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Resolution on Eco-design and Energy Efficiency of Products

Today there is an urgent need for concrete ambitious actions towards more sustainable consumption and production to be taken at all levels of public policy. Consumer organisations on both sides of the Atlantic believe that 'eco-design' is one of the right options to achieve more sustainable production of consumer goods.

Eco-design means manufacturing products in such a way as to ensure they have a minimum impact on the environment, for example through their lifetime energy efficiency or resource use, while maintaining their functional qualities and safety for consumers. As it is estimated that up to 80% of all product-related environmental impacts are determined during the design phase of products, eco-design measures ought to be imposed as early as possible in the production process in order to reduce environmental impacts of products.

Considering the urgency to increase resource efficiency, eco-design needs to address also water consumption during the manufacturing process as well as during the use phase of water-using products.

The EU has established a legislative framework for setting eco-design requirements for energy-using products, which is part of its overall strategy on Sustainable Consumption and Production. In the US, energy efficiency programs have been promoted through minimum appliance efficiency standards, and the 'Energy Star' label. Legislation is currently being drafted to make improvements to both programmes.

There have also been civil society initiatives, such as the multi-stakeholder process initiated by the Alliance for Water Efficiency,¹

These initiatives show that time is ripe for effective co-operation between the two governments and their stakeholders.

Recommendations

TACD resolves that the EU and US governments should:

1. Enhance cooperation towards an integrated strategy for sustainable consumption and production. To achieve this aim, a coherent set of different policy instruments is needed, in order to address both the production and the demand sides. In

¹ E.g. http://www.allianceforwaterefficiency.org/AWE_Submits_Comments_on_LEED_2009.aspx

particular, minimum requirements are needed to phase out the most inefficient appliances from the market.

2. Cooperate on eco-design of products and work together when establishing product specific requirements. The cooperation should start as early as possible (e.g. when analyzing specific product groups in preparatory studies) and should continue throughout the political processes.
3. Work together in order to identify priority product groups for which eco-design measures could bring benefits for consumers and the environment. The European Commission's work plan established for the years 2009-2011 could be used as a starting point, to prioritize product groups and to enhance cooperation on products of common interest.
4. Extend eco-design from energy using and energy-related goods to all products in order to reduce the negative ecological footprint. Particular consideration should be given to the impact on water quality and water consumption. A harmonized methodology for setting eco-design requirements ought to be developed.
5. Adopt a life-cycle approach when developing eco-design requirements, ensuring they extend beyond minimum energy efficiency measures to include essential features such as use of chemicals, use of natural resources, in particular water use and waste management. First step towards this will include reducing the energy and water footprint, in terms of quantity and quality, of the manufacturing process of the product. Not following such an approach would merely shift the burden from one environment to another.
6. Cooperate to apply a 'Top Runner' benchmarking system, setting eco-design energy efficiency and water efficiency standards to match the best performing products on the market, and measures for removal of least efficient products from the market.
7. Ensure consumers are well informed about the performance of the best products on the market, for example by clear and simple and standardised labeling of the energy and water use efficiency of appliances.
8. Enhance cooperation in market surveillance of products. Information exchange on non-compliant products will ensure proper enforcement of legal minimum efficiency and eco-design requirements.
9. Last, but not least, consider the needs of vulnerable consumers who may not be able to afford initial high investments for new energy efficient products. Measures to help such groups of consumers make sustainable and money-saving choices must be implemented, such as subsidies, tax reductions or one time trading in of energy/ water inefficient products.

Background briefing

Introduction

In 2005, the European Union established a legislative framework for setting eco-design requirements for energy-using products² (so-called Eco-design directive). This framework is part of the overall EU strategy on Sustainable Consumption and Production. In the context of the implementation of the Eco-design framework Directive, the European Commission prepares product specific legislation, which aims to improve the overall environmental impacts of products on the European market and phase out least efficient technologies. So far several Regulations have been adopted, such as a horizontal measure to limit standby and off mode energy losses of products and legislation to phase out incandescent light bulbs by 2012. In the current work on Eco-design, consumer products are a core priority.

In the United States, energy efficiency programs and mandates have primarily been promoted through two programs: the Department of Energy's (DOE) minimum appliance efficiency standards (which sets a floor for minimum efficiency) and the "Energy Star" label which is administered jointly through the Environmental Protection Agency (EPA) and DOE. Lawmakers are currently drafting legislation with the input of consumer groups that would make improvements to both programs.

These US programs have been criticised because manufacturers have been found to be to exploit loopholes in the test procedures that are out of date (e.g. one refrigerator was found to use double the advertised Energy Star electricity consumption because an outdated test protocol allowed them to shut off the icemaker during the test). Furthermore, there is no requirement of regular test procedure updates, which virtually guarantees that the programs lag behind the marketplace.

The Electronic Product Environmental Assessment Tool (EPEAT) has been developed through a joint EPA-business initiative for computer desktops and laptops and is currently being considered for televisions. This is a tiered grading program that was targeted for commercial buyers but is now extending into the consumer market. This program has adopted a life-cycle approach for evaluating environmental aspects outside of energy.

Which benefits can we expect from Eco-design measures?

The aims of Eco-design measures are fourfold: putting less pressure on the environment, enhancing security of supply, enhancing competitiveness of the economy and providing better products to consumers

Putting less pressure on the environment

Energy-using products account for a large proportion of the consumption of natural resources and energy. The overall savings potential from Eco-design measures are considerable:

² Directive 2005/32/EC of the European Parliament and of the Council on establishing a framework for the setting of Eco-design requirements for Energy-Using Products.

- Ambitious eco-design measures for boilers and water heaters could achieve savings of up to 280 million tons of CO₂ emissions by 2025 in the 27 countries of the EU. Such measures are therefore under preparation by the EU Commission³;
- The recently adopted EU Eco-design Regulation on standby and off-mode losses could reduce unwanted energy losses from standby about 75% by the year 2020⁴ and will save 14 Million tons of CO₂ emissions per year.
- Phasing out incandescent light bulbs could save about 15 million tons of CO₂ emission per year by 2020.

Eco-design measures will therefore contribute considerably to achieving the EU target of saving 20% energy and emitting 20% less greenhouse gases by the year 2020.

Energy Star also provides these types of savings calculations, but Consumers Union in the US has been critical of them, since they are based on energy savings from outdated testing models. These metrics are important but are only as true as the technical underpinnings of the program are accurate and representative.

Enhancing security of supply

Increasing energy efficiency and thereby enhancing security of energy supply is one strategic goal of the EU Energy Policy⁵. Eco-design plays an integral part of this strategy to make the EU less dependent on energy imports.

The US is currently considering many energy initiatives that will address this goal. Specifics remain to be determined.

Enhancing competitiveness of the economy

Energy and resource efficiency are becoming important factors for the competitiveness of the EU and US economies. In other parts of the world, such as Japan⁶, legal measures on energy and resource efficiency have been adopted or are under discussion. So it is crucial that the EU and the US are not lagging behind and remain competitive.

Demand for better and affordable products to consumers

There is a growing consumer demand for environmentally friendly and sustainable products. More and more consumers in the EU are willing to buy such products, even if this means having to pay a little bit more⁷.

³ European Commission: Working document provided to the Stakeholder Consultation Forum members in February 2008 on possible eco-design requirements for Lot 1 (Boilers) and Lot 2 (Water Heaters).

⁴ <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/1117&format=HTML&aged=0&language=DE&guiLanguage=en>

⁵ See EU Energy Security and Solidarity Action Plan: Second Strategic Energy Review, http://ec.europa.eu/energy/strategies/2008/doc/2008_11_ser2/strategic_energy_review_memo.pdf

⁶ Japan introduced in 1998 the Top Runner Program. In this program the most energy efficient appliances set the standard which has to be achieved by all products after a specified time. Failing to comply with the standard could involve fines or lead to a prohibition of sale.

⁷ The special Eurobarometer survey on attitudes of European citizens towards the environment clearly shows that sustainable consumption and production are now a core concern for most

Consumers in the US share similar concerns for environmental attributes and these are influenced by many factors, especially personal health. The Natural Marketing Institute (NMI) has been tracking US consumers and developed a segmentation model concerning consumer profiles around Lifestyles of Health and Sustainability (LOHAS). Consumers, which show a LOHAS profile (17%, or 38 million of the adult population), are progressive and always look for more ways to do more for the environment. New research by NMI⁸ indicates that more than 80% of the total US adult population shows some type of green motivation. Therefore, the high percentage of American adults who represent a target for green and eco-friendly products and services makes sustainability much more attractive for businesses.

When setting eco-design requirements, it needs to be ensured that products are not made more environmentally friendly at the expense of their performance. For example, consumers have reported that the longer washing cycles and poorer rinsing qualities of 'eco-friendly' washing machines, as well as the poorer storing capacities of cooling appliances disappoints them⁹. Thus, it is crucial that any eco-design measure ensures that product quality will not be significantly adversely affected.

Equally, when setting eco-design requirements, the needs of vulnerable consumers should be taken into account. Although consumers will in the long term benefit from lower running costs, certain, more vulnerable consumer groups may not be able to afford the initial high investment, e.g. for energy efficient water heaters and boilers. Lateral measures from governments (e.g. fiscal incentives, bonus, and VAT reduction) are therefore necessary to support consumers making environmentally sustainable choices.

Future of Eco-design: a wide scope and adequate methodology

The European legislative framework on Eco-design is currently under revision and the scope of the legislation will be extended to energy-related products[□] in the future. Consumer organisations, however, consider it should be extended to all (consumer) products with a significant environmental improvement potential, such as textiles, furniture and construction material.

In the US, the Environment Protection Agency (EPA) is exploring ways to influence the market through the development of a "multi-attribute" label (similar to the EU eco-label). But the discussion is only in its infancy and the practicality of rolling out a multi-attribute label in the consumer market is complicated. The EPA is also considering a business-government initiative, which precludes the process from being independent.

Another shortcoming of the approach taken so far in eco-design is that the requirements have been merely focused on energy-saving measures. We believe that eco-design

consumers, see: EU Commission (ed.): Special Eurobarometer 295, Attitudes of European citizens towards the Environment, March 2008,
http://ec.europa.eu/public_opinion/archives/ebs/ebs_295_en.pdf.

⁸ See <http://www.npicenter.com/anm/templates/newsATemp.aspx?articleid=22557&zoneid=26>

⁹ Nordic Council of Ministers (ed.): Impact of energy labelling on household appliances, Copenhagen, 2007.

¹⁰ Energy related products are products which do not use energy to function but have an impact on energy efficiency, e.g. windows and shower heads.

should not only include minimum requirements for energy-efficiency, but should also adequately address other parameters such as the use of water, other natural resources and materials, the use of hazardous chemical substances, and waste management.¹¹ Not following a real life-cycle approach is likely to shift the burden of environmental impacts from one medium to another without solving the underlying problem. Moreover, a comprehensive assessment of all relevant environmental factors is crucial to ensure that most cost-effective measures are taken. For this reason a new method for setting Eco-design requirements is urgently needed.

It is also important to focus more on benchmarking and how eco-design could apply a Top Runner Approach, which means setting (and moving) the goal posts to match the best performing products in the market, as is the case in Japan for example. However in the EU, the unclear and non-binding role of benchmarks in the Eco-design Directive is a major weakness: it is not obligatory for manufacturers to integrate such benchmarks into their production, nor is it mandatory for legislators to take them into account when revising implementing measures.

Need for US and EU cooperation on Eco-design

Eco-design measures will increasingly have an impact on products, which are offered to consumers not only in the EU but globally. All products for sale on the European internal market, whether produced in Europe or the US or elsewhere, need to comply with existing eco-design Regulations.

EU – US cooperation on energy efficiency already takes place in certain areas, such as the development of the Energy Star label. However, there is an urgent need to extend this cooperation to legally binding minimum requirements for the development of sustainable products. Increased cooperation on all eco-design measures, including energy efficiency as well as water efficiency will prevent market fragmentation due to different legal requirements for the ‘green’ design of products, and will also facilitate free movement of goods between the EU and the US, as well as on a global scale.

The EU and US governments should also start working on agreed methodologies in order to ensure a consistent approach to eco-design. As a revision of the European Eco-design Directive is scheduled for 2012, cooperation should start as soon as possible.

Need for better EU-US cooperation in market surveillance

Enforcement of the Eco-designs Directive and its product specific implementing measures depends largely on market surveillance capacities in EU member countries. Under the legislation, manufacturers declare that they comply with the legal eco-design requirements by applying the ‘CE’ -mark on their products. Compliance does not have to be checked by an independent third party before products are placed on the market. This makes it very difficult to exclude rogue traders.

The situation is similar in the US. As in the EU, the consumer movement there strongly believes that accredited, third party certification would be essential for any program to be

¹¹ See two examples from Japan: <http://www.flickr.com/photos/zachklein/3544415531/sizes/o/> as opposed to the Toto toilet - a water-efficient commode but it t uses power flush.

successful. This model, of third party certification, has already been applied by law to toy safety in the US, and is being considered in the current food safety reform legislation. However, third party certification of product compliance with eco-efficient standards does not, however, release governments from their obligation to enforce these standards.

It is therefore necessary to extend the cooperation of market surveillance authorities in the EU and the US in order to ensure that products meet legally set eco-efficiency requirements.