



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, XXX

**Explanatory Memorandum accompanying**

**COMMISSION REGULATION (EC) No .../...**

**of ...**

**implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for household washing machines**

## EXPLANATORY MEMORANDUM

### 1) CONTEXT OF THE PROPOSAL

#### • Grounds for and objectives of the proposal

Unlike refrigerating appliances, domestic washing machines are covered only by *Commission Directive 95/12/EC implementing Council Directive 92/75/EEC with regard to energy labelling of household washing machines*. No ecodesign requirements have been set for this product group.

Since recent market changes call for revision of the labelling scheme, the *Action Plan for Energy Efficiency: Realising the Potential*<sup>1</sup> identified ‘wet’ household appliances (i.e. household washing machines and dishwashers) as one of the 14 priority product groups for which the existing labelling scheme should be updated and minimum energy performance standards set.

Directive 2005/32/EC of the European Parliament and of the Council lays down a framework for the Commission, assisted by a Regulatory Committee, to set ecodesign requirements for energy-using products. Ecodesign requirements are requirements that the products covered must meet in order to be placed on the market, with the aim of improving their environmental performance.

Article 16 of Directive 2005/32/EC states that ‘the Commission shall, as appropriate, introduce by anticipation (...) implementing measures starting with (...) domestic appliances’ in accordance with the criteria of Article 15 (in particular, significant volume of sales and trade, significant environmental impact, and significant potential for improvement in terms of environmental impact).

A technical, environmental and economical analysis (‘preparatory study’) has shown that:

- (i) household washing machines, with 14 millions units sold every year, are placed in large quantities on the EU market;
- (ii) the environmental impact of household washing machines in the EU is significant; in particular, annual electricity and water consumption in the use phase was estimated to be 35 TWh (corresponding to 18 million tonnes of CO<sub>2</sub> equivalent) and 2213 million m<sup>3</sup>, respectively, in 2005 ;
- (iii) there are wide disparities in the environmental performance of household washing machines;
- (iv) and cost-effective technical solutions exist which could significantly improve this performance (10% energy savings cost effective in the short term, 14% in the medium term when using the standard 60°C cycle, or 20% when applying "benchmark" technologies).

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<sup>1</sup> COM(2006) 545.

In accordance with Article 15 of Directive 2005/32/EC, household washing machines should therefore be subject to an ecodesign implementing measure.

Commercial washing machines and washer-driers are subject to separate implementing measures.

- **General context**

The most significant aspect in the environmental performance of household washing machines is their energy consumption in use. Cost-effective energy-saving solutions are available on the market, though they are not penetrating the market to a satisfactory extent. This is due to a market failure, which can be explained by the fact that energy-efficient washing machines are usually more expensive at the time of purchase, even if they may yield significant cost savings over their life cycle. The benefits are often unclear or irrelevant to the person making the purchasing decision.

This problem has been addressed over the last 12 years by the labelling scheme set out in Commission Directive 95/12/EC<sup>2</sup> implementing Council Directive 92/75/EEC with regard to energy labelling of household washing machines, which has led to energy efficiency improvements of 24 %.

However, with 90% of products in class A, the labelling scheme no longer leaves any room for product differentiation, so the cost-effective improvement potential will not be reached in 2020-2025 without further action.

According to the preparatory study, the total number of household washing machines in the EU-27 was 167 million units in 2005, with an annual electricity consumption of 35 TWh, or 18 million tonnes of CO<sub>2</sub> equivalent. This figure would increase to 37.7 TWh in 2020 without further action. It is estimated that the combined effect of the proposed ecodesign requirements and a revised labelling scheme would lead to a reduction of 1.5 TWh electricity in 2020 (0.8 Mt of CO<sub>2</sub> equivalent)<sup>3</sup> and 83 million m<sup>3</sup> water compared with the baseline scenario.

- **Existing provisions in the area of the proposal**

The use of (product-related) hazardous substances during the production phase is dealt with by Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS Directive).

The end-of-life phase is addressed in Directive 2002/96/EC on waste electrical and electronic equipment (WEEE Directive). Since washing machines comprise many materials that are recyclable and have a very high economic value (e.g. stainless steel, aluminium, copper), the majority of materials are recycled at the end of life. The WEEE Directive states that entities responsible for bringing washing machines onto the market are also responsible for taking them back at the end of life.

It is concluded that ecodesign requirements aiming to further reduce the use of hazardous substances and to ensure design for recycling and reuse to reduce the waste impact of

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<sup>2</sup> OJ L 47, 24.2.1996, p. 35.

<sup>3</sup> and 2.7 TWh electricity (1.4 Mt of CO<sub>2</sub> equivalent) in 2025

household washing machines are not appropriate, because these environmental aspects are covered by existing legislation.

In addition, this product specific implementing measure has relation with the Commission Regulation N° 1275/2008 implementing Directive 2005/32/EC on standby and off mode electric power consumption of electrical and electronic household and office equipment<sup>4</sup>.

It was decided to exclude household washing machines equipped with a sensor based safety function (designed to avoid water leakages) from the horizontal requirements on stand-by which are laid down in that Regulation<sup>5</sup>. The proposed new algorithm developed for the ecodesign measure on household washing machines considers the overall annual energy consumption including the energy consumption of the two low-power modes, thus ensuring that further energy efficiency improvements are achieved on these parameters. The measurement method referred into the standby Regulation is the basis for the evaluation of their duration and power consumption.

- **Consistency with the other policies and objectives of the Union**

Increased market take-up of energy-efficient household washing machines, through the introduction of new energy efficiency requirements and possibly a revised energy labelling scheme, will contribute to achieving the 20% energy savings potential anticipated by 2020 in the Energy Efficiency Action Plan (COM(2006) 545).

Furthermore, implementation of Directive 2005/32/EC contributes to the Community's binding target to reduce greenhouse gases by at least 20% in 2020, or 30% if there is an international agreement that commits other countries to comparable emission reductions.

Promoting the market take-up of efficient household washing machines complies with the renewed Lisbon Strategy and Sustainable Development Strategy as it will encourage investment in R&D and provide for a level playing field. It is also in line with the Sustainable Consumption, Production and Industrial Policy Action Plan.

Finally, the European Economic Recovery Plan (COM(2008) 800) mentions the energy efficiency of products as one of the key priorities.

## **2) CONSULTATION OF INTERESTED PARTIES AND IMPACT ASSESSMENT**

- **Consultation of interested parties**

### *Consultation methods, main sectors targeted and general profile of respondents*

Stakeholders were consulted from the very beginning of the preparatory study as well as within the Ecodesign Consultation Forum as required by Article 18 of the Directive.

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<sup>4</sup> OJ L 339, 18.12.2008, p. 45.

<sup>5</sup> If the machine does not provide in such protection function(s), the two modes are subject to the specific requirements of the standby Regulation.

On 4 December 2008, a meeting of the Ecodesign Consultation Forum was held. Building on the results of the preparatory study, the Commission presented working documents suggesting ecodesign requirements for household washing machines. About one month before the meeting, a working document was sent to the members of the Consultation Forum. The working document was placed on the Commission's CIRCA portal alongside the stakeholder comments received in writing before and after the meeting.

#### Summary of responses and how they have been taken into account

All respondents throughout the consultation process supported in general the setting of more stringent ecodesign requirements, but with some reservations on some technical issues:

- A number of Member States and environmental NGOs requested the second stage to be implemented earlier than proposed in the working document submitted to the Consultation Forum. A second sub-option for implementation two years earlier was therefore considered in the assessment of policy options.
- Revising the method of calculating the energy consumption of washing machines was discussed with a view to better reflecting real-life energy consumption. In addition, a number of stakeholders raised concerns about the current energy efficiency index (EEI) on which the energy efficiency classes are based, which seems to be more 'advantageous' to larger washing machines (capacity of 6.5 kg or higher) compared with smaller machines. An assessment of the different formulae for calculating the EEI demonstrated that they would have limited impact, if any, in terms of energy savings compared to the 3+3+2 formula presented to the Consultation Forum and developed for the preparatory study.
- The approach to low-power modes (including off-mode and left-on mode) appeared to be controversial. While the preparatory study included the consumption of low-power modes in calculating annual energy consumption (which would influence the ranking of washing machines and hence give incentives to manufacturers to reduce consumption in low-power modes), other stakeholders advocated applying the horizontal requirements laid down in the Standby Regulation. The analysis in the impact assessment shows that the first option (inclusion within annual energy consumption) is the most effective way of reducing energy consumption in low-power modes.
- A ranking or requirement for rinsing performance was advocated by many stakeholders, but since there is as yet no relevant testing standard to assess this performance, no requirement for rinsing performance could be included in the proposal.
- The proposal contains a requirement for maximum water consumption, as requested by many stakeholders. Some stakeholders even asked for a stricter requirement, whereas others warned of detrimental effects on rinsing performance (which, as is stated above, cannot be adequately addressed at this time).

#### • **Collection and use of expertise**

##### Scientific/expertise domains concerned

External expertise on household washing machines was mainly gathered through a study providing a technical, environmental and economic analysis ('preparatory study'), which was

carried out by a consortium of external consultants on behalf of the Commission's Directorate-General for Energy and Transport (DG TREN)

### Methodology used

The methodology followed the provisions of the Directive, in particular Article 15 and Annexes I and II. The technical, environmental and economic analysis followed the structure of the 'MEEuP' ecodesign methodology developed for the Commission's Directorate-General for Enterprise and Industry and endorsed by stakeholders.

### Main organisations/experts consulted

The preparatory study was conducted in an open process that took into account input from relevant stakeholders, including manufacturers and manufacturing associations, environmental NGOs, consumer organisations, EU/EEA Member State experts and international organisations such as the International Energy Agency (IEA).

### Summary of advice received and used

No potentially serious risks with irreversible consequences were mentioned.

The technical, market and economic analysis carried out for the preparatory study resulted in recommendations for ecodesign requirements. These recommendations were used as a basis for suggesting possible ecodesign requirements to the Consultation Forum.

### Means used to make the expert advice publicly available

The preparatory study was accompanied by a dedicated website where interim results and further relevant materials were published regularly for timely stakeholder consultation and input. Written submissions from stakeholders are listed in the final reports. The study website was publicised on the ecodesign websites of Transport and Energy DG and Enterprise and Industry DG. The written submissions received through the Consultation Forum and the Forum minutes are available on the Commission's CIRCA portal.

### • **Impact assessment**

An impact assessment was carried out in accordance with Article 15(4)(b) of Directive 2005/32/EC. The options listed below were discarded at an early stage (for more details, see the accompanying impact assessment):

- no EU action (legislation currently in place would not be amended, no new legislation would be adopted);
- support for a voluntary commitment;
- new ecodesign requirements only (with no revision of the labelling scheme);
- revised labelling scheme only (with no new ecodesign requirements).

The option that appeared the most sensible, and which was advocated by all stakeholders, is the following:

- simultaneous revision of the labelling scheme and setting of ecodesign requirements in a coordinated approach.

Considering that the most significant environmental impact of household washing machines is their energy and water consumption in use, several sub-options for gradual ecodesign requirements together with revised energy efficiency classes were analysed as follows:

- **BAU:** Business-as-Usual scenario, i.e. continuation of current policy measures at EU level (current labelling scheme only) and no further action at EU level;
- **Sub-option A:**
  - Introduction of minimum energy efficiency requirements set at  $EEI < 68$  in 2010 and  $EEI < 59$  in 2015;
    - Introduction of minimum washing performance requirements set at  $W_p > 1.03$  in 2010 ( $W_p > 1.00$  for machines of max. 3 kg load capacity);
    - Introduction of maximum water consumption requirements (litres/cycle, depending on rated load capacity) in 2010 and 2015 (based on part load);
- **Sub-option B:**
  - Introduction of minimum energy efficiency requirements set at  $EEI < 68$  in 2010 and  $EEI < 59$  in 2013;
  - Introduction of a minimum washing efficiency requirement set at  $W_p > 1.03$  in 2010 ( $W_p > 1.00$  for machines of max. 3 kg load capacity);
  - Introduction of maximum water consumption requirements (litres/cycle, depending on rated load capacity) in 2010 and 2013 (based on part load).

The cost-benefit analysis shows that sub-option B delivers the most savings without any negative impact on the other functionalities of washing machines.

It will ensure that:

- ongoing energy improvements are maintained and fostered;
- fair competition and product differentiation continues to operate on energy improvements;
- the cost-effective level of energy consumption is reached;
- more energy-consuming products are quickly removed from the market with a reduction of the life cycle costs of household washing machines for consumers;
- the competitiveness of the industry is supported through the expansion of the EU internal market for sustainable products;
- the burdens on manufacturers including SMEs are not excessive, as the transition periods take redesign cycles into account;
- there is no negative impact on employment in the EU.

### 3) LEGAL ELEMENTS OF THE PROPOSAL

- **Summary of the proposed action**

The measure sets new mandatory ecodesign requirements for placing household washing machines on the market with the aim of reducing their environmental impact. It includes both generic requirements to provide end-users with information on the energy and water consumption of the different washing programmes and specific requirements for the energy consumption and water consumption of washing machines, which were identified as the parameters with the most significant environmental impact. Specific requirements for washing efficiency are also included in order to avoid any negative impact on this particular functionality due to reduced energy consumption, in accordance with Article 15(5) of Directive 2005/32/EC.

- **Legal basis**

The proposed Regulation is an implementing measure under Directive 2005/32/EC, and in particular its Article 15(1). The Directive is based on Article 95 of the Treaty.

- **Subsidiarity principle**

The subsidiarity principle applies insofar as the proposal does not fall under the exclusive competence of the Community.

The objectives of the proposal cannot be sufficiently achieved by the Member States, because the adoption of different ecodesign measures for household washing machines by individual Member States would lead to obstacles to the free movement of goods within the Community.

Community action will better achieve the objectives of the proposal, as the setting of harmonised ecodesign requirements at EU level will avoid fragmentation of the internal market and provide a level playing field for all.

In line with the principle of subsidiarity, it is thus appropriate for the measures in question to be adopted at Community level.

The scope of the proposal is limited to the harmonisation of ecodesign requirements, while implementation and market surveillance will fall under the responsibility of the Member States.

The proposal therefore complies with the subsidiarity principle.

- **Proportionality principle**

The proposal complies with the proportionality principle for the following reasons.

In accordance with the principle of proportionality, this measure does not go beyond what is necessary in order to achieve its objective.

The form of the proposed ecodesign legislation is a Regulation, which is directly applicable in all Member States. This ensures that no costs will arise for national and Community administrations in transposing the implementing legislation into national legislation.

As regards conformity assessment, there will be no additional costs compared with the current situation, where market surveillance already has to be carried out under Directive 97/17/EC on energy labelling of washing machines.

- **Choice of instruments**

Proposed instrument: Regulation.

Other means would not be adequate for the following reasons.

The proposed form of action is a Commission Regulation (implementing Directive 2005/32/EC), because the objectives of the action can be achieved most efficiently by fully harmonised requirements (including timely entry into force) throughout the EU, thus ensuring the free movement of compliant products.

#### **4) BUDGETARY IMPLICATIONS**

The proposal has no implications for the Community budget.

#### **5) ADDITIONAL INFORMATION**

- **Review/revision/sunset clause**

The proposal includes a revision clause.

- **European Economic Area**

The proposed act concerns an EEA matter and should therefore extend to the European Economic Area.