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**COMMISSION STAFF WORKING DOCUMENT**

**Accompanying document to the**

**Commission Regulation implementing Directive 2005/32/EC with regard to ecodesign requirements for simple set-top boxes**

**IMPACT ASSESSMENT SUMMARY**

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# COMMISSION STAFF WORKING DOCUMENT

## Accompanying document to the

### Commission Regulation implementing Directive 2005/32/EC with regard to ecodesign requirements for simple set-top boxes

#### IMPACT ASSESSMENT SUMMARY

##### Background

The Ecodesign Directive 2005/32/EC establishes a framework for the setting of ecodesign requirements for energy-using products. Eco-design requirements are legal requirements (under the Article 95 legal basis) to be met by products for being put on the market with the aim of improving their environmental performance while ensuring their free movement within the internal market. In accordance with the framework Directive, the Commission (assisted by a regulatory committee) shall adopt implementing measures setting eco-design requirements for those energy-using products which have significant sales volumes, a significant environmental impact and significant improvement potential.

These criteria are fully met by the simple set-top boxes (hereafter SSTBs) which have the primary function of converting digital input into analogue output signals. During the ongoing transition for analogue to digital broadcasting TV sets not adapted to receive digital signals will need to be accompanied by these devices. Up to 2015 when analogue broadcasting will be switched off in the EU the sales and aggregated energy consumption of SSTBs will dramatically increase.

The need to quickly come up with minimum energy performance requirements for these devices has been emphasised by the European Parliament<sup>1</sup> and supported by the Member States representatives in the Consultation Forum.

##### Approach for setting ecodesign requirements

The approach for developing the proposed regulation on SSTBs and this impact assessment was structured in the following four steps:

Step 1: assessment of the criteria for ecodesign implementing measure set out in Article 15(2a)-15(2c) of the Ecodesign Directive, taking into account the ecodesign parameters identified in Annex I of the Ecodesign Directive;

Step 2: consideration of relevant Community initiatives, market forces and environmental performance disparities of the equipment on the market with equivalent functionality as laid out in Article 15(2) of the Ecodesign Directive;

Step 3: establishing policy objectives including the desirable level of ambition, the policy options to achieve them, and the key elements of the ecodesign implementing measure as required by Annex VII by the Ecodesign Directive;

Step 4: environmental, economic and social assessment of the impacts with a view to the criteria on implementing measures set out in Article 15(5) of the Ecodesign Directive.

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<sup>1</sup> European Parliament resolution of 31 January 2008 on an Action Plan for Energy Efficiency

## Summary of results

### Step 1

In order to assess the criteria for ecodesign implementing measures set out in Article 15(2) of the Ecodesign Directive, the Commission has carried out a technical, environmental and economic study for SSTBs ("preparatory study") following the provisions of Article 15(4a) and Annexes I and II of the Ecodesign Directive.

With regard to the criteria set out in Article 15(2) of the Ecodesign Directive, the preparatory study<sup>2</sup> has established the following results for the EU for SSTBs:

Article 15 (2a):	Annual sales volume in the Community:	90 million units in 2010 177 million units in 2014
Article 15 (2b):	Environmental impact: energy consumption of Simple STBs:	6 TWh in 2010 14 TWh in 2014
Article 15 (2c):	Improvement potential (applying cost-effective existing technology)	0,5 TWh in 2010 9 TWh in 2014

The improvement potential is due to the fact that existing cost-effective technical solutions allow to significantly reduce the electricity consumption of these devices. This is underpinned by the lack of correlation between the prices of different SSTBs having the same functionalities and their energy consumption.

The aggregated energy-saving potential for the years 2010-2020 exceeds the annual residential electricity consumption of Sweden and is therefore considered to be significant.

### Step 2

As set out in Articles 15(2) and 15(4c) of the Ecodesign Directive, relevant Community and national environmental legislation are considered. Related voluntary initiatives both on Community and Member State level are taken into account, and barriers preventing market take up of technologies with improved environmental performance leading to a market failure are analysed.

At Community level the Joint Research Center (Ispra) of the Commission is running a voluntary Code of Conduct which sets energy efficiency criteria for SSTBs. This initiative has been very useful in providing the technical data for SSTBs but had a limited impact on the market due to a limited adhesion of manufacturers to this voluntary code.

At the level of Member States, the UK has been running an endorsement label programme for SSTBs managed by the Energy Saving Trust. This voluntary labelling scheme has had a limited impact on the market with few products meeting the criteria set under the scheme.

The Regulation implementing the Directive 2005/32/EC with regard to ecodesign requirements for standby and off mode electric power consumption of electrical and

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<sup>2</sup> "Preparatory studies for Eco-design Requirements of EuPs –Simple Digital TV Converters (Simple Set Top Boxes)", MVV Consulting GmbH, final report of 17 December 2007; documentation available on the DG TREN ecodesign website [http://ec.europa.eu/energy/efficiency/ecodesign/eco\\_design\\_en.htm](http://ec.europa.eu/energy/efficiency/ecodesign/eco_design_en.htm)

electronic household and office equipment which was adopted in December 2008 would realise only a part of the energy-saving potential of SSTBs. This is due to the fact that this horizontal regulation would address only the power consumption of SSTBs in the standby mode and the timing for the entry of the different requirements set out in the 'standby' regulation would not allow capturing the biggest energy-saving potential linked to the use of SSTBs.

No other EU or national initiatives addressing the energy consumption of SSTBs have been reported.

Although the aggregated energy consumption of SSTBs at EU level is considerable, at the level of individual households they contribute only to a limited degree to the energy bill. For that reason consumers are focusing on the upfront price of SSTBs, and do not take into account their energy consumption throughout the life cycle. As a result, manufacturers have no incentive to reduce the energy consumption of these devices, even though this could be done at marginal additional cost (if any) to the manufacturer and would bring significant savings to the consumer and reduced CO<sub>2</sub> emissions. An additional element leading to the excessive power consumption of SSTBs is the fact that consumers have the tendency to leave them permanently in the 'active mode', even after having switched off the TV set.

### *Conclusion of Step 1 and Step 2*

Over the coming years the amount of SSTBs sold in the EU and the associated energy consumption will grow rapidly. Existing cost-effective solutions that would allow reducing the energy consumption of these devices are not applied because of the market failure outlined above. The existing policy initiatives will have only a very limited impact on the environmental performance of SSTBs. In the absence of Community action, there is a risk that future initiatives at Member State level could hamper the free circulation of these products within the internal market.

It is concluded that the criteria for ecodesign implementing measures as set out in Article 15(2) of the Ecodesign Directive are met, and SSTBs should be covered by an ecodesign implementing measure pursuant to Article 15(1) of the Ecodesign Directive.

### *Step 3*

Annex II of the Ecodesign Directive stipulates that the level of ambition for improving the environmental performance of SSTBs, and in particular their use of resources such as energy should be determined by an analysis of the least life-cycle cost for the user of equipment. Furthermore, benchmarks for technologies yielding best performance, as developed in the preparatory study and the discussions with stakeholders during the meeting of the Ecodesign Consultation Forum<sup>3</sup> on 22 February 2008 are considered. The results are reflected in the objectives that the implementing measure aims to achieve.

The objective of the proposed Regulation is to trigger the market transformation that would realise the improvement potential. In that context several policy options were considered, including self-regulation, mandatory energy labelling and mandatory minimum energy performance requirements. Due to the clear mandate of the Legislator for establishing ecodesign requirements for consumer electronics, the depth of the analysis for options other than an ecodesign implementing measure is proportionate for an implementing legal act, and the focus is on the assessment of its key elements taking into account the preparatory study and the input from stakeholders.

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<sup>3</sup> The Consultation Forum is a balanced formation of the Member States representatives and of affected parties such as the industry, consumer and environmental NGOs called to express their views.

#### *Step 4*

An assessment of the proposed implementing measure is carried out. In particular, options for the timing of ecodesign requirements in several stages are analysed, taking into account the criteria set out in Article 15(5) of the Ecodesign Directive, and the impacts on manufacturers including SMEs.

#### *Conclusion on Step 3 and Step 4*

A comparison of policy options and the input provided in the preparatory study and through the consultation process indicates that the appropriate option for realizing the improvement potential of SSTBs is a regulation setting ecodesign requirements for their power consumption and power management. The requirements of the regulation should be set in two stages, which become effective one year and three years, respectively, after the regulation has entered into force. This approach ensures:

- that cost-effective potentials to improve the electricity consumption of SSTBs are quickly realized, leading for the Community to important electricity and CO<sub>2</sub> savings, while reducing the life-cycle costs of these devices for consumers;
- The accumulated electricity consumption of SSTBs is reduced by approx. 47 TWh until 2020 compared to a business- as- usual/no-action scenario which translates into 7.2 billion EURO saved and 17 Mt of CO<sub>2</sub> abated ;
- The life cycle cost of SSTBs is reduced by approx. 30%;
- a clear legal framework providing a level playing field for manufacturers, ensuring fair competition and free circulation;
- requirements for SSTBs are harmonized in the Community, leading to a minimization of administrative burdens and costs for the economic operators;
- that disproportionate burdens for manufacturers are avoided due to transitional periods which duly take into account re-design cycles;
- additional energy savings will be triggered outside the Community as these devices are traded globally and will be produced to identical specifications for other markets.

#### Monitoring

Monitoring of the impacts will mainly be done by market surveillance carried out by Member State authorities ensuring that the requirements are met. The appropriateness of scope, definitions and concepts will be monitored by the ongoing dialogue with stakeholders and Member States.