



CONSUMER RELEVANT ECO-DESIGN, LABELLING AND INSTALLATION REQUIREMENTS FOR DEDICATED WATER HEATERS

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Summary

In the context of the implementation of the Eco-design of Energy-using Products the European Commission is proposing eco-design requirements for water heaters (Lot 2).

This paper outlines the main consumer relevant issues related to possible eco-design, labelling and installation requirements for water heaters and recommends improvement options.

We emphasise the need for Member States to support consumers in replacing electric water heaters with more environmentally friendly technologies as well as the need for a well-designed labelling scheme to inform consumers.

Moreover we underline that the verification procedure for market surveillance needs to exclude the possibility of a systematic exceedance of limit values by a certain percentage.

Finally, we see a very important role for installers and retailers. They should be trained in order to better inform consumers about upcoming technology changes such as the phasing out of electric water heaters.

Introduction

This paper outlines the main consumer relevant issues related to possible eco-design, labelling and installation requirements for water heaters (Lot 2) and recommends improvement options. Comments are based on Working Draft 3 of the Commission which was provided to stakeholders on 1 July 2008¹.

In particular, we highlight the need for Member States to support consumers in replacing electric water heaters with more environmentally friendly technologies as well as the need for a well-designed labelling scheme to inform consumers.

1. General remarks

Eco-design requirements for water heaters should allow the best performing devices to penetrate the market as quickly as possible. In this respect we support a fuel-independent approach for ecodesign requirements and rating scales for an energy efficiency label in order to ensure that the best available technologies are promoted.

Low-performing products need to be eliminated from the market by setting ambitious energy-efficiency requirements. In this respect, we support the concept of “choice editing”, meaning that a range of well-performing products is offered to the consumer while badly performing products are taken off the market.

Consumers will clearly benefit from energy efficient water heaters. However, phasing out inefficient and often cheap appliances could be a burden for some consumer groups. In this respect it is important that provisions are made to avoid unnecessary hardship for consumers. Consumer organisations therefore call on the Commission to encourage Member States to provide accompanying measures such as subsidies and tax reductions in order to support consumers in replacing inefficient and defective water heaters. Moreover, it will be crucial that consumers receive information on the intended technology change well in advance in order to avoid uninformed / environmentally unsound decisions when investing in new water heaters. Installers and service personnel have a special role to play and should be trained accordingly.

2. Scope of the measure

As already outlined in our previous position of February 2008², we propose to include Indirect Cylinders and devices used in co-generation systems and district heating into the scope of the measure. Moreover, we ask to include devices that use waste heat.

¹ Commission Working Document on possible Ecodesign Energy labelling and Installation requirements for Dedicated Water Heaters, 1 July 2008.

² Consumer relevant eco-design requirements for boilers and water heaters (ANEC-PT-2008-EuP-003final/BEUC X/011/2008 – 22/02/08).

3. Specific energy-efficient requirements for water heaters

Electric resistance water heaters are generally characterised by low energy efficiency, considering the primary energy input necessary to generate electricity. Therefore in the medium term, these devices should disappear from the market and should be replaced by alternative technologies such as solar-assisted appliances or heat pumps.

However, it has to be ensured that in the short term consumers will not be adversely affected by a ban of certain products leaving consumers without suitable and affordable replacement options. Therefore we would agree that the best performing electric water heaters will be allowed on the market for a transition period. However, structural changes need to be initiated as soon as possible. With a view to the above, we recommend the following:

- It needs to be ensured that Member States support consumers with financial programmes in replacing inefficient and defective electric water heaters with more environmentally friendly technologies such as solar-assisted appliances or heat pumps.
- A target date must be set for phasing out devices with a specific efficiency threshold below 41%, at least for water heaters of size M and above. As a target date we suggest the year 2015. The date for phasing out certain appliances needs to be communicated clearly to stakeholders in order to allow forward planning.
- A third set of minimum performance standards should become effective in 2015 in order to improve the energy-efficiency of water heaters on a continuous basis and in the long term. The proposed values are shown in the table below and correspond to an energy efficiency of class “A” according to the rating scale (ANNEX II.1 of WD 3).
- Stricter minimum efficiency standards for new buildings and major refurbishment (to be regulated in the Energy Performance of Buildings Directive (EPBD)³ should be set. The requirements should be in line with the minimum standards proposed for 2011 and 2013 in the second Working Draft of 20 June 2008⁴.
- Compared to the first WD, minimum efficiency requirements are less stringent than before. Furthermore, for the period from 2013 on, all requirements for sizes XXS to XL have been deleted. We are convinced that also smaller water heaters should be as energy efficient as possible. A set of efficiency requirements for boilers from M (39), L (46) and XL (50) should therefore be introduced for 2013 (see table below). These values correspond to an energy efficiency rating of class “B” according to the rating scale as outlined in ANNEX II.1 of WD 3.

We propose to include the following minimum requirements for the “specific efficiency” of water heaters into the Eco-design requirements (ANNEX I):

³ Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings.

⁴ Commission Working document on possible Ecodesign, Energy labelling and Installation requirements for Water Heaters, 20 June 2008.

Size	XXS	XS	S	M	L	XL	XXL	3XL	4XL
From 1 Jan									
2009	22	26	26	30	30	30	32	32	32
2011	32	32	32	36	37	40	40	40	40
2013				39	46	50	60	64	64
2015		35	35	45	56	62	72	80	86

Black figures correspond to Commission WD 3. Red bold figures correspond to ANEC/BEUC recommendations

4. EuP requirements for refrigerants in heat pumps

We believe that the provisions regarding refrigerants used in heat pumps are insufficient in order to move the market up towards products with the lowest global warming potential. We therefore support the proposal of environmental NGOs that refrigerants with a global warming potential higher than 10 should be marked. Furthermore, consumers need to be informed about the dangers of refrigerant leakage and the need to recycle the equipment properly.

5. Size limits

We call on the Commission to ensure the correct sizing of water heaters. Currently clause 1.2 (size limits) creates a serious loophole as it allows downgrading water heaters by up to two size classes (thus making use of the softer efficiency requirements for the smaller classes). The size class of a water heater should be unambiguously defined by the maximum tapping cycle it is able to achieve.

6. Emissions in use phase

Although the working document identifies NO_x, Carbon Monoxide (CO), hydrocarbons and particulates as significant environmental parameters for water heaters, the proposal only contains limit values for NO_x.

We are disappointed that the Commission has not taken into account our previous comments regarding the need to set also legal binding limits for CO emissions. A NO_x limit without a CO limit is potentially dangerous as one can reduce the emissions of NO_x at the expense of increasing CO tremendously. Hence, they need to be measured simultaneously in order to avoid negative health effects.

We therefore reiterate our previous comments and call on the Commission to set not only ambitious limit values for NO_x emissions but also for CO, hydrocarbons and particulates in the eco-design requirements. Such measures should be based on existing legislation in EU Member States. We ask to apply the limit value for NO_x as soon as the measure enters into force instead of delaying it to the year 2013.

Moreover, appropriate measurement methods for the emissions in the use phase should be developed in harmonised standards. Unless these harmonised standards are available an interim measure needs to be put in place in the eco-design requirements.

We do not support a higher threshold for NO_x emissions where renewable energy has been used. Moreover, we strongly oppose the possible variant as outlined in point I.3.1 of the WD 3 as the preparatory study considered a maximum of 20ppm of NO_x as reasonable.

7. Verification procedure

A verification procedure which would allow for a systematic exceedance of limit values is unacceptable. The current proposal allows for a systematic exceedance of specific energy efficiency requirements and NO_x emissions by 4%. We therefore propose to delete the 4% variance and to consider the energy efficiency and labelling thresholds as the maximum limit. In cases where the first tested unit exceeds the exact limit value, at least three more units should be tested. If the results prove that on average all units tested (including the initial product tested) exceed the limit, threshold or declared value, the model should be considered to have failed to comply with the relevant value.

Furthermore, we recommend deleting the alternative option for verification which is based on an analysis of a potential test error of the relevant test house.

We are convinced that the verification procedure for market surveillance purposes should not be specified in a harmonised standard but must be contained in the legal text of the Implementing Measures. Technical standards should be used for test methods only.

For declared values we also recommend to delete the 7% variance as the limit values set by the eco-design requirements should be considered as the maximum value. It is the responsibility of manufacturers to ensure that limit values are met without exceeding these values by a certain percentage.

Finally, the verification procedure needs to take into account distribution losses.

8. Energy Labelling of water heaters

Independence from energy source

We support the introduction of a labelling system which informs consumers about the energy efficiency of water heaters independent from the technology and energy source involved. A rating scale that would differentiate products within a given technology would not give the right signal to consumers and could prevent them from switching to more environmentally friendly and energy efficient appliances in the future.

Layout of the label

It should be ensured that the layout of the label is in line with the existing A-G labelling scheme for domestic appliances in order to ensure recognition of the label by consumers. The label must have an identifiable top class and needs to be regularly updated by re-scaling the classes downwards as soon as a certain percentage of the market share has reached the top class.

Restricted number of classes

We strongly oppose the introduction of A+, A++ and A+++ classes as foreseen in the current WD. Even though it is foreseen that only products with renewable input or innovative technologies should be classified as better than "A", we do not consider this classification above "A" as useful. Information on innovative products can easily be communicated to consumers by means of advertising.

The labelling scheme should be limited to seven classes as more classes could reduce clarity and could also result in misclassification because of error margins. As some of the lower classes will be banned in 2011, one possibility could be to collapse the 4 classes that will be banned in 2011 into one - thus reducing the number of classes into seven.

Meaningful class names and regular rescaling

Currently it is foreseen to update the energy efficiency requirements in bi-annual steps. However, the updating of class definitions currently does not correspond to this timing. This needs to be changed as the labelling system will otherwise be highly misleading for consumers. For example in 2011 minimum standards will result in a complete phase out of water heaters of class D to G. In 2013 only A+++ to B classes will be available for most size categories of water heaters (in class XXS there will even be only A+++ to A). Thus, consumers will be given the impression that an "A"-rated device is best-performing while in fact it falls into the second worst or even the worst class. Therefore it is crucial that the rescaling of labelling classes will be in line with the updating of minimum performance standards.

In order to make the process predictable and transparent, the thresholds for future re-scaling should be set well in advance.

Verification of Energy Label is required

Energy Labelling should not be based on manufacturers' self-declarations but on third party testing.

Visibility of the Energy Label

The Energy Label for water heaters should be displayed on the product, in advertising material, and the product documentation/fiche so that it is easily visible and readable for consumers and sales personnel.

Also, it should be ensured that consumers will not be confronted with multiple energy labels on one single appliance in cases where water heaters are able to fulfil more than one tapping cycle.

9. Need for additional consumer information

As the water heater classifications, e.g. "XS", "M" or "L", are not very meaningful for consumers as such, it would be useful to better explain and illustrate the meaning of a size class. This additional information should explain which size corresponds to which load profile and which typical use pattern is covered by the respective size class. This information could be provided in the product documentation.

Member States should be obliged to provide consumer advice in the form of information campaigns on the label and minimum performance standards.

Consumers should moreover be able to obtain information about the noise level of water heaters as permanent exposure to noise can lead to severe health effects. We therefore recommend introducing a classification scheme which allows consumers easily to inform themselves about different noise levels.

This information should also be displayed in catalogue offers and other information sources.

10. Installation Requirements

ANNEX III of WD3 allows Member States to make exemptions from the installation requirements and the minimum requirements for a broad category of reasons such as economic or “national political reasons”. It also offers Member States the right to decide to postpone the introduction of minimum efficiency criteria for various reasons. Both provisions constitute a significant loophole and should be deleted from the Annex.

Moreover, the legal status of ANNEX III seems unclear as it proposes changes of the EPBD Directive but does not make the provisions compulsory as Eco-design requirement in the Implementing Measure. It has to be ensured that the installation requirements will be taken into account in the legal process.

11. Supporting measures by Member States

Member States should be required to provide appropriate training and qualification programmes for installers and retailers in order to improve the quality of consumer advice, understanding of the label, and understanding of the additional benefits of systems using renewable energy sources. Member States should furthermore be requested to provide support for installing new highly efficient systems (e.g. by way of subsidies or tax reductions).

Finally, it is important that installers and retailers inform consumers clearly about the upcoming technology changes which will lead to a phase-out of electric water heaters. Installers and retailers thus have a very important role in preventing consumers from taking costly and non-ecological investment decisions.