



PP 10-11

Brussels, 6 August 2010

CECED Comments on Draft Measures for Water Heaters and Hot Water Storage Tanks

CECED wishes to express its view on the draft Commission's documents on Ecodesign and the Energy Label that have been tabled on two different dates, the first part on 24th June 2010 and the second part on 19th July 2010.

First of all, industry is concerned about the delay in consolidating the draft Ecodesign and Energy Label measures. Until those measures are published in the Official Journal it is not possible for our industry to properly plan investments that will lead to the desired efficiency improvements.

Secondly, it appears that several modifications have been introduced into the energy efficiency measurement methodology that would result in worsening the measured efficiency of the same product by at least 2.5%. Applying unchanged the proposed ecodesign-specific requirements under this new methodology would have the net effect of phasing out some appliance categories in areas where no real alternative products exist.

CECED would like to suggest to the European Commission that it takes the following remarks into consideration, so as to improve the document's content and clarity which will then facilitate the role of market surveillance authorities in verifying the compliance of products to legislation.

I. Remarks on the draft ecodesign requirements and on the draft Commission Communication on the measurement method:

a. Smart Control

We have noticed that the original Smart Control (SC) saving computation for large storage water heaters (WH), from the load profile M upwards, has been modified.

The current proposal reduces the computation of the SC for storage WH from 10% to 7%. Such a modification would, on one side, allow for an easier access to claim a smart control capability, but on the other side it would cap the benefit to 7% which would penalise a product that provides benefits substantially higher than 7%.

It seems logical to link the level of possible electric energy savings to the factor used in the formula for the evaluation of the product's energy efficiency.

For this reason, we propose to keep the equation that determines the *smart* value in Annex III, paragraph 6, as it is. However we propose to make *etawh* dependent on the actual level of savings that a product can deliver. The formula in Annex III paragraph 4, should have instead of $(1-0.07 \cdot smart)$ a factor $(1- savings \cdot smart)$, where *savings* is the actual level of savings that the product can deliver.

For load profiles lower or equal to S, manufacturers should be able to declare efficiency that is higher than 7% but limited to 15%. For loads from M to 4XL manufacturers should be allowed to use values higher than 10% but limited to 20%.

Furthermore, we have noticed that the methodology of testing for smart test on storage is outlined in Annex II, paragraph 3. According to us it should be further clarified in order to ensure proper test procedures and market control.

Finally, CECED would propose to introduce a check, after the 14 day test procedure, to assess if the smart control appliance is providing enough energy content to deliver hot water on the 15th day. The proposal is detailed in Annex I of this document.

b. Maximum load profile

In order to make sure that there is a clear relationship between the physical dimension of the product and the declared maximum load profile, the preparatory document contains a capacity limitation for water heater load XS (max 15 litres) and S (max 36 litres).

CECED suggests clarifying the relationship between sizes and the maximum load profile for higher load profiles as well, keeping at the same time the possibility to add safety margins in the declarations. We propose that for appliances of loads size M and higher, manufacturers can declare up to one load lower than the absolute maximum tapping profile that could be reached by the appliance. That would allow on the market appliances that run over night or during some hours in the day where low tariffs allow a good management of peak demands. That would also give the necessary confidence to consumers that the selected product will satisfy the declared tapping profile.

c. Promoting appliances that provide a high standard of comfort – V40 minimum requirement

In the draft document there is no requirement as to the amount of hot water that should be available at the end of the tapping profile.

CECED would like to prevent damages to the market due to a possible presence of products which, while complying with legal requirements, would not guarantee a sufficient amount of hot water to the user. Therefore, we propose introducing a minimum amount of water quantity at 40°C (V40) for load profiles M, L and XL, that should be provided by appliances to be put on the market.

Such performance could be included as mandatory EuP minimum specific requirement. The limits proposed are 65 litres for M load, 130 litres for L load and 210 litres for XL loads. This way, only products that can provide a minimum amount of useful hot water to the user will be allowed.

V40 is not a new approach, and has been used over many years for qualifying performance of storage water heaters, using a test procedure that is simple to perform. For example, prEN 50 440 contains also the formula for calculation of V40 (equation (13) and (14)).

The proposal is detailed in Annex I of this document.

d. Reference to primary conversion factor

Since the beginning of the discussions on primary energy in Lot 2, CECED has highlighted the fact that the conversion factor (of electricity in primary energy) is a dynamic value depending on the evolution of the energy mix used to produce electricity. In order to consider such dynamicity, we suggest that in the text of the regulation it is clarified that the *prim* factor, today fixed at a value of 2.5, will be revised at the next revision of the regulations.

e. Drinking water

The new draft covers also appliances producing “drinking water”, which, in our understanding, would cover also products designed to make hot drinks (tea, coffee, etc). We believe that covering such appliances is not the intended purpose of the legislator. Therefore we call on the European Commission to clarify that appliances whose purpose is to produce hot drinks are clearly excluded. We suggest introducing in article Art 1.2 a sentence that excludes appliances made solely for drinking water. To avoid that such exclusion represents a way for sanitary WH appliances to circumvent regulations, we propose referring to the temperature of the water produced by the appliances.

f. 3XS

We appreciate the introduction of the 3XS load; however, we wish to highlight that in the text such reference is not always present.

g. Electric instantaneous showers

For Electric Instantaneous Showers, CECED would strongly recommend that the general test conditions for Instantaneous Water Heaters should not apply. Electric Showers should, by definition, fall in the XS tapping pattern and this should be stated in the methodology. However, the XS tapping pattern specifies a minimum flow rate of 4 l/min, which would not be feasible for some instantaneous showers. There exists a range of electric showers in the market rated at 7kW electrical input. Tests have shown that these products (at 4 l/min flow rate) are unable to reliably achieve the necessary outlet temperature of 35°C as they have insufficient heating capacity. The minimum flow rate for the XS tapping pattern should then be reduced from 4 to 3 l/min.

The option of including them in the XXS load would be unrealistic considering that the XXS tapping profile is very far away from the way a shower WH is used. The shower WH is normally used three times a day for several minutes each time (similar to an average shower) while the tapping pattern used in XXS is composed of 20 very short uses during the day.

h. Remarks on the draft Commission communication on the measurement method (see also “Draft WH communication 19 july – AM – v0” where detailed comments are introduced)

CECED has annotated the draft Commission communication document in the annexed document, “Draft WH communication 19 july – AM – v0”, pointing out the improvement with respect to the current text. The key points are reported here as well.

Qelec

CECED would suggest using for *Qelec* the formula proposed in the latest edition of prEN 50440. The new formula would minimize inaccuracies and keep consistency between the Standardisation and the Legislation.

For *Qdistr* and *Qrwaste*, the previous calculation of these parameters was substituted by new formulas, without a clear reason. CECED would like to underline the impact these modifications may have on the product’s efficiency. These modifications should be taken into account in the efficiency thresholds of classes and ban limits.

Thermostat set point

The draft proposal of the Commission states that “the average temperature between the thermostat temperature setting which starts the water heating, and the thermostat temperature setting which stops the water heating, shall not fall below 55°C”.

Different interpretations of the requirement are possible, and checking its conformity presents a notable challenge for market surveillance authorities.

The most important consequence of this requirement is that it prevents any possibility of optimization regarding the appliance consumption in the case of smart controls. Reducing the temperature below 55°C is one of the main tools to obtain energy saving and maintaining the present statement would have as a consequence to eliminate the possibility of using smart control advantages.

We would also like to highlight that several small instantaneous WH, used for hand washing can only reach 38°C, therefore 55°C would be far beyond their reach. In addition, this would pose another problem as several small WH do not have a thermostat but only flow switch.

The aim of this proposal is unclear to us. If the requirement of a thermostat set point is meant to make a link between the volume of the product and the declared maximum load size then, in our opinion, is better to do that explicitly, as we proposed, rather than preventing possible energy saving potential by fixing temperature limits.

Furthermore, the introduction of V40 minimum requirement, as we propose, would be an excellent way to ensure the delivery of sufficient hot water by the appliance while taking into account the need to reduce energy consumption. That would, indirectly, set a minimum limit to Thermostat set point, because the only way to deliver hot water at 40°C is to have sufficiently high storage temperatures.

Heat pump multiple testing

Another comment regards the Heat Pump (HP) test procedure proposed by the Commission, where several tests are required for each climatic zone. Due to the need of performing the test in three different climatic areas, the test for HP would be very long. We would suggest reducing the time of testing, making only one test for each climate condition (like traditional products).

Furthermore, the single test procedure can become very long (up to two weeks) due to multiple iterations up to reach regime conditions. It would be simpler to apply the pr EN 255-3 methodology.

In addition, the testing temperatures for the Heat Pumps used in the Commission’s proposal consider the following temperatures 5.5, 10 and 16 °C. On the other hand, the current standard EN 255/3 refers to 7, 15, and 20 °C, which are the same temperatures used in the revision of the standard (see prEN 255/3). Therefore, we suggest maintaining also in the Commission’s proposal the temperatures used in the EN and prEN.

II. Remarks on the Energy Label

CECED supports the modification of the threshold in the XL load profile as it is the only way to allow electrical products in this water heater load.

a. For conventional WH an A to G label is to be used.

It would make little sense to have in the label classes above A since no conventional water heater could go beyond A class without the support of renewable energy. For renewable WH an A+ to G label could be used to promote those renewable technologies. A precondition to introduce A+ class on the label should be that A class is already populated by at least 20% of market sales.

b. Annual Consumption

In order to avoid confusion in the information delivered to consumers, CECED strongly recommends declaring the annual energy consumption in terms of final energy consumption expressed in useful units. We suggest using kWh/y for electric powered appliances and GJ/y for gas powered appliances, corresponding to what most EU consumers see on their energy bill. In our opinion, kWh/y indication for non electrical products is not only confusing but also misleading, also because in several countries the kWh/y for gas is not used by energy suppliers.

c. Energy efficiency value

CECED would recommend removing from the label the indication of the energy efficiency value. That number would not be easily understood by consumers, as it is a very complex concept. Furthermore, in some instances a higher value in that number would correspond to a lower energy class, due to the primary conversion factor. This would be surely a source of confusion.

d. Noise declaration

CECED believes that noise is a very relevant parameter that should be communicated to consumers through the Energy Label, as done on several other domestic appliances. Considering that traditional electrical appliances for hot water production are silent products, CECED believes that 35 dB(A) would be not a realistic default value.

We suggest that for electric appliances without moving parts, default sound power of 15dB(A) is declared on the label.

Furthermore, considering the lack of a noise measurement method for some hot water heaters, CECED suggests to the Commission to clarify that noise measurements and declarations need to be carried out on the noise produced by the appliances, disregarding the one produced by the splashing water.

e. Several labels for the same model

It is realistic to think that products could fulfil several load tapping profiles. In some cases, instantaneous appliances that can be able to provide such service, can also fulfil up to three different profiles providing the same energy efficiency value. We wonder if the Commission has already considered this case and a possible solution to address the matter. We suggest the Commission considers this point keeping in mind that having the same

model put on the market with different load profiles could lead to confusion in addition to substantially increasing administrative paper work.

f. Voluntary use

For WH we would recommend that the Commission uses the same approach taken for other products, where the label could be used, in a voluntary manner, immediately after the entry into force of the Labelling measure. We would strongly support such an option, in order to start pushing the market towards more efficient appliances.

g. Pictograms

We understand the reason for having pictograms indicating that the products can be used for night tariffs. However, we believe that the indication of the time span 22.00-7.00 can be misleading as in some countries low tariffs are not necessarily available during the indicated time span. In some cases the low tariffs are also available during some hours in the day rather than during the night. A better pictogram could be designed focusing on the low tariffs rather than on a time span.

Annex I

Smart Control Measurement Test Procedure – proposal

Each manufacturer asking ‘Smart control’ bonus shall demonstrate that the Product with smart control feature enabled saves SBF% primary energy, compared to the same appliances not equipped with smart control feature. In particular SBF (Smart Bonus Factor) value will be able to assume a value between 5 and 15% for water heater load (WHL) 3XS to S and 10 to 20% for WHL M to 4XL.

The test procedure is described below:

- The appliance shall be submitted to the same test procedure as for a usual efficiency test, but for 7 days (or 7+7 days). During the first 5 days the Product will be tested with daily tapping profiles randomly chosen between the Load Profile declared by the manufacturer for the Product WHL and the immediately lower Load Profile (WHL-1). The last two days there will be no tapping. An example is given in Table 12. If WHL is the smallest Load Profile 3XS, the product shall be tested using the Load Profile 3XS for all five days. The test period allows consumer behavior learning and measuring energy consumption without smart control activation. The manufacturer may choose to perform the test for a longer period than the minimum one week period.
- In a second step, the test is performed for the same period (7 or 7+7 days) as for the first step, using the same repetition of tapping profile, but with smart control function activated (following manufacturer instructions for end-user in case of not automatic functioning). The energy consumption is measured during the second step and compared to the energy consumption of the first step. The second step value has to be at least 5% for WHL 3XS to S and at least 10% for WHL M to 4XL lower than the first step value. The measured benefit is the Smart Bonus Factor, which should be limited to a maximum of 15% for WHL 3XS to S and 20% for WHL M to 4XL.
- Immediately following the second step, and during a period of 24 hours, the Product shall be tested with and shall meet the performance requirements of the first day (Day 1) of “Learning week” cycle chosen.

Table 12. tapping profiles

Learning week	“smart” week
Day 1: WHL	Repetition in the same order
Day 2: WHL-1	
Day 3: WHL	
Day 4: WHL-1	
Day 5: WHL	
Day 6: no tapping	
Day 7: no tapping	

The complete procedure has to be performed without activation of specific national requirements if any.