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The Consumer Voice in Europe

Consumer organisations' comments on the review of Ecodesign and Labelling rules for Televisions and on the draft Regulation on electronic displays

European Commission discussion paper of 07/06/2012

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Summary

This paper focuses on consumer-relevant proposals by the European Commission regarding the review of Ecodesign and Energy Labelling rules for Televisions as well as the possible extension of the scope of these measures to other electronic displays, including computer monitors. The European Commission's proposal was detailed in a discussion paper issued in August 2012.

ANEC and BEUC support the Commission's goal to update Ecodesign and Labelling rules for Televisions, considering that less than a year after the first Energy Label for Televisions has become mandatory, many models populate high classes of the said Label. In this paper, we highlight four areas where the Commission's proposal should be improved:

- **Unwarranted advantage given to large televisions:** ANEC/BEUC recommend to develop progressive energy efficiency standards by developing less strict requirements for small and medium-sized televisions but stricter requirements for large televisions;
- **Scope - need to distinguish televisions from computer monitors:** ANEC/BEUC recommend having separate calculation formulas for the EEI of televisions and computer monitors. Still, both product groups should still fall under the same regulatory framework, to anticipate potential alignment in the future and facilitate a future revision if needed;
- **Loophole in the measurement of On-Mode power consumption:** We recommend that On-Mode measurements be conducted under a fixed luminance level;
- **Networked Standby: an opportunity to set consumer-friendly requirements:** Within the requirements for network standby, we recommend to include consumer-related issues as well as requirements on the transition to standby and off-mode from network standby and reactivation time;
- **"Fast Start" mode:** There should be no extra allowance given for fast start options; Fast Start mode, if available, should comply with the thresholds set in the Standby Regulation (1275/2008); Fast start mode, if available, should be deactivated per default setting; and lastly, it will be important to define precise requirements for televisions to exit fast start mode after a definite time, and enter standby or off-mode;
- **Still too many hazardous substances are found in electronic displays:** Considering that several manufacturers have proven that it is perfectly feasible to manufacture electronic displays without PVC and HFRs, the Ecodesign regulation for televisions should integrate requirements on hazardous substances.

1 - Unwarranted advantage given to large televisions

The Commission's proposal:

The European Commission proposes that televisions be rated on the energy scale not only on the basis of their energy consumption, but also of their screen size. In other words, the larger the TV, the easier it is for it to receive a good grade. This approach is referred to as "relative labelling"; it is also followed in other labelling regulations (fridges, dishwashers, etc).

To reflect market evolutions since the existing Regulation was agreed on in 2009, revised formulas to calculate the Energy Efficiency Index (EEI) have been proposed in the discussion paper¹:

- $EEI_{dsp} = P_m / [(0.88 * A + 2.71) * 2.10]$ for displays with screen area less than 16.5 dm²
- $EEI_{dsp} = P_m / [(60.645 * \ln(A) - 152.64) * 2.10]$ for displays with screen area more than 16.5 dm²

The above mentioned formulas will lead to a change in the distribution of models among the energy efficiency classes. The following figure illustrates how the distribution of models among the energy efficiency classes would change compared to the existing regulations of 2009:

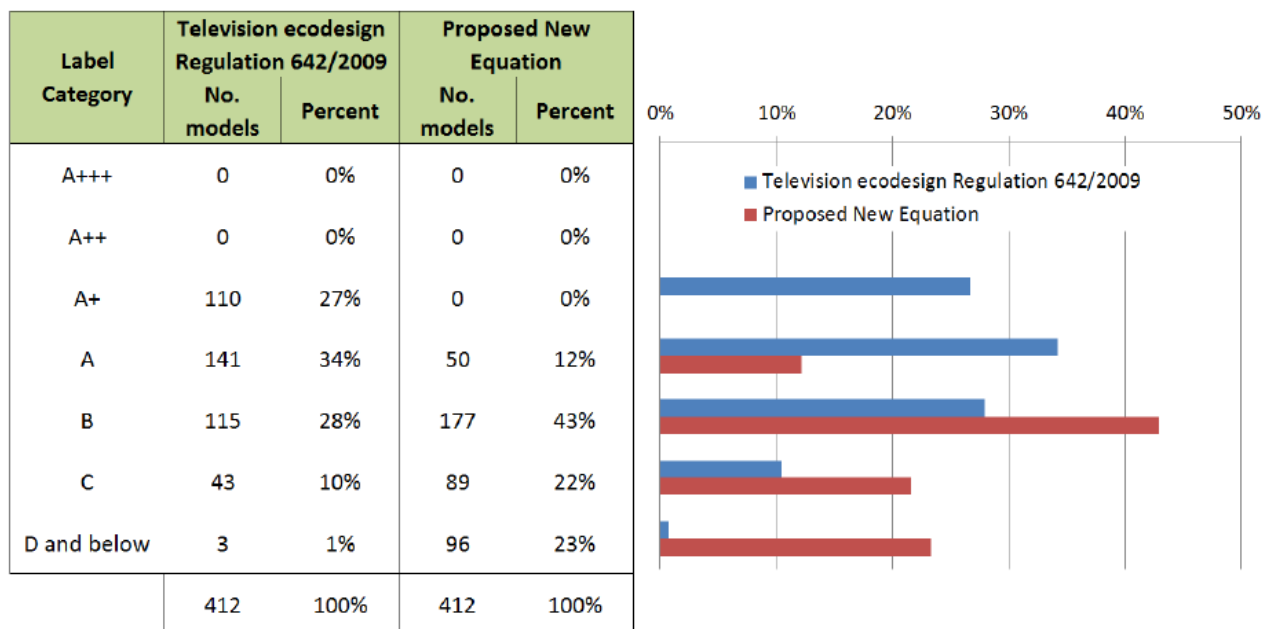


Figure 1 - Change in 2012 model distribution of energy efficiency classes²

¹ Where P_m = power consumption (W) in on-mode according to the television dynamic test loop methodology in IEC 62087:2011, A = the visible area of the screen (dm²).

² Source: Discussion paper on the review of the Ecodesign and Energy Labelling Regulations for televisions and on the draft Regulation on electronic displays, including computer monitors, August 2012.

ANEC/BEUC position:

We consider that the reclassification of TVs on the Energy Label as proposed by the European Commission does not go far enough, as it does not anticipate future market developments correctly.

The most popular television screen size in shipments to Europe in 2011 was 110 centimetres (42 inches). The trend towards larger screen sizes is expected to continue, especially considering that the next generation of TV sets to hit the shelves from September 2012 (“Ultra High Definition” also known as “4K”) will initially be available in very large versions only (from 75 to 90 inches, i.e. 1,92 meters to 2,30 meters screen diagonal)³. The price tag for these TVs is still very high, yet it is our understanding that the high price is essentially related to commercial considerations, not production costs⁴; these new, very large Televisions might therefore penetrate the market rapidly in the medium term.

Yet, the Commission’s basic rationale of advantaging larger screens remains unchanged; a mere reclassification is proposed instead. We consider it important to develop possibilities to promote televisions with smaller and medium screen size, thus having less strict requirements for televisions with smaller and medium screen size and stricter requirements for televisions with large screen sizes. This approach is referred to as “progressive energy efficiency standards”⁵, as opposed to strictly “relative labelling”. In Table 1 below, we provide some exemplary calculations to substantiate our observation that the formula for calculating the EEI disadvantages smaller screen sizes.

→ ANEC/BEUC Recommendation:

It is recommended to develop progressive energy efficiency standards by developing less strict requirements for small and medium-sized televisions but stricter requirements for large televisions.

³ See multiple sources on the internet following the IFA fair in Berlin, notably: <http://www.displaysearchblog.com/2012/09/faster-4kx2k-slower-amoled-tv/>
Manufacturer Sony announced its first 4K Television, the Bravia 84X9000 (84 inches). LG also announced an 84 inches model, Samsung a 75 inches model and Sharp a 90 inches model.

⁴ See notably the investigation led by *LesNumériques*: the production costs for a 4k 84inches TV should in theory not be higher than the costs of four 42 inches TVs (<http://www.lesnumeriques.com/tv-teliviseur/sony-bravia-kdl-84x9005-p14308/prix-84-quad-hd-y-a-bug-dans-calcul-n26009.html>)

⁵ See eceee/Chris Calwell: “Is efficient sufficient? The case for shifting our emphasis in energy specifications to progressive efficiency and sufficiency”, 22 March 2010.

2 - Scope: need to distinguish televisions from computer monitors

The Commission's proposal:

The basic idea behind the Commission's definition of *electronic displays* is to address the functionality overlap between television sets, television monitors and computer monitors. Nowadays, visual information can be derived from a variety of sources, including a computer or game console, a broadcasting network (terrestrial, cable or satellite) or a variety of digital sources (e.g., an optical disc, a memory stick, or other external storage). These products are becoming increasingly flexible, with wireless capability offering content on computer monitors that has traditionally been watched on televisions. At the same time, Internet browsing and email capability is now being packaged with televisions. Consequently, the distinction between televisions and computer monitors is becoming difficult. Still, the working document proposes to consider numerous products - television sets and television monitors in all their various forms, as well as computer monitors and touch screens, digital photo frames, signage and other display products – as 'displays' under one regulatory framework.

ANEC/BEUC position:

The Commission's approach has some disadvantages, which need to be considered:

1. Computer monitors without tuners are generally more energy efficient than televisions;
2. Computer monitors are used for displaying visual information, televisions for displaying audio-visual information. Thus, computer monitors tend to have lower energy consumption than televisions due to the lack of sound or audio card;
3. Comparing televisions with computer monitors on the basis of same energy efficiency classes would discriminate against the televisions which generally provide better picture quality than computer monitors, notably thanks to dedicated video-processing chips;
4. Crucially, as computer monitors are generally more energy-efficient than televisions, measuring their energy efficiency index (EEI) with the same formula as for the televisions and then putting them under the same energy efficiency classes would lead to two scenarios: (a) for smaller diagonal screen sizes, the proposed tier 1 threshold of 0,60 EEI would lead to extremely strict On-mode power requirements which will not be met by the majority of televisions, and (b) for medium to large diagonal screen sizes, the proposed tier 1 threshold of 0,60 EEI would lead to extremely unambitious on-mode power requirements for computer monitors. In order to substantiate the above mentioned statements, some exemplary calculations are provided below:

- a. A display with 19 inches diagonal screen size (screen area 11.18 dm²) would be allowed a maximum power consumption of 15.7 W in on-mode in order to reach the proposed EEI of 0.60⁶. A power consumption of 15.7 W in on-mode is extremely ambitious, even for very energy efficient televisions (see top efficient models on www.ecotopten.de; www.topten.eu);
- b. A display with 32 inches diagonal screen size (screen area 31.71 dm²) would be allowed a maximum power consumption of 71 W in on-mode in order to reach the proposed EEI of 0.60⁷. A power consumption of 71 W in on-mode is extremely unambitious for computer monitors.

Two examples of energy efficient television from the EcoTopTen and BUND TV-Finder with screen sizes of 19 and 22 cm respectively would receive energy efficiency rating "F" (EEI 0.95) and "E" (0.90) respectively using the above formula, and hence fail to qualify for the ecodesign requirements. After adjusting the power consumption according to the needs of the tier 1 requirement of 0.60 EEI, the resultant power consumption values (15.7 W for 19 inch, and 20 W for 22 inch television) would be too ambitious even for very efficient televisions (see table below).

	According to the formula proposed in the working document				Adjusted to achieve the proposed tier 1 EEI level of 0,60		
Screen size (in)	Power consumption (W) - EcoTopTen	P _{ref} (A)	EEI	EE-Class	(W)	EEI	EE-Class
19	25	26,35	0,95	F	15,7	0,60	C/ D
22	30	33,39	0,90	E	20	0,60	C/ D
32	50	119,68	0,42	B	71	0,59	C/ D
40	60	176,51	0,34	B	105	0,59	C/ D
55	80	257,63	0,31	B	153	0,59	C/ D

Table 1 - Exemplary calculations to show the effectiveness of the new calculation model

⁶ Using the formula proposed in the working document: $EEI_{dsp} = P_m / [(0.88 \cdot A + 2.71) \cdot 2.10]$ for displays with screen area less than 16.5 dm². Where P_m = power consumption (W) in on-mode according to the television dynamic test loop methodology in IEC 62087:2011, A = the visible area of the screen (dm²).

⁷ Using the formula proposed in the working document: $EEI_{dsp} = P_m / [(60.645 \cdot \ln(A) - 152.64) \cdot 2.10]$ for displays with screen area more than 16.5 dm². Where P_m = power consumption (W) in on-mode according to the television dynamic test loop methodology in IEC 62087:2011, A = the visible area of the screen (dm²).

5. Regarding potential functional overlap between computer monitors and televisions, there is no information available to support the notion that computer monitors with integrated TV-tuners are replacing television sets in private consumer households; nor that computer monitors would be used as secondary device to view television broadcast while television sets would continue to serve as the primary device for broadcasting.
6. Displays, such as digital photo frames whose primary functions is to produce digital images and have generally less than 12 inches diagonal screen size (prep study lot ENTR 3), cannot be compared directly with computer monitors and televisions.

→ ANEC/BEUC Recommendation:

For the abovementioned reasons, it is recommended having separate calculation formulas for the EEI of televisions and computer monitors. Still, both product groups should still fall under the same regulatory framework, to anticipate potential alignment in the future and facilitate a future revision if needed.

3 - Loophole in the measurement of On-Mode power consumption

The Commission's proposal:

According to the regulations 642/2009 and 1062/2010, in televisions with forced menu, the measurement of On-Mode consumption has to be done in home-mode, while in televisions without forced menu, On-Mode measurements of the television have to be conducted under On-Mode brightness conditions as delivered by the manufacturer.

ANEC/BEUC position:

Such settings are however recommended by the manufacturer and hence leave a lot of room for manipulation, even though Regulations 642/2009 and 1062/2010 require the luminance level, as delivered by the manufacturer to the end-user, to be at least 65% of the maximum brightness. For instance, a television with lower maximum brightness would lead to a darker picture, for instance, in a home-mode, and hence would lead to low energy consumption. If a consumer optimizes the settings to get a better picture, energy consumption increases due to an increase in the brightness, which would actually correspond to a worst energy efficiency class.

Therefore, a measurement system based on settings defined by the manufacturer himself would lead to a systematic manipulation of measurements of On-Mode power consumption, and would classify the televisions under better energy efficiency classes than they would be under real use conditions (see notably tests carried out by our German member organisation *Stiftung Warentest* in November 2011). For this reason, we strongly recommend considering conducting On-Mode measurements under a fixed luminance level. An important task would be to analyse the usability of measurement standard IEC 62087 Ed.3 2011 for measuring the On-mode power consumption of televisions considering the measurement at a fixed, predefined luminance level, and not under manufacture-defined settings. This issue is less problematic for computer monitors.

→ ANEC/BEUC Recommendation:

On-Mode measurements should be conducted under a fixed luminance level.

4 - Networked Standby: an opportunity to set consumer-friendly requirements

The Commission's proposal:

The Commission suggests setting requirements on the energy consumption of TVs when in the state of networked standby. That status means that the TV is in a sleeping mode but can still be awakened by means of a signal sent through its network interface, a feature more and more TVs include nowadays. Most of the criteria on network standby are taken from the Commission's last circulated draft working document on Network Standby (Ecodesign Lot 26).

ANEC/BEUC position:

The Commission's approach is reasonable. However, some key issues remain which need to be considered when defining requirements on network standby of televisions:

1. Consumer information: it is of high importance for consumers to be informed and empowered with regard to power consumption and power management possibilities regarding the network standby function. The option should exist for consumers to:
 - i. Receive information on how to deactivate networking functions;
 - ii. Be given a visual indication on the present mode (e.g. an illumination diode is On if a product is in networked standby);
 - iii. Completely switch-off the product with a hard switch;
 - iv. Be asked by the set-up-menu to specify their required "home-mode" (e.g. activation and deactivation of network ports), upon the product's first use.

2. Transition to standby and off-mode from network standby: the working document proposes that "*in a condition providing networked standby, the power management function may switch equipment automatically into standby mode, or off mode or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode*". It is deemed important that this requirement is made mandatory as power consumption in network standby is considerably high and televisions must transit from the network standby state after a certain time has elapsed.

3. It is equally important to consider defining requirements related to the reactivation time, i.e. the time needed to perform the primary function of producing sound and picture by a television. Furthermore, it is important that a television, after being fully disconnected from the mains, maintains and saves its programmable functions (e.g. programmable receiving frequencies, time settings) for a certain number of days (e.g. 30 days as required in the German Blue Angel scheme for HiFi-Compact Systems, RAL UZ 146), and meet the reactivation time requirements.

→ ANEC/BEUC Recommendation:

Within the requirements for network standby, it is recommended including consumer-related issues as well as requirement on the transition to standby and off-mode from network standby and reactivation time.

5 - Fast Start mode can consume more energy than expected by consumers

The Commission's proposal:

The European Commission presents the Fast Start mode and the issues it poses as follows:

"An issue for televisions that can be frustrating for consumers is the booting (or reactivating) time for a model that can vary from a few seconds to 45 seconds. To overcome slow starting times, some televisions incorporate "fast play" or "quick start" standby modes that allow the television system to start within a few seconds. According to a report from ECCJ (ECCJ, 2009), these fast start options can consume significant power – e.g., 25 W on average to standby power consumption."⁸

The European Commission recommends that no extra energy consumption allowance should be given to these TVs offering a Fast Start mode.

ANEC/BEUC position:

We ask that the Fast Start option is indeed not given any extra energy consumption allowance and that the fast start option complies with the existing standby regulation.

However, it is also important to define precise requirements where a television, if possessing the fast start functionality, transits from the fast start mode after a certain time has elapsed. Whilst the standby requirements within the television regulation (EC) No 642/2009 and within the current draft working document on televisions require power down from an ON mode to a standby - or equivalent - mode after 4 hours of inactivity, there is no specification of the need to power down from other operational modes (such as a "fast Start" standby mode). Therefore

⁸ Page 36 of the Discussion paper on the review of the Ecodesign and Energy Labelling Regulations for televisions and on the draft Regulation on electronic displays, including computer monitors, August 2012.

once a product is in this mode, the regulation does not require it to leave this mode to a lower power consuming mode. Evidence suggests that if fast start functionality is provided through additional non-volatile random access memory (NVRAM) to store the active configuration of the picture and tuner processors, the power consumption is very low, and meets the standby requirements.

→ ANEC/BEUC Recommendations:

There should be no extra allowance given for fast start options; Fast Start mode, if available, should comply with the thresholds set in the Standby Regulation (1275/2008); Fast start mode, if available, should be deactivated per default setting; and lastly, it will be important to define precise requirements for televisions to exit fast start mode after a definite time, and enter standby or off-mode.

6 - Still too many hazardous substances are found in electronic displays

The Commission's proposal:

The Commission's discussion paper does not discuss potential removal of hazardous substances from televisions.

ANEC/BEUC position:

The negative environmental and health-related problems of PVC (Polyvinyl chloride) and HFRs (Halogenated flame retardants) are well known and their complete phase out has been recommended by many researchers. For instance, in a report commissioned by the European Commission, the *Öko-institut* made the following recommendations⁹:

- On halogenated flame retardants: *"The group of organobromine and organochlorine substances have been considered in the present study and their phase out from EEE is highly recommended by the authors"*.
- On PVC: *"The phase out of PVC should [...] have priority over selective risk management measures to guarantee a reduced release of PVC, of its additives and of hazardous combustion products"*.

Most of the scientific concerns towards brominated and chlorinated flame retardants are summarised in a consensus statement – the so-called *San Antonio Statement* – signed by more than 210 scientists¹⁰.

Many producers have already phased out PVC and halogenated flame retardants (HFRs) on a voluntary basis or are in the process of doing so. A market overview by environmental organisation ChemSec clearly documents the availability of electrical and electronic equipment that is already PVC and HFR free¹¹. Market leaders like HP, Acer, Dell or Sony Ericsson are actively promoting the phase out of these

⁹ http://ec.europa.eu/environment/waste/weee/pdf/hazardous_substances_report.pdf

¹⁰ <http://www.greensciencepolicy.org/node/269>

¹¹ http://www.chemsec.org/images/stories/publications/ChemSec_publications/Electronics_Without_Brominated_Flame_Retardants_and_PVC_-_a_Market_Overview_100518.pdf



substances (see joint statement of NGOs and four market leading companies supporting a phase out of PVC and HFRs by the end of 2015¹²).

→ ANEC/BEUC Recommendation:

Considering that several manufacturers have proven that it is perfectly feasible to manufacture electronic displays without PVC and HFRs, the Ecodesign regulation for televisions should integrate requirements on hazardous substances.

END.

¹² <http://www.eeb.org/EEB/index.cfm/news-events/news/electronic-giants-and-green-groups-push-eu-for-flame-retardants-and-pvc-ban/>