CONSUMER RELEVANT ECO-DESIGN REQUIREMENTS FOR COMPUTERS

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Summary

In the context of the implementation of the Eco-design of Energy-using Products (EuP) Directive, the European Commission is proposing eco-design requirements for computers. These requirements are largely based on the Energy Star criteria.

This paper outlines the main consumer relevant issues related to the possible eco-design requirements for computers and recommends improvement options. We give specific, technical recommendations to increase the energy efficiency of these products and highlight the need to raise considerably the level of ambition by implementing the EnergyStar criteria 5.0 already one year after the Regulation enters into force and to set a second set of more demanding requirements for the year 2013. In addition, we call for a revision of the Regulation three years after it entered into force to take into account the rapid technological development of computers.

We ask to apply the test procedures of the Energy Star for verification purposes as the current provisions would allow for systematically exceeding the threshold values. Moreover, we propose to refer to existing Eco-label criteria for computers in the benchmarks as these schemes address environmentally relevant aspects on the basis of a life-cycle approach.

We also stress the importance of providing comparable information to consumers on the energy consumption of computers.

Introduction

The use of personal computers at home contributes increasingly to electricity costs for consumers as the equipment is used more frequently and combined with more and more connected appliances such as digital cameras.

On average, desktop computers consume more than three times more electricity as notebooks with comparable hard- and software configuration[1]. As desktop computers make up 50 % of the European computer market and sum up to 30 million sold devices every year[2], stricter requirements will have significant positive effects for consumers and the environment. We therefore strongly welcome that the Commission will tackle desktop computers, notebook computers, integrated desktop computers, workstations and thin clients with minimum energy efficiency requirements.

In this paper, based on the Commission working document on implementing measures for ecodesign requirements for computers, we make recommendations on the consumer needs which should be taken into account when deciding on the final Implementing Measure. Our proposal addresses the scope of the measure, the revision date of the Implementing Measure, the verification procedure and the setting of benchmarks. In addition, we make recommendations how to increase the energy efficiency of computers by implementing more ambitious requirements earlier. Finally, we call for informing consumers about the energy efficiency of computers which allows for easy comparing different products at the point of sale.

Docking stations should to be included into the scope

Docking stations are equipped with an internal or external power supply and are usually always connected to the mains. Without having a hard-switch, docking stations, they consume constantly energy. As docking stations with an internal power supply are not included into the Regulation on external power supplies, we ask to include them into the scope of the Implementing Measures for computers.

Revision of the Implementing Measure should take place after three years

Considering the fast technological development of computers and the various sub-groups such as tablet PCs, netbooks, nettops and thin clients, a revision period for the Implementing Measure of five years seems to be quite long. Several technological developments such as solid state disks, hybrid-graphics and LED-backlighting which will all tap significant energy efficient potentials will be available within less than five years.

In addition, energy efficiency benchmarks like those of the Energy Star are reviewed every two years. This means that the Eco-design requirements would be outdated after five years.

We therefore ask to revise the requirements for computers no later than three years after the Implementing Measure entered into force.

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[1] Consumer Information Campaign EcoTopTen, www.ecotopten.de.
[2] Preparatory Study on Computers, p. 65.

To allow for a quick and smooth update, we propose that producers should provide market data for computers on an ongoing basis over the three years as this would avoid conducting a new preparatory study.

Verification procedures should not allow for systematically exceeding threshold values

The verification procedures as lined out in Annex II of the draft Implementing Measure specify that a model should be considered as compliant if it does not exceed the limit values by more than 10%. If the first tested model exceeds the limit value by more than 10%, three more models should be tested. In case the three latter models do not exceed the threshold values by 10% on average, the product will be considered as compliant. This specification would allow manufacturers to systematically exceed the threshold values by 10% with all units which are placed on the market.

As the proposed verification procedure is not in line with the Energy Star label test procedure, ask to replace the provisions with the following wording:

> *"Initially a single unit shall be tested for verification. If the initial unit tested is less than or equal to the applicable requirement but falls within 10% of that level, one additional unit of the same model with an identical configuration must also be tested. To be considered to comply, both units must meet the maximum value of the applicable requirements."*

Full life-cycle approach should be applied

Some studies show that a life cycle energy use of a computer is dominated by production (80%) as opposed to operation (20%). For example a study for the UN University estimates that 75% of fossil fuel consumption related to PCs is related to the phase before the computer is switched on for the first time. The study further suggests that about 1.7 tonnes of raw material and water is used to manufacture one PC[3].

The draft Implementing Measure focuses exclusively on energy consumption during the use phase. Other environmental issues associated with computers such as resource efficiency during production including energy and water use, choice of materials with lower environmental impact, use of recycled materials, reduction of hazardous substances, possibilities of the extension of the use-phase, design for better recycling and re-use, packaging minimisation and waste disposal are neglected. However, we reiterate the need to address all major environmental impacts in a holistic way as part of a full life cycle approach. A limited approach which does not cover the production phase would risk to shift the environmental burden or to neglect important environmental relevant factors. We therefore criticise the approach of just setting energy-efficiency requirements in the use phase.

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[3] Cited in: http://www.globalactionplan.org.uk/upload/resource/Full-report.pdf

Benchmarks should cover all environmental relevant aspects

We consider it important that the benchmarks in the Eco-design Implementing Measure outline the full improvement potential for computers based on a life-cycle approach. Therefore benchmarks should not only refer to energy efficiency but also to other environmental relevant aspects. We therefore propose to refer in the benchmarks to criteria of environmental excellence which are set in the EU Eco-label, the German Blue Angel, the Austrian Eco-label, the Nordic Swan and TCO. These labelling schemes address environmental aspects of computers with indicators and thresholds on the basis of a life-cycle approach.

Energy efficiency requirements should be implemented earlier

The draft Implementing Measure bases the energy efficiency requirements on Energy Star requirements[4]. Although this approach is beneficial for manufacturers as they only have to comply with one set of criteria, we see an urgent need to apply a much higher ambition level.

The German computer magazine C't tested several computers in early 2009[5]. At that time already 6 out of 7 computers complied with the EnergyStar 5.0 criteria. We therefore assume that at the time when the proposed tier 1 and tier 2 requirements (i.e. in the year 2011 and 2013) enter into force, almost all computers on the market would already be compliant.

Such low Ecodesign requirements in combination with a verification procedure which allows for systematically exceeding the threshold values by 10% will achieve hardly any energy efficiency gains compared to a business as usual scenario. The ambition level is therefore considered to be too low in order to ban 10-20% of the worst performing products from the market and to stimulate demand for more energy efficient appliances.

We therefore ask to drop Tier 1 requirements. Tier 2 requirements based on EnergyStar 5.0 should apply one year after the measure enters into force.

We also ask to define requirements for a second Tier which should enter into force in the year 2013. The energy efficiency requirements for a new Tier 2 should reduce the consumption levels by 20% compared to EnergyStar 5.0.

In addition, we call on the Commission to ensure that a voluntary scheme such as the Energy Star does not determine the maximum level of possible Eco-design requirements. Such an approach seems to be too restricted and could undermine the successful implementation of the Eco-design Directive.

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[4] Tier 1 is based on Energy Star 4.0 and tier 2 is based on Energy Star 5.0.
[5] http://www.heise.de/newsticker/Energy-Star-5-0-fordert-ab-1-Juli-deutlich-sparsamere-Computer--/meldung/127041.

No extra allowance for WOL function[6]

The draft Implementing Measure proposes to take computers out of Regulation EC No. 1275/2008 on standby and off-mode[7] and to define specific requirements for computers in this Implementing Measure. However, we do not see technical reason to add an extra allowance for WOL to the off-mode requirement. In off-mode the computer is not providing any function. As WOL is a reactivation function, it should be included into the stanby requirements.

Efficiency of internal power supplies should be improved

We support the application of Energy Star 5.0 criteria for power supplies in tier 1 and 2 as with this approach power supplies will have to meet slightly stricter energy efficiency requirements from the beginning compared to Energy Star 4.0 criteria. However, as the EU Regulation 278/2009 on external power supplies requires better efficiency levels, we propose to develop more demanding requirements for internal power supplies when revising the Regulation.

Sleep mode should start earlier

We support in principle the power management requirements which are based on Energy Star Version 5.0. We also welcome that different than in the Energy Star 5.0 requirements, the activation of the display sleep mode is required to apply after ten instead of fifteen minutes.

However, we ask to reduce the activation time for the sleep mode for computers from 30 to 15 minutes as this would bring energy efficiency gains without reducing user convenience considerably.

Information to consumers should allow for easy comparability of products

As consumers need to be enabled to easily compare the information concerning different products, we propose to specify in the information requirements that the information to consumers should be given in a standardised way.

In addition we propose to add requirements on environmentally friendly use and end-of life behaviour.

The information should be made available at the point of sale, in the product manual and online.

To allow easy comparison of energy efficiency, we suggest that the Commission investigates the possibility to develop an Energy Label for computers.

End.

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[6] Wake On LAN (WOL) means a function which allows a computer to wake from sleep or off mode when directed by a network request via Ethernet.

[7] Commission Regulation (EC) No 1275/2008 of 17 December 2008 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment