**COUNCIL OF THE EUROPEAN UNION**

**Brussels, 2 March 2012**

**7147/12**

**ENER 79**
**ENV 165**
**DELACT 16**

**COVER NOTE**

| | |
|---|---|
| from: | Secretary-General of the European Commission, signed by Mr Jordi AYET PUIGARNAU, Director |
| date of receipt: | 2 March 2012 |
| to: | Mr Uwe CORSEPIUS, Secretary-General of the Council of the European Union |
| No Cion doc.: | C(2011) 7585 final |
| Subject: | Commission Delegated Regulation (EU) No .../.. of 1 March 2012 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of household tumble driers |

Delegations will find attached Commission document C(2011) 7585 final.

Encl.: C(2011) 7585 final

EUROPEAN COMMISSION

Brussels, 1.3.2012
C(2011) 7585 final

**COMMISSION DELEGATED REGULATION (EU) No …/..**

**of 1.3.2012**

**supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of household tumble driers**

(Text with EEA relevance)

# EXPLANATORY MEMORANDUM

## 1. CONTEXT OF THE DELEGATED ACT

### • Grounds for and objectives of the proposal

Household tumble driers are covered by Commission Directive 95/13/EC[1] implementing Council Directive 92/75/EEC with regard to energy labelling of household tumble driers. The Directive provides standardised information on household tumble driers by means of a ranking of the energy efficiency of household tumble driers on a scale from A to G.

This draft Regulation remedies the regulatory failure identified in the impact assessment due to the outdated A to G scale set out in Directive 95/13/EC. It complements the draft Commission Regulation implementing Directive 2009/125/EC[2] of the European Parliament and of the Council with regard to ecodesign requirements for household tumble driers, which removes the least efficient appliances from the market.

The aim of this delegated Regulation is to introduce new, more ambitious, energy efficiency classes in order to adapt them to technological developments and introduce more dynamism into the scheme. It also includes gas driers within the labelling scheme in order to ensure maximum transparency of the market for end-users.

### • General context

Since the introduction of the energy label 15 years ago, household tumble driers have improved their energy efficiency by some 12%[3]; the EU energy label is believed to have been one of the most important market drivers for this improvement in efficiency.

The overwhelming majority of household tumble driers are currently in classes B and C (in 2008, around 95%) leaving little choice for consumers and giving firms in the industry little opportunity to differentiate themselves from their competitors. New technologies (heat pumps or gas driers), not present on the market or not considered at the time of the adoption of Directive 95/13/EC, allow the placing on the market of household tumble driers consuming up to 50% less than the limit for the current class A. In the absence of classes above class A, manufacturers appear unwilling to invest further in the deployment of new energy-efficient technologies. Consequently, heat-pump tumble driers fail to gain market share so that their production costs remain high (no economies of scale and no effective competition among manufacturers).

According to the impact assessment, the total number of household tumble driers installed in the EU-27 was 57 million units in 2005, with an annual electricity consumption of 21 TWh, or 9.5 million tonnes of $CO_2$ equivalent. This figure would increase to 31 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 annual electricity savings of some 3.5 TWh of

---

1 OJ L 136, 21.6.1995, p. 28–51.

2 OJ L 285, 31.10.2009, p. 10–35.

3 In 1995 the average condenser drier consumed some 0.79 kWh/kg (GEA study, 1995), which is approximately 0.69 kWh/kg according to the current standards. In 2010, the average condenser drier is assumed to consume 0.61 kWh/kg, corresponding to a reduction of around 12%.

electricity in 2020, increasing to around 9 TWh in 2030, compared with the projected energy consumption if no measures are implemented.

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

In addition to the draft Commission Regulation implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household tumble driers, and to the above-mentioned Energy Labelling Directive 95/13/EC, the following measures are relevant for household tumble driers:

– Directive 2006/95/EC[4] of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (the Low Voltage Directive or LVD);

– Directive 2002/96/EC[5] of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (the WEEE Directive);

– Directive 2002/95/EC[6] of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (the RoHs Directive);

– Commission Regulation No 1275/2008 implementing Directive 2005/32/EC with regard to ecodesign requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment[7];

– Directive 2009/142/EC of the European Parliament and of the Council of 30 November 2009 relating to appliances burning gaseous fuels[8].

- **Consistency with other EU policies and objectives**

Increased market take-up of energy-efficient household tumble driers, through the introduction of a revised energy labelling scheme, will contribute to achieving the 20% energy savings potential anticipated by 2020 in the Energy Efficiency Plan (COM(2011) 109).

Promoting the market take-up of efficient household tumble driers complies with the Lisbon Strategy and the renewed Sustainable Development Strategy as it will encourage investment in R&D and make for a level playing field. It is also in line with the Sustainable Consumption, Production and Industrial Policy Action Plan (COM(2008) 397).

Finally, it will contribute to the objective of decoupling economic growth from the use of resources, as set out in the Europe 2020 strategy (COM(2010) 2020) under the flagship initiative 'Resource-Efficient Europe'.

---

4 OJ L 374, 27.12.2006, p. 10.
5 OJ L 37, 13.2.2003, p. 24.
6 OJ L 37, 13.2.2003, p. 19.
7 OJ L 339, 18.12.2008, p. 45.
8 OJ L 330, 16.12.2009, p. 10.

## 2. CONSULTATIONS PRIOR TO THE ADOPTION OF THE ACT

- **Consultation of interested parties**

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

Stakeholders were consulted from November 2007 to March 2009 as part of the preparatory study on the ecodesign of household tumble driers, which is also relevant for labelling as it describes the market and technological options available for household tumble driers. On 25 June 2010, Commission staff presented a refined working document for public consultation of all experts, adapting energy efficiency classes in line with Article 10(4)(d) of Directive 2010/30/EU[9]. The working document was sent out one month before the meeting and uploaded to the Commission's CIRCA portal alongside the stakeholder comments received in writing.

In addition, a consumer survey was carried out in 2008 during the course of the preparatory study in order to better understand and identify consumers' needs, expectations and daily use of wet appliances. The opinions of 750 European households from three different climate zones (France, United Kingdom and Poland) were gathered with the aid of an external market research institute. A manufacturer survey was also held to enquire about consumer drying habits and preferences.

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

All respondents throughout the consultation process supported the revision of the energy labelling scheme for household tumble driers. The following issues were raised and taken into account within the impact assessment:

- There was broad support for the proposed revised energy label with the following characteristics: display of the condensation efficiency[10] and acoustical noise emissions and addition of three extra energy classes[11] (A+, etc.) on top of the existing classes.

- The inclusion of gas-fired household tumble driers in a single energy scale was widely supported.

- The alignment of the method for establishing energy efficiency with the approach followed for household washing machines and dishwashers (inclusion of low power modes and part load in calculating the annual consumption) was supported. However, several stakeholders asked for the new calculation method to be improved to avoid smaller tumble driers being given too large a bonus (jump of up to two classes on the

---

9 OJ L 153, 18.6.2010, p. 1.

10 The condensation efficiency classes of condenser driers have been defined on a scale A-G as these seven classes are sufficient to well differentiate the machines on the market from the technical and consumer perspective points of view.

11 The energy efficiency requires instead the extension of the scale to A+++ to differentiate the most efficient product. Following the general principle that no rescaling (downgrading) of the already labelled products should occur when setting the new labelling classes, the new classes A+, A++ and A+++ are proposed to identify products with a much better energy efficiency taking care of both the already achieved energy efficiency improvement (compared to the current label) and the future technological progress.

energy label), which is not technologically justified. The draft Regulation includes an improved calculation method to address this concern.

- Some stakeholders requested the improvement of the pictogram indicating whether a drier is electric or gas-fired. The proposed label in this draft Regulation has been revised accordingly.

- **Collection and use of expertise**

*Scientific/expertise domains concerned*

The preparatory study on household tumble driers in the context of the Ecodesign Directive 2009/125/EC (former Directive 2005/32/EC) provided a solid technical, environmental and economic analysis directly relevant for energy labelling. It was carried out by a consortium of external consultants on behalf of the Commission's Directorate-General for Transport and Energy (DG TREN), now the Directorate-General for Energy (DG ENER), and submitted for scrutiny to the stakeholders from the very start.

*Main organisations/experts consulted*

The preparatory study was conducted in an open process that took into account input from relevant stakeholders, including suppliers 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 as part of the preparatory study resulted in recommendations for ecodesign requirements and labelling. These recommendations were used as a basis for suggesting possible energy efficiency classes for public consultation.

*Means used to make the expert advice publicly available*

The preparatory study was given 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 the former DG Transport and Energy (now DG ENER) and DG Enterprise and Industry.

- **Impact assessment**

Labelling has to be considered together with other policy options such as self-regulation or the setting of minimum performance (energy efficiency) requirements. An impact assessment was carried out for the ecodesign of household tumble driers under Article 15(4)(b) of Directive 2009/125/EC, which also examined the labelling option. The options listed below were discarded at an early stage:

– no EU action (legislation currently in place would not be amended, no new legislation would be adopted);

– support for a voluntary commitment (none was tabled);

– adoption of new ecodesign requirements only (with no revision of the labelling scheme);

– revision of the labelling scheme only (with no new ecodesign requirements).

The option which appeared the most appropriate and which was also advocated by all stakeholders was to revise the labelling scheme and adopt ecodesign requirements in a coordinated approach.

This will ensure that:

– ongoing energy improvements are maintained and fostered by setting a transparent legislative framework that will provide the industry with the long-term security it needs to invest in innovative technology;

– fair competition and product differentiation continues to promote energy improvements by providing consumers with an effective and reliable tool to compare the energy consumption of products in the context of strong market demand for energy-efficient appliances;

– a framework is set to support the market breakthrough of the most efficient tumble driers, in particular heat pump driers, at mass market level, thereby decreasing production costs (e.g. through economies of scale);

– a cost-effective reduction in energy consumption during use is achieved, with a savings potential of some 3.5 TWh in 2020 compared to the business-as-usual scenario, increasing to around 9 TWh in 2030;

– a level playing field for all manufacturers is guaranteed, ensuring fair competition and free circulation of products;

– disproportionate burdens for manufacturers are avoided due to transitional periods which duly take into account redesign cycles;

– there is no negative impact on employment in the EU.

## 3. LEGAL ELEMENTS OF THE DELEGATED ACT

- **Summary of the proposed action**

The measure sets out new mandatory information requirements for placing household electric and gas tumble driers on the market and displaying labels at the point of sale to inform end-users of their energy consumption during use and in low power modes. New energy efficiency classes A+, A++ and A+++ are introduced on the label above class A together with requirements concerning the advertising of such appliances.

- **Legal basis**

The draft delegated Regulation supplements Directive 2010/30/EU, in particular its Article 10. It is based on Article 194 TFEU.

- **Subsidiarity principle**

The draft delegated Regulation supplements Directive 2010/30/EU in line with Article 10.

- **Proportionality principle**

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 supplementing measure is a delegated Regulation, which is directly applicable in all Member States. This ensures that national and EU administrations will not incur any costs for transposition of the supplementing legislation into national legislation.

As regards conformity assessment, there will be no additional costs with respect to the current situation, where energy labelling is already mandatory.

- **Choice of instrument**

Proposed instrument: delegated Regulation.

Other means would not be adequate for the following reasons.

The proposed form of action is a delegated Regulation (supplementing Framework Directive 2010/30/EU), because the objectives of the action can be achieved most efficiently by fully harmonised requirements (including timely entry into force) throughout the EU, ensuring free movement of compliant appliances and avoiding market fragmentation.

## (4) BUDGETARY IMPLICATIONS

The proposal has no implications for the EU 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.

**COMMISSION DELEGATED REGULATION (EU) No …/..**

**of 1.3.2012**

**supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of household tumble driers**

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products[12], and in particular Article 10 thereof,

Whereas:

(1) Directive 2010/30/EU requires the Commission to adopt delegated acts for the labelling of energy-related products representing significant potential for energy savings and presenting a wide disparity in performance levels with equivalent functionality.

(2) Provisions for the energy labelling of household tumble driers were established by Commission Directive 95/13/EC of 23 May 1995 implementing Council Directive 92/75/EEC with regard to energy labelling of household electric tumble driers[13].

(3) The energy used by household tumble driers accounts for a significant part of total household energy demand in the Union. In addition to the energy efficiency improvements already achieved, the scope for further reducing the energy consumption of household tumble driers is substantial.

(4) Commission Directive 95/13/EC should be repealed and new provisions should be laid down by this Regulation in order to ensure that the energy label provides dynamic incentives for suppliers to further improve the energy efficiency of household tumble driers and to accelerate market transformation towards energy-efficient technologies.

(5) Household combined washer-driers are addressed in Commission Directive 96/60/EC of 19 September 1996 implementing Council Directive 92/75/EEC with regard to

---

12 OJ L 153, 18.6.2010, p. 1.
13 OJ L 136, 21.6.1995, p. 28.

energy labelling of household combined washer-driers[14]. They have particular characteristics and should therefore be exempted from the scope of this Regulation.

(6) The information provided on the label should be obtained through reliable, accurate and reproducible measurement procedures which take into account the recognised state-of-the-art measurement methods, including, where available, harmonised standards adopted by the European standardisation bodies, as listed in Annex I to Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations[15].

(7) This Regulation should specify a uniform design and content for the label for household tumble driers, including gas-fired driers.

(8) In addition, this Regulation should specify requirements as to the "technical documentation" and the "product fiche" for household tumble driers.

(9) Moreover, this Regulation should specify requirements as to the information to be provided for any form of distance selling and advertisement of household tumble driers and any form of technical promotional material for such appliances.

(10) It is appropriate to provide for a review of this Regulation in order to take into account technological progress.

(11) In order to facilitate the transition from Directive 95/13/EC to this Regulation, household tumble driers labelled in accordance with this Regulation should be considered as compliant with Directive 95/13/EC.

(12) Directive 95/13/EC should therefore be repealed.

HAS ADOPTED THIS REGULATION:

*Article 1*
*Subject matter and scope*

1. This Regulation establishes requirements for the labelling of and the provision of supplementary product information on electric mains-operated and gas-fired household tumble driers and built-in household tumble driers, including those sold for non-household use.

2. This Regulation shall not apply to household combined washer-driers and household spin-extractors.

[14] OJ L 266, 18.10.1996, p. 1.
[15] OJ L 204, 21.7.1998, p. 37.

*Article 2*
*Definitions*

In addition to the definitions laid down in Article 2 of Directive 2010/30/EU, the following definitions shall apply for the purposes of this Regulation:

(1) 'household tumble drier' means an appliance in which textiles are dried by tumbling in a rotating drum, through which heated air is passed and which is designed to be used principally for non-professional purposes;

(2) 'built-in household tumble drier' means a household tumble drier intended to be installed in a cabinet, a prepared recess in a wall or a similar location, requiring furniture finishing;

(3) 'household combined washer-drier' means a household washing machine which includes both a spin extraction function and also a means for drying the textiles, usually by heating and tumbling;

(4) 'household spin-extractor', also known commercially as 'spin-drier', means an appliance in which water is removed from the textiles by centrifugal action in a rotating drum and drained through an automatic pump and which is designed to be used principally for non-professional purposes;

(5) 'air-vented tumble drier' means a tumble drier that draws in fresh air, passes it over the textiles and vents the resulting moist air into the room or outside;

(6) 'condenser tumble drier' means a tumble drier which includes a device (either using condensation or any other means) for removing moisture from the air used for the drying process;

(7) 'automatic tumble drier' means a tumble drier which switches off the drying process when a certain moisture content of the load is detected, for example through conductivity or temperature sensing;

(8) 'non-automatic tumble drier' means a tumble drier which switches off the drying process after a predefined period, usually controlled by a timer, but which may also be manually switched off;

(9) 'programme' means a series of operations that are predefined and which are declared by the supplier as suitable for drying certain types of textile;

(10) 'cycle' means a complete drying process, as defined for the selected programme;

(11) 'programme time' means the time that elapses from the initiation of the programme until the completion of the programme, excluding any end-user programmed delay;

(12) 'rated capacity' means the maximum mass in kilograms, indicated by the supplier in 0.5 kilogram increments of dry textiles of a particular type, which can be treated in a household tumble drier with the selected programme, when loaded in accordance with the supplier's instructions;

(13) ‘partial load’ means half of the rated capacity of a household tumble drier for a given programme;

(14) ‘condensation efficiency’ means the ratio between the mass of moisture condensed by a condenser tumble drier and the mass of moisture removed from the load at the end of a cycle;

(15) ‘off-mode’ means a condition where the household tumble drier is switched off using appliance controls or switches accessible to and intended for operation by the end-user during normal use to attain the lowest power consumption that may persist for an indefinite time while the household tumble drier is connected to a power source and used in accordance with the supplier’s instructions; where there is no control or switch accessible to the end-user, ‘off-mode’ means the condition reached after the household tumble drier reverts to a steady-state power consumption on its own;

(16) ‘left-on mode’ means the lowest power consumption mode that may persist for an indefinite time after completion of the programme without any further intervention by the end-user besides unloading of the household tumble drier;

(17) ‘equivalent household tumble drier’ means a model of household tumble drier placed on the market with the same rated capacity, technical and performance characteristics, energy consumption, condensation efficiency where relevant, standard cotton programme time and airborne acoustical noise emissions during drying as another model of household tumble drier placed on the market under a different commercial code number by the same supplier;

(18) ‘end-user’ means a consumer buying or expected to buy a household tumble drier;

(19) ‘point of sale’ means a location where household tumble driers are displayed or offered for sale, hire or hire-purchase.

(20) ‘standard cotton programme’ means the cycle which dries cotton laundry with an initial moisture content of the load of 60% up to a remaining moisture content of the load of 0 %.

*Article 3*
*Responsibilities of suppliers*

Suppliers shall ensure that:

(a) each household tumble drier is supplied with a printed label in the format and containing the information set out in Annex I;

(b) a product fiche, as set out in Annex II, is made available;

(c) technical documentation as set out in Annex III is made available on request to the authorities of the Member States and to the Commission;

(d) any advertisement for a specific model of household tumble drier contains the energy efficiency class, if the advertisement discloses energy-related or price information;

(e) any technical promotional material concerning a specific model of household tumble drier which describes its specific technical parameters includes the energy efficiency class of that model.

*Article 4*
*Responsibilities of dealers*

Dealers shall ensure that:

(a) each household tumble drier, at the point of sale, bears the label provided by suppliers in accordance with Article 3(a) on the outside of the front or top of the household tumble drier, in such a way as to be clearly visible;

(b) household tumble driers offered for sale, hire or hire-purchase where the end-user cannot be expected to see the product displayed, as specified in Article 7 of Directive 2010/30/EU, are marketed with the information provided by suppliers in accordance with Annex IV to this Regulation;

(c) any advertisement for a specific model of household tumble drier contains a reference to the energy efficiency class, if the advertisement discloses energy-related or price information;

(d) any technical promotional material concerning a specific model of household tumble drier which describes its specific technical parameters includes a reference to the energy efficiency class of that model.

*Article 5*
*Measurement methods*

The information to be provided under Articles 3 and 4 shall be obtained by reliable, accurate and reproducible measurement procedures, which take into account the recognised state-of-the-art measurement methods.

*Article 6*
*Verification procedure for market surveillance purposes*

Member States shall apply the procedure set out in Annex V for assessing the conformity of the declared energy efficiency class, the energy consumption per cycle, the condensation efficiency class where applicable, the rated capacity, the power consumption in off-mode and left-on mode, the duration of the left-on mode, the programme time and airborne acoustical noise emissions.

*Article 7*
*Revision*

The Commission shall review this Regulation in the light of technological progress no later than five years after its entry into force. The review shall in particular assess the verification tolerances set out in Annex V.

*Article 8*
*Repeal*

Directive 95/13/EC shall be repealed from [date to be inserted: 12 months after the entry into force of this Regulation].

*Article 9*
*Transitional provisions*

1. Article 3(d) and (e) and Article 4(b), (c) and (d) shall not apply to printed advertisements and printed technical promotional material published before [date to be inserted: 16 months after the entry into force of the Regulation].

2. Household tumble driers placed on the market before [date to be inserted: 12 months after the entry into force of the Regulation] shall comply with the provisions of Directive 95/13/EC.

3. Household tumble driers which comply with the provisions of this Regulation and which are placed on the market or offered for sale, hire or hire-purchase before [date to be inserted: 12 months after entry into force of the Regulation] shall be regarded as complying with the requirements of Directive 95/13/EC.

*Article 10*
*Entry into force and application*

1. This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

2. It shall apply from [date to be inserted: 12 months after entry into force of the Regulation]. However, Article 3(d) and (e) and Article 4(b), (c) and (d) shall apply from [date to be inserted: 16 months after the entry into force of the Regulation].

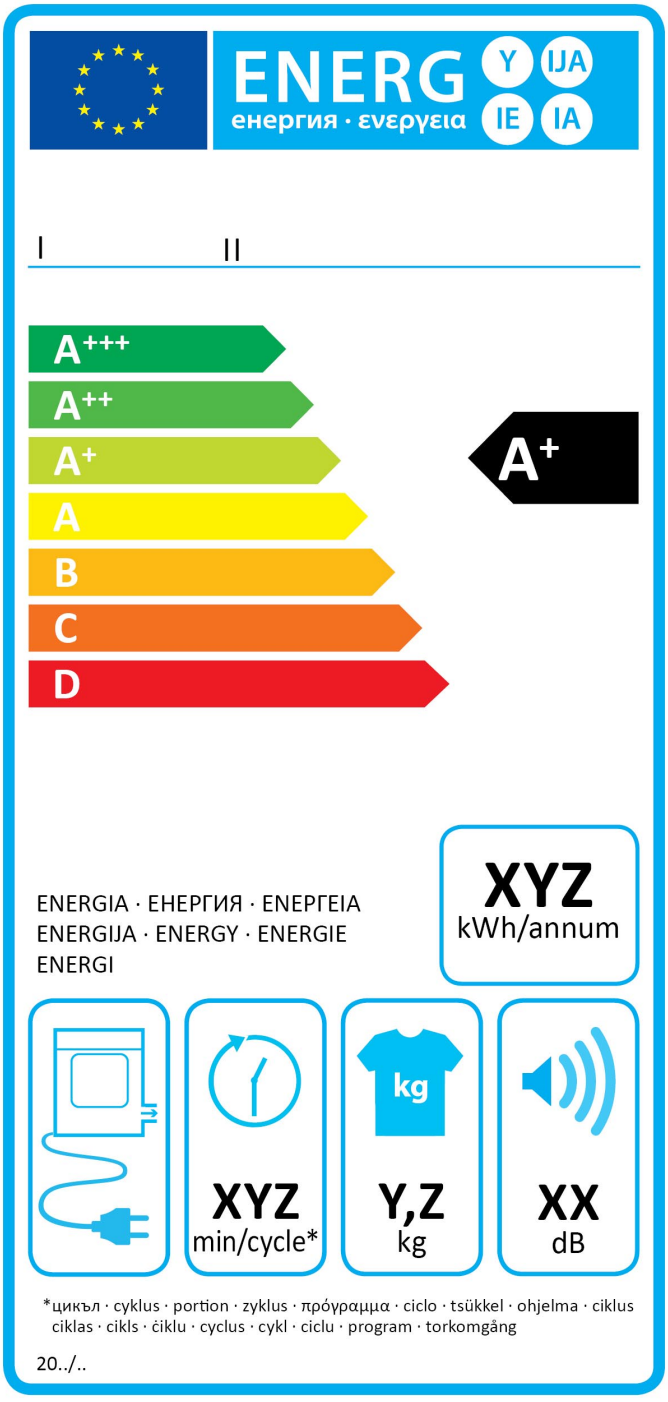
This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 1.3.2012

*For the Commission*
*The President*
*José Manuel BARROSO*

**ANNEX I**
**Label**

**1. LABEL FOR AIR-VENTED HOUSEHOLD TUMBLE DRIER**




I
II
III
IV
V
VI
VII
VIII

[* Numbering of the Regulation to be added on the label before publication in the OJ]

(1) The following information shall be included in the label for air vented household tumble driers:

I. supplier's name or trade mark;

II. supplier's model identifier, meaning the code, usually alphanumeric, which distinguishes a specific household tumble drier model from other models with the same trade mark or supplier's name;

III. the energy efficiency class as defined in point 1 of Annex VI; the head of the arrow containing the energy efficiency class of the household tumble drier shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;

IV. weighted annual energy consumption ($AE_C$) in kWh/year, rounded up to the nearest integer and calculated in accordance with Annex VII;

V. information on the type of household tumble drier;

VI. cycle time corresponding to the standard cotton programme at full load in minutes and rounded to the nearest minute;

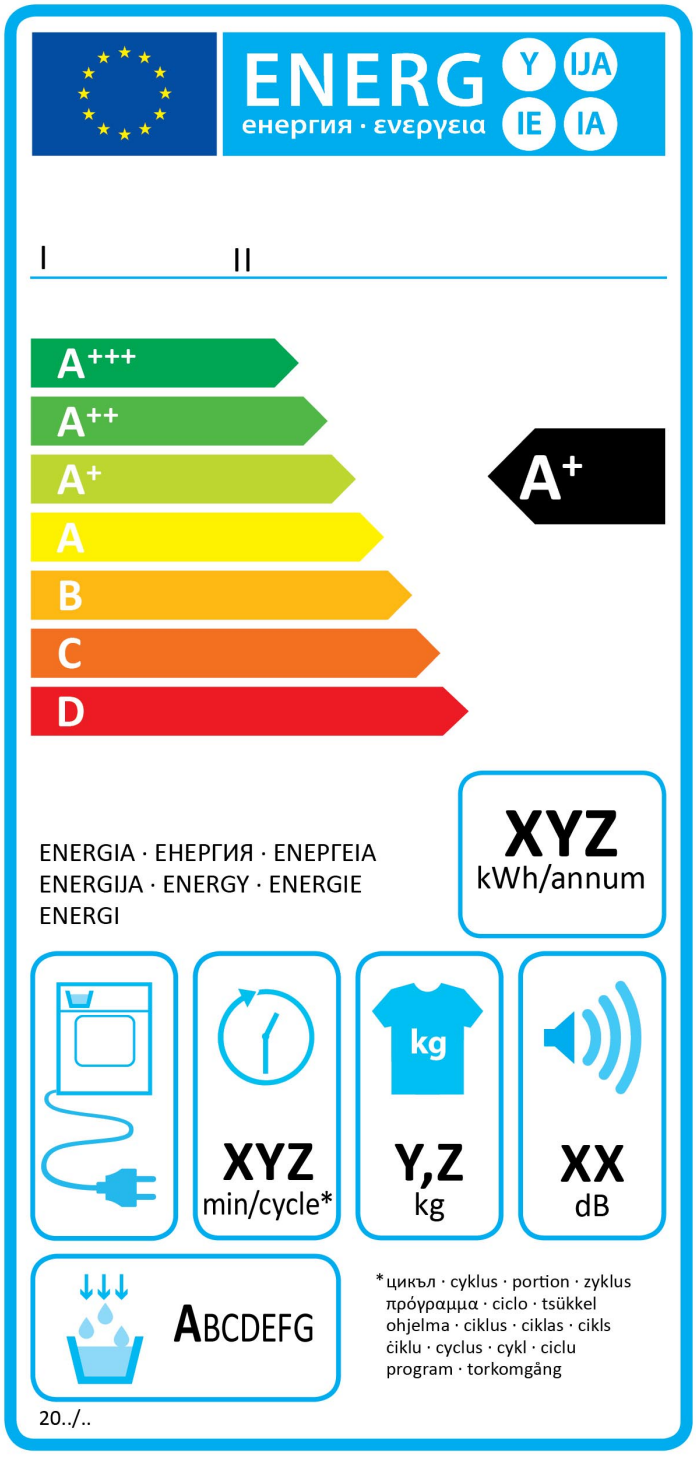
VII. rated capacity, in kg, for the standard cotton programme at full load;

VIII. the sound power level (weighted average value - $L_{WA}$), during the drying phase, for the standard cotton programme at full load, expressed in dB, rounded to the nearest integer.

(2) The design of the label for air vented household tumble driers shall be in accordance with point 4 of this Annex. Where a model has been granted an 'EU Ecolabel' under Regulation (EC) No 66/2010 of the European Parliament and of the Council[16], a copy of the EU Ecolabel may be added.

[16] OJ L 27, 30.1.2010, p. 1.

## 2. LABEL FOR CONDENSER HOUSEHOLD TUMBLE DRIER




I
II
III
IV
V
VI
VII
VIII
IX

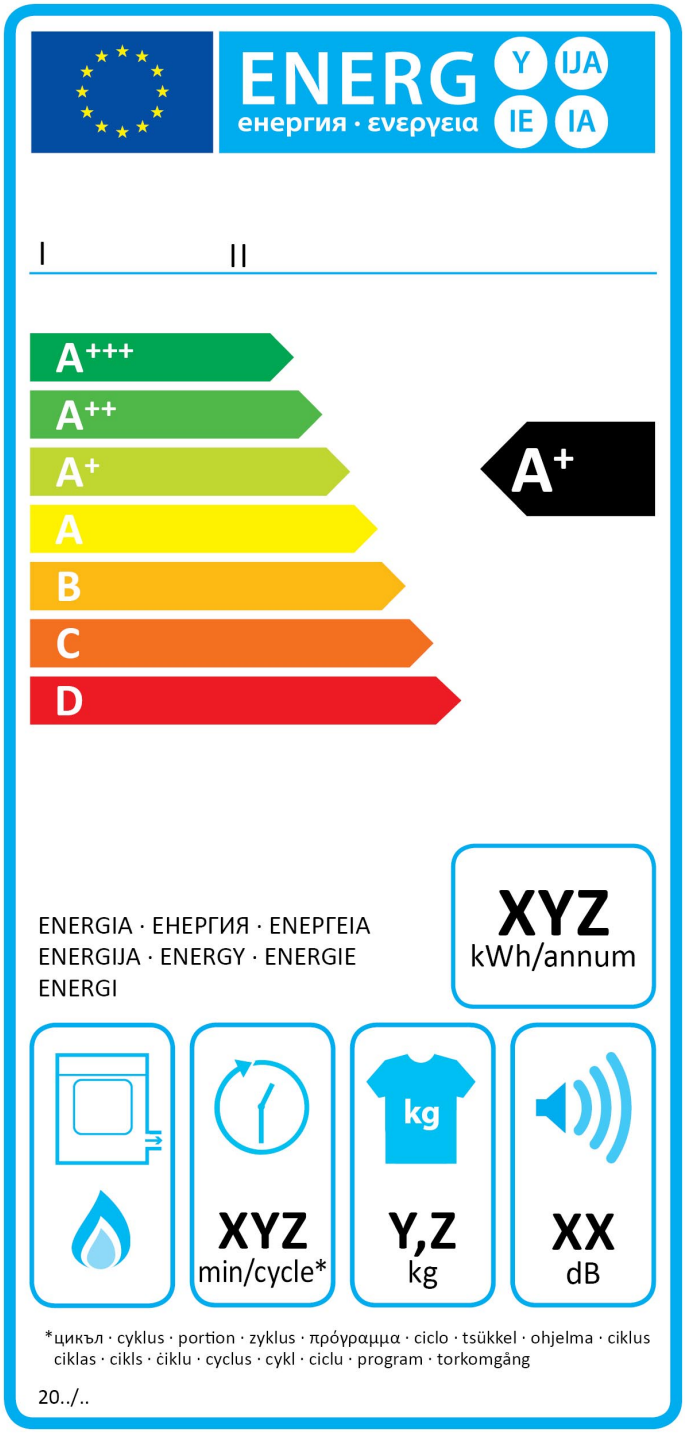
[* Numbering of the Regulation to be added on the label before publication in the OJ]

(1) In addition to the information listed in point 1(1), the label for condenser household tumble driers shall include:

IX. the condensation efficiency class in accordance with point 2 of Annex VI.

(2) The design of the label for condenser household tumble driers shall be in accordance with point 4 of this Annex. Where a model has been awarded an 'EU Ecolabel' under Regulation (EC) No 66/2010, a copy of the EU Ecolabel may be added.

## 3. LABEL FOR GAS-FIRED HOUSEHOLD TUMBLE DRIER




I
II

III

IV

V
VI
VII
VIII

[* Numbering of the Regulation to be added on the label before publication in the OJ]

(1) The information listed in point 1(1) shall be included in the label for gas fired household tumble driers.

(2) The design of the label for gas fired household tumble driers shall be in accordance with point 4 of this Annex. Where a model has been awarded an 'EU Ecolabel' under Regulation (EC) No 66/2010, a copy of the EU Ecolabel may be added.

## 4. LABEL DESIGN

[Printing specification of the label to be added before publication in the OJ]

## ANNEX II
## Product Fiche

1. The information in the product fiche of household tumble driers shall be given in the following order and shall be included in the product brochure or other literature provided with the product:

   (a) supplier's name or trade mark;

   (b) supplier's model identifier, which means the code, usually alphanumeric, which distinguishes a specific household tumble drier model from other models with the same trade mark or supplier's name;

   (c) rated capacity in kg of cotton laundry for the standard cotton programme at full load;

   (d) whether the household tumble drier is an air-vented, condenser or gas-fired household tumble drier;

   (e) energy efficiency class in accordance with point 1 of Annex VI;

   (f) for electric mains-operated household tumble drier:

   the weighted Annual Energy Consumption ($AE_c$) rounded up to one decimal place; it shall be described as: 'Energy consumption "X" kWh per year, based on 160 drying cycles of the standard cotton programme at full and partial load, and the consumption of the low-power modes. Actual energy consumption per cycle will depend on how the appliance is used.';

   for household gas-fired tumble drier:

   the weighted Annual Energy Consumption ($AE_{C(Gas)}$) rounded up to one decimal place; it shall be described as: Energy consumption "X" kWh-Gas per year, based on 160 drying cycles of the standard cotton programme at full and partial load. Actual energy consumption per cycle will depend on how the appliance is used;

   and

   the weighted Annual Energy Consumption ($AE_{C(Gas)el}$) rounded up to one decimal place; it shall be described as: 'Energy consumption "X" kWh per year, based on 160 drying cycles of the standard cotton programme at full and partial load, and the consumption of the low-power modes. Actual energy consumption per cycle will depend on how the appliance is used.';

   (g) whether the household tumble drier is an 'automatic tumble drier' or 'non-automatic tumble drier';

   (h) where the household tumble drier has been awarded an 'EU Ecolabel award' under Regulation (EC) No 66/2010, this information may be included;

(i) the energy consumption ($E_{dry}$, $E_{dry½}$, $Eg_{dry}$, $Eg_{dry½}$, $Eg_{dry,a}$, $Eg_{dry½,a}$) of the standard cotton programme at full and partial load;

(j) the power consumption of the off-mode ($P_o$) and of the left-on mode ($P_l$) for the standard cotton programme at full load;

(k) if the household tumble drier is equipped with a power management system, the duration of the 'left-on mode',

(l) indication that the 'standard cotton programme' used at full and partial load is the standard drying programme to which the information in the label and the fiche relates, that this programme is suitable for drying normal wet cotton laundry and that it is the most efficient programme in terms of energy consumption for cotton;

(m) the weighted programme time ($T_t$) of the 'standard cotton programme at full and partial load' in minutes and rounded to the nearest minute as well as the programme time of the 'standard cotton programme at full load' ($T_{dry}$) and the programme time of the 'standard cotton programme at partial load' ($T_{dry½}$) in minutes and rounded to the nearest minute;

(n) if the household tumble drier is a condenser tumble drier, the condensation efficiency class in accordance with point 2 of Annex VI, expressed as 'condensation efficiency class "X" on a scale from G (least efficient) to A (most efficient)'; this may be expressed by other means provided it is clear that the scale is from G (least efficient) to A (most efficient);

(o) if the household tumble drier is a condenser tumble drier, the average condensation efficiency $C_{dry}$ and $C_{dry½}$ of the standard cotton programme at full load and partial load and the weighted condensation efficiency ($C_t$) for the 'standard cotton programme at full and partial load', as a percentage and rounded to the nearest whole percent;

(p) the sound power level (weighted average value - $L_{WA}$) expressed in dB and rounded to the nearest integer for the standard cotton programme at full load;

(q) if the household tumble drier is intended to be built-in, an indication to this effect.

2. One product fiche may cover a number of household tumble drier models supplied by the same supplier.

3. The information contained in the fiche may be given in the form of a copy of the label, either in colour or in black and white. Where this is the case, the information listed in point 1 not already displayed on the label shall also be provided.

## Annex III
## Technical documentation

1. The technical documentation referred to in Article 3(c) shall include:

(a) the name and address of the supplier;

(b) a general description of the household tumble drier model, sufficient for it to be unequivocally and easily identified;

(c) where appropriate, the references of the harmonised standards applied;

(d) where appropriate, the other technical standards and specifications used;

(e) the identification and signature of the person empowered to bind the supplier;

(f) technical parameters for measurements as follows:

(i) for electric mains-operated household tumble drier:

the energy consumption ($E_{dry}$, $E_{dry½}$, $Eg_{dry}$, $Eg_{dry½}$, $Eg_{dry,a}$, $Eg_{dry½,a}$) of the standard cotton programme at full and partial load,

for household gas-fired tumble drier:

the weighted Annual Energy Consumption ($AE_{C(Gas)}$) rounded up to one decimal place; it shall be described as: Energy consumption "X" kWh-Gas per year, based on 160 drying cycles of the standard cotton programme at full and partial load. Actual energy consumption per cycle will depend on how the appliance is used;

and

the weighted Annual Energy Consumption ($AE_{C(Gas)el}$) rounded up to one decimal place; it shall be described as: 'Energy consumption "X" kWh per year, based on 160 drying cycles of the standard cotton programme at full and partial load, and the consumption of the low-power modes. Actual energy consumption per cycle will depend on how the appliance is used.';

(ii) power consumption in 'off-mode' and the power consumption in 'left-on mode',

(iii) the programme time of the 'standard cotton programme at full load' ($T_{dry}$) and the programme time of the 'standard cotton programme at partial load' ($T_{dry½}$), in minutes and rounded to the nearest minute,

(iv) if the household tumble drier is equipped with a power management system, the duration of the 'left-on mode',

(v) if the household tumble drier is a condenser tumble drier, the average condensation efficiency $C_{dry}$ of the standard cotton programme at full

load and the average condensation efficiency of the standard cotton programme at partial load $C_{dry½}$,

(vi) the sound power level;

(g) the results of calculations performed in accordance with Annex VII.

2. Where the information included in the technical documentation for a particular household tumble drier model has been obtained by calculation on the basis of design or by extrapolation from other equivalent household tumble driers, or both, the documentation shall include details of such calculations or extrapolations, or both, and of tests undertaken by suppliers to verify the accuracy of the calculations undertaken. The information shall also include a list of all other equivalent household tumble drier models where the information was obtained in the same way.

## ANNEX IV
## Information to be provided in cases where end-users cannot be expected to see the product displayed

1. The information referred to in Article 4(b) shall be provided in the following order:

(a) the rated capacity in kg of cotton, for the standard cotton programme at full load;

(b) whether the household tumble drier is an air-vented, condenser or gas-fired household tumble drier;

(c) the energy efficiency class as defined in point 1 of Annex VI;

(d) for electric mains-operated household tumble drier:

the weighted Annual Energy Consumption ($AE_c$) rounded up to the nearest integer, to be described as: 'Energy consumption "X" kWh per year, based on 160 drying cycles of the standard cotton programmes at full and partial load, and the consumption of the low-power modes. Actual energy consumption per cycle will depend on how the appliance is used.';

for household gas-fired tumble drier:

the weighted Annual Energy Consumption ($AE_{C(Gas)}$) rounded up to one decimal place; it shall be described as: Energy consumption "X" kWh-Gas per year, based on 160 drying cycles of the standard cotton programme at full and partial load. Actual energy consumption per cycle will depend on how the appliance is used;

and

the weighted Annual Energy Consumption ($AE_{C(Gas)el}$) rounded up to one decimal place; it shall be described as: 'Energy consumption "X" kWh per year, based on 160 drying cycles of the standard cotton programme at full and partial load, and the consumption of the low-power modes. Actual energy consumption per cycle will depend on how the appliance is used.';

(e) whether the household tumble drier is an 'automatic tumble drier' or 'non-automatic tumble drier';

(f) the energy consumption ($E_{dry}$, $E_{dry½}$, $Eg_{dry}$, $Eg_{dry½}$, $Eg_{dry,a}$, $Eg_{dry½,a}$) of the standard cotton programme at full and partial load, rounded up to two decimal places and calculated in accordance with Annex VII;

(g) the power consumption of the off-mode ($P_o$) and the left-on mode ($P_l$) for the standard cotton programme at full load;

(h) the programme time of the 'standard cotton programme at full load' ($T_{dry}$) and the programme time of the 'standard cotton programme at partial load' ($T_{dry½}$),

in minutes and rounded to the nearest minute, calculated in accordance with Annex VII;

(i) if the household tumble drier is a condenser tumble drier, the condensation efficiency class in accordance with point 2 of Annex VI;

(j) the sound power level (weighted average value - $L_{WA}$) for the standard cotton programme at full load, expressed in dB and rounded to the nearest integer;

(k) if the household tumble drier is intended to be built-in, an indication to this effect.

2. Where other information contained in the product fiche is also provided, it shall be in the form and order specified in Annex II.

3. The size and font in which all the information referred in this Annex is printed or shown shall be legible.

## ANNEX V
## Verification procedure for market surveillance purposes

For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements and calculations shall be made using harmonised standards the reference numbers of which have been published in the Official Journal of the European Union, or other reliable, accurate and reproducible methods, which take into account the generally recognised state of the art methods, and whose results are deemed to be of low uncertainty.

For the purposes of checking conformity with the requirements laid down in Articles 3 and 4, Member State authorities shall test a single household tumble drier. If the measured parameters do not meet the values declared by the supplier within the ranges set out in Table 1, the measurements shall be carried out on three more household tumble driers. The arithmetic mean of the measured values of those three household tumble driers shall meet the values declared by the supplier within the ranges defined in Table 1.

Otherwise, the model and all other equivalent household tumble driers models shall be considered not to comply with the requirements laid down in Articles 3 and 4.

**Table 1**

| Measured parameter | Verification tolerances |
|---|---|
| Weighted annual energy consumption | The measured value shall not be greater than the rated value* of $AE_C$ by more than 6%. |
| Weighted energy consumption | The measured value shall not be greater than the rated value of $E_t$ by more than 6%. |
| Weighted condensation efficiency | The measured value shall not be less than the rated value of $C_t$ by more than 6%. |
| Weighted programme time | The measured value shall not be longer than the rated values of $T_t$ by more than 6%. |
| Power consumption in off-mode and left-on mode | The measured value of power consumption $P_o$ and $P_l$ of more than 1.00 W shall not be greater than the rated value by more than 6 %. The measured value of power consumption $P_o$ and $P_l$ of less than or equal to 1.00 W shall not be greater than the rated value by more than 0.10 W. |
| Duration of the left-on mode | The measured value shall not be longer than the rated value of $T_l$ by more than 6%. |
| Sound power level $L_{WA}$ | The measured value shall not be greater than the rated value. |

* ‘rated value’ means a value that is declared by the supplier. The 6% uncertainty in the measurement represent the current acceptable testing laboratory error in measuring the declared parameters with the new measurement method used for the new labelling/ecodesign requirements including full and partial load cycles.

## ANNEX VI
## Energy efficiency classes and condensation efficiency classes

### 1. ENERGY EFFICIENCY CLASSES

The energy efficiency class of a household tumble drier shall be determined on the basis of its Energy Efficiency Index (*EEI*) as set out in Table 1.

The Energy Efficiency Index (*EEI*) of a household tumble drier shall be determined in accordance with point 1 of Annex VII.

**Table 1: Energy efficiency classes**

| Energy efficiency class | Energy Efficiency Index |
|---|---|
| A+++ (most efficient) | EEI < 24 |
| A++ | 24 ≤ EEI < 32 |
| A+ | 32≤ EEI < 42 |
| A | 42 ≤ EEI < 65 |
| B | 65 ≤ EEI < 76 |
| C | 76 ≤ EEI < 85 |
| D (least efficient) | 85 ≤ EEI |

## 2. CONDENSATION EFFICIENCY CLASSES

The condensation efficiency class of a condenser household tumble drier shall be determined on the basis of the weighted condensation efficiency ($C_t$) as set out in Table 2.

The weighted condensation efficiency ($C_t$) of a condenser household tumble drier shall be determined in accordance with point 2 of Annex VII.

**Table 2: Condensation efficiency classes**

| Condensation efficiency class | Weighted condensation efficiency |
|---|---|
| A (most efficient) | $C_t > 90$ |
| B | $80 < C_t \leq 90$ |
| C | $70 < C_t \leq 80$ |
| D | $60 < C_t \leq 70$ |
| E | $50 < C_t \leq 60$ |
| F | $40 < C_t \leq 50$ |
| G (least efficient) | $C_t \leq 40$ |

## ANNEX VII
## Method for calculating the Energy Efficiency Index and the weighted condensation efficiency

### 1. CALCULATION OF THE ENERGY EFFICIENCY INDEX

For the calculation of the Energy Efficiency Index (*EEI*) of a household tumble drier model, the weighted Annual Energy Consumption of a household tumble drier for the standard cotton programme at full and partial load is compared to its Standard Annual Energy Consumption.

(a) The Energy Efficiency Index (*EEI*) is calculated as follows and rounded to one decimal place:

$$EEI = \frac{AE_C}{SAE_C} \times 100$$

where:

- $AE_C$ = weighted Annual Energy Consumption of the household tumble drier;
- $SAE_C$ = standard Annual Energy Consumption of the household tumble drier.

(b) The Standard Annual Energy Consumption ($SAE_C$) is calculated in kWh/year as follows and rounded to two decimal places:

- for all household tumble driers that are not air-vented:

$$SAE_C = 140 \times c^{0.8}$$

- for air-vented household tumble driers:

$$SAE_C = 140 \times c^{0.8} - \left( 30 \times \frac{T_t}{60} \right)$$

where:

- $c$ is the rated capacity of the household tumble drier for the standard cotton programme;
- $T_t$ is the weighted programme time for the standard cotton programme.

(c) The weighted Annual Energy Consumption ($AE_C$) is calculated in kWh/year as follows and is rounded to two decimal places:

(i):

$$AE_C = E_t \times 160 + \frac{\left[ P_o \times \frac{525600 - (T_t \times 160)}{2} + P_l \times \frac{525600 - (T_t \times 160)}{2} \right]}{60 \times 1000}$$

where:

- $E_t$ = weighted energy consumption, in kWh and rounded to two decimal places;
- $P_o$ = power in 'off-mode' for the standard cotton programme at full load, in W and rounded to two decimal places;
- $P_l$ = power in 'left-on mode' for the standard cotton programme at full load, in W and rounded to two decimal places;
- $T_t$ = weighted programme time, in minutes and rounded to the nearest minute;
- 160 = total number of drying cycles per year.

(ii) When the household tumble drier is equipped with a power management system, with the household tumble drier reverting automatically to 'off-mode' after the end of the programme, the weighted Annual Energy Consumption ($AE_C$) is calculated taking into consideration the effective duration of the 'left-on mode', according to the following formula:

$$AE_C = E_t \times 160 + \frac{\{(P_l \times T_l \times 160) + P_o \times [525600 - (T_t \times 160) - (T_l \times 160)]\}}{60 \times 1000}$$

where:

$T_l$ = duration of the 'left-on mode' for the standard cotton programme at full load, in minutes and rounded to the nearest minute.

(d) The weighted programme time ($T_t$) for the standard cotton programme is calculated in minutes as follows and rounded to the nearest minute:

$T_t = (3 \times T_{dry} + 4 \times T_{dry½})/7$

where:

- $T_{dry}$ = programme time for the standard cotton programme at full load, in minutes and rounded to the nearest minute;
- $T_{dry½}$ = programme time for the standard cotton programme at partial load, in minutes and rounded to the nearest minute.

(e) The weighted energy consumption ($E_t$) is calculated in kWh as follows and rounded to two decimal places:

$E_t = (3 \times E_{dry} + 4 \times E_{dry½})/7$

where:

- $E_{dry}$ = energy consumption of the standard cotton programme at full load, in kWh and rounded to two decimal places;
- $E_{dry½}$ = energy consumption of the standard cotton programme at partial load, in kWh and rounded to two decimal places.

(f) For gas-fired household tumble driers, the energy consumption for the standard cotton programme at full and partial load is calculated in kWh and rounded to two decimal places, as:

$$E_{dry} = \frac{Eg_{dry}}{f_g} + Eg_{dry,a}$$

$$E_{dry½} = \frac{Eg_{dry½}}{f_g} + Eg_{dry½,a}$$

where:

- $Eg_{dry}$ = gas consumption of the standard cotton programme at full load, in kWh and rounded to two decimal places;
- $Eg_{dry½}$ = gas consumption of the standard cotton programme at partial load, in kWh and rounded to two decimal places;
- $Eg_{dry,a}$ = auxiliary electricity consumption of the standard cotton programme at full load, in kWh and rounded to two decimal places;
- $Eg_{dry½,a}$ = auxiliary electricity consumption of the standard cotton programme at partial load, in kWh and rounded to two decimal places;
- $f_g$ = 2.5.

## 2. CALCULATION FOR THE PRODUCT INFORMATION DESCRIBED IN"ANNEX II PRODUCT FICHE", "ANNEX III TECHNICAL DOCUMENTATION" AND "ANNEX IV INFORMATION TO BE PROVIDED IN CASES WHERE END-USERS CANNOT BE EXPECTED TO SEE THE PRODUCT DISPLAYED"

For gas-fired household tumble driers, the energy consumption on gas for the standard cotton programme at full and partial load for the information in Annex II, III and IV is calculated in $kWh_{Gas}$ and rounded to two decimal places, as:

$$AE_{C(Gas)} = 160 \times (3 \times Eg_{dry} + 4 \times Eg_{dry1/2})/7$$

For gas-fired household tumble driers, the energy consumption on electricity for the standard cotton programme at full and partial load for the information in Annex II, III and IV is calculated in kWh and rounded to two decimal places, as:

$$AE_{C(Gas)el} = 160 \times (3 \times Eg_{dry,a} + 4 \times Eg_{dry1/2,a})/7 + ((P_l \times T_l \times 160) + P_o \times [525600 - (T_t \times 160) - (T_l \times 160)])/60 \times 1000$$

## 3. CALCULATION OF THE WEIGHTED CONDENSATION EFFICIENCY

The condensation efficiency of a programme is the ratio between the mass of moisture condensed and collected in the container of a condenser household tumble drier and the mass of moisture removed from the load by the programme, the latter being the difference between the mass of the wet test load before drying and the mass of the test load after drying. For calculating the weighted condensation efficiency, the average condensation efficiency for the standard cotton programme at both full and partial load is considered.

The weighted condensation efficiency ($C_t$) of a programme is calculated as a percentage and rounded to the nearest whole percent as:

$C_t = (3 \times C_{dry} + 4 \times C_{dry½})/7$

where:

- $C_{dry}$ = average condensation efficiency of the standard cotton programme at full load;
- $C_{dry½}$ = average condensation efficiency of the standard cotton programme at partial load.

The average condensation efficiency $C$ is calculated from the condensation efficiencies of test runs and expressed as a percentage:

$$C = \frac{1}{(n-1)} \sum_{j=2}^{n} \left( \frac{W_{wj}}{W_i - W_f} \times 100 \right)$$

where:

- $n$ is the number of test runs, comprising at least four valid test runs for the selected programme;
- $j$ is the test run number;
- $W_{wj}$ is the mass of water collected in the condenser reservoir during test run $j$;
- $W_i$ is the mass of the wet test load before drying;
- $W_f$ is the mass of the test load after drying.