmental aspect. They should be covered by Ecodesign and information requirements
- Regulation of hot water storage tanks makes sense, and the requirements could start earlier
- Energy labelling of water heaters should be based on a single fuel-independent scale, but without using A+/A++/A+++ classes from the start. This can be avoided by moving the proposed scale by 3 classes up.

We also address in this paper concerns related to the potential conflict with national legislation, resource efficiency, consumer information, benchmarks and methodological issues regarding heat pumps, smart control, tapping profiles and temperature levels.

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Our Coolproducts for a Cool Planet campaign website: www.coolproducts.eu
Our expert website on Ecodesign: www.expert.coolproducts.eu

Regulation of heating equipment is an urgency

After 3 years of consultations and discussions, the European Commission has still not adopted the long-awaited Ecodesign and Energy Labelling measures for heating products. This leads to continuous waste of energy in the sector and does not provide the industry with a clear vision.

We can only regret that, and strongly encourage the Commission to take a final decision on boilers and water heaters. We estimate that 1/3 of the energy spent on heating water in Europe could be saved in an overall cost-effective way in 10 years time. This represents a saving of 80 million tons of CO₂ per year. While the EU is still short of a proper policy, the USA have been regulating their water heaters since 1994.

In view of the urgency to make a move and in order to avoid that the methodological aspects paralyse the decision-making process any longer, we suggest that **the proposed 3rd stage of Ecodesign requirements is refined after a 2 year feedback from using the methodology and with new life-cycle cost calculations.** This will make sure that the process is set in motion, while taking some time to refine the middle-term objectives.

The proposed Ecodesign requirements can be more ambitious

Energy efficiency limits

The Ecodesign requirements proposed in the Working document are not more challenging than those discussed back in 2008, and would be enforced 3 years later than originally planned. We consider this a problematic drop in ambition and credibility. Moreover, these levels are less demanding than the least life-cycle cost options (as calculated in 2007 in the preparatory study).

The Working document does not provide any additional technical, economical or environmental arguments as to why the least-life cycle cost (LLCC) levels may not be the ambition for tier 3. We can understand that the refined energy efficiency calculation that has been developed since 2008 to support the regulation may require that the LLCC levels are reassessed accordingly. Therefore, we propose that the tier 3 details are set after a 2-year learning process (during which the LLCC calculations will be refined based on feedback from use of the methodology). Below is our detailed proposal:

	3XS	XXS	XS	S	M	L	XL	XXL	3XL	4XL
Tier 1 - 1 year after entry into force	22	22	26	26	30	30	30	32	32	32
Tier 2 - 2 years after entry into force	32	32	32	32	36	37	40	40	40	40
<i>During 2011 and 2012</i>	<i>Feed-back from use of the methodology and refined LLCC calculations</i>									
Tier 3 - 4 years after entry into force	LLCC values (according to previously refined calculations)									
<i>5 years after entry into force</i>	<i>Full revision of the measure</i>									

Note: we firmly believe that tier 2 can be advanced by a year, as this tier was already proposed in the 2008 working documents to enter into force in 2011. Since then, technological improvements in water heater technologies has confirmed that these levels may be applied quickly.

It also has to be acknowledged that the values kept low (32%) for the smaller sizes 3XS to S (in order to leave some electric water heaters on the market for cases where an alternative technology is sometimes not possible) has to be compensated by high values for the larger heaters for which (according to industry claims) energy efficiency can be an important driver.

The proposed bonus for 'smart controls' in the regulation will also add flexibility to comply with the rules. We think this bonus should be designed according to documented savings achieved by smart controls in real life, with a maximum allowance of 15%.

NOx limits

With respect to air pollutants, we reiterate our claims from 2008 to set demanding minimum requirements on both boilers and water heaters. We consider that these emissions should be minimised to the lowest achievable level.

The approach proposed in the Working document leaves 5 years to industry to comply with levels that are way above the benchmarks. This can not be a credible solution to incentivise for a quick uptake of greener technologies. Therefore, **we call the Commission to advance the entry into force of the proposed NOx requirements; they should start with Tier 2.** A further more ambitious stage should be designed and implemented at Tier 3, closer to benchmark values and using the same approach as for the previous requirements.

Addressing refrigerant fluids

Refrigerants have been considered as a significant environmental aspect of heating and cooling technologies; however the Working document still does not include any requirement to promote green refrigerants in heat pump-based water heaters.

We advise the Commission to fill this gap by implementing the two following requirements:

- 1 year after entry into force, all water heaters using a refrigerant fluid of Global Warming Potential higher than 10 should bear a clearly visible indication about the danger of leakage and need for proper recycling (this to amplify provisions from the F-gas directive). In addition, **the energy label should include a piece of information in relation to the impact of the refrigerant.**

- From Tier 2, **a malus on the energy efficiency calculation should be applied to products using refrigerants of Global Warming Potential higher than 1.** Our suggestion: a 10% malus for GWP>120 and a 5% malus for GWP between 120 and 1. A malus (rather than a bonus) would compensate for the favourable treatment of heat pumps in the methodology (*see comments below*).

Requirements for hot water storage tanks

We support the proposal to regulate the standing losses of hot water storage tanks. However, we believe **the suggested requirements could start 1 or 2 years earlier.**

Energy labelling must remain meaningful

As before, **we strongly support a unique energy label for water heaters enabling comparisons across technologies and fuels.**

However, we are concerned that the current proposal would allow some electric storage water heaters to get an A-rating, which in our view is a fundamental inaccuracy. Heating water with an electric resistance is the least energy efficient option, and consumers should understand that. The problem mostly lies in the proposal to use upper classes with pluses from the start.

We strongly advise not using the A+, A++ and A+++ energy classes from the start, as in the spirit of the Energy Labelling directive from 2010, these classes should be left aside for future updates. We believe this opinion is widely shared if we consider a similar recent debate on the energy labelling for air-conditioners (Ecodesign Consultation Forum of 23 April 2010). In addition, we think the energy label for water heaters should be consistent with the one for storage tanks (i.e. an A-G scale).

This suggests moving the proposed scale for water heaters by 3 classes up and merging the proposed bottom classes (which in any case will be progressively emptied of products).

Additional comments

Potential conflict with national legislation

Some EU Member States have already introduced or are planning to introduce national rules to improve the energy efficiency of water heaters and hot water storage tanks. It would be a problem if advanced countries are incapable of setting ambitious legislation because of the EU Ecodesign measure. This means that a proper interpretation of the Energy Performance of Buildings Directive needs to be agreed upon, with guarantees that water heaters are considered as 'technical building systems', thus enabling Member States to cover them by system efficiency requirements.

Resource efficiency aspects

We strongly suggest the development of approaches and requirements to ensure full recycling of discarded water heaters. Smart design options and generic requirements could help in achieving the objective of a greater resource efficiency in the EU. As most water heaters are installed and uninstalled by professionals, collection and recycling could be further optimized through product design.

Consumer information

The size classification for water heaters using S, M and L letters should be complemented by a description of the product performance, each time this classification is used in consumer information. This information needs to be accessible on manufacturer websites, catalogues, etc. The product performance information can typically include the daily hot water use and/or the number of sinks/showers the product is suitable for. This will ensure that the size classification is correctly understood by the public and installers.

Benchmarks

In order to increase the transparency of the policy-making process, we would like the benchmarks mentioned in the Ecodesign regulation to include references to the refrigerant GWP and methane emissions.

Remarks on the methodology and calculations

➤ *Heat Pump Temperature levels*

We firmly believe that source temperatures for heat pumps are too high, **leading to too high rating of heat pumps**:

For ground water heat pumps, the proposed source temperature is 11.5°C while the required cold water temperature is 10°C and the average temperature of the average climate zone is 10°C. We suggest reducing the source temperature value to 10°C.

For air source heat pumps, the source temperature is 10°C, but because of the lower coefficient of performance of heat pumps with lower temperatures, and the need to use electric resistance back-up and de-icing at low temperatures, the temperature used for testing to define the average situation must be lowered. The following temperatures are suggested:

- Average climate zone: 8°C (2°C below the average temperature in Strasbourg)
- Colder climate zone: 2°C (3,6°C below the average temperature in Helsinki, where the impact of lower coefficient of performance, electric back-up and de-icing are substantial)

Based on more measurements of heat pump efficiencies at different source temperatures, the representative outdoor air temperature can be revised with a later revision of the regulation.

➤ *Smart controls*

The testing protocol for smart controls for Electric Instantaneous Water Heaters (EIWH) seems insufficient. Either EIWHs should be tested for smart control effects with the same method used

for other water heaters, or a convincing documentation should be provided to prove that instantaneous water heaters have a different energy saving potential that is not captured by a standard test.

➤ *Fit for purpose, maximum tapping profile*

It seems that the testing method does not include a test of whether a water heater is fit for purpose. This should be included. This is in particular an issue for night water heaters and heat pumps using outdoor air, where the capacity is lower at winter at minimum temperature. Such a test will set the largest tapping profile, which is the one that should be used under the Ecodesign requirements and label classification. This will also ensure that a water heater is not declared with too large a load profile.

➤ *Water temperature levels*

In Annex II (measurements) of the methodology, par. 2c, it is stated that the mean temperature of the (water heater) thermostat should not fall below 55°C. Does that mean that all water heaters, including instant heaters that only need to supply 25°C water must maintain 55°C inside?

END.