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**COMMISSION DELEGATED REGULATION (EU) .../...**

**of **XXX****

**supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with regard to energy labelling of refrigerating appliances with a direct sales function**

(Text with EEA relevance)

## **EXPLANATORY MEMORANDUM**

### **1. CONTEXT OF THE DELEGATED ACT**

#### **Legal and political context of the proposal**

Regulation (EU) 2017/1369 of the European Parliament and the Council<sup>1</sup> (Energy Labelling Framework Regulation) sets a framework of energy labelling for energy-related products at EU level. Energy labelling is a key EU policy instrument for informing consumers about the energy efficiency requirements and other environmental aspects of energy-related products placed on the internal market. The energy label is recognised and used by 85% of Europeans<sup>2</sup>.

In addition to the arguments above, the implementation of this option would be incoherent with the approach chosen for household and professional refrigeration policies, as both include energy labelling.

The Communication from the Commission COM(2016)773 final<sup>3</sup> (2016-2019 ecodesign working plan) sets out a list of products that are a priority for implementing measures and which are selected based on their potential for cost-effective reduction of greenhouse gas emissions following a fully transparent process culminating in working plans that outline the priorities for the development of implementing measures. The 2016-2019 ecodesign working plan includes refrigerating appliances with a direct sales function as a priority group for which work is ongoing.

In addition, several new policy initiatives indicate that ecodesign and energy labelling policies are relevant in a broader political context. The main initiatives in question are:

- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank COM(2015)080 final<sup>4</sup> (energy union framework strategy), which calls for a sustainable, low-carbon and climate-friendly economy;
- the Paris Agreement<sup>5</sup>, which calls for a renewed effort in carbon emission abatement;
- the Gothenburg Protocol<sup>6</sup>, intended to control air pollution;
- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions COM(2015)0614 final<sup>7</sup> (circular economy action plan), which stresses the need to include reparability, recyclability and durability in ecodesign;

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<sup>1</sup> Regulation (EU) 2017/1369 of the European Parliament and of the council of 4 July 2017 setting a framework for energy labelling and repealing Directive 2010/30/EU (OJ L 198, 28.7.2017, p. 1).

<sup>2</sup> Study on the impact of the energy label – and potential changes to it – on consumer understanding and on purchase decisions - LE London Economics and IPSOS, October 2014.

<sup>3</sup> Communication from the Commission - Ecodesign working plan (COM(2016)773 final, Brussels, 30 November 2016).

<sup>4</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank. A framework strategy for a resilient energy union with forward-looking climate change policy (COM(2015)080 final, Brussels, 25.02.2015).

<sup>5</sup> <https://unfccc.int/process/the-paris-agreement/what-is-the-paris-agreement>.

<sup>6</sup> [http://www.unece.org/env/lrtap/multi\\_h1.html](http://www.unece.org/env/lrtap/multi_h1.html).

<sup>7</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Closing the loop - An EU action plan for the circular economy (COM/2015/0614 final, Brussels 02.12.2015).

- the Emissions Trading Scheme (ETS)<sup>8</sup>, intended to achieve cost-effective greenhouse gas (GHG) emissions reductions. GHG are indirectly affected by the energy consumption of the electricity using products in the scope of ecodesign and energy labelling policies;
- Communication from the Commission to the European Parliament and the Council COM(2014)0330 final<sup>9</sup> (energy security strategy), which aims to ensure a stable and abundant supply of energy.

### General context

The ecodesign together with the energy labelling legislative framework represent a push and pull market mechanism aiming at reducing carbon emissions by determining a major impact on the choices that consumers make when purchasing energy consuming products.

The two policy frameworks help products placed on the EU market to perform the same job using around one fifth less energy. By 2020, use of energy efficiency labels and ecodesign requirements is projected to lead to energy savings of around 165 Mtoe (million tonnes of oil equivalent) in the EU, roughly equivalent to the annual primary energy consumption of Italy. In relative terms, this represents a potential energy saving of approximately 9 % of the EU's total energy consumption and a potential 7 % reduction in carbon emissions. In 2030, savings are projected to grow to 15 % of the EU's total energy consumption and 11 % of its total carbon emissions.

Refrigerating appliances with a direct sales function (e.g. supermarket cabinets, beverage coolers, small ice-cream freezers, gelato-scooping cabinets and vending machines) are key for ensuring food quality preservation in the food chain in the Union, and in addition to provide to consumers other non-perishable foodstuffs, e.g. beverages, that are customarily consumed at temperatures below the ambient temperature. However, in fulfilling this function, the appliances are significant energy users and contributors to greenhouse gas emissions, with an annual consumption of about 65 TWh in the EU-28, equivalent to ca. 0,46 % of the total final energy consumption of the EU.

Work on this product group started in 2004-2005. The first preparatory study on ecodesign for commercial refrigeration in 2007 identified the relevant environmental aspects of refrigerating appliances with a direct sales function, and analysed the legislative, technical, environmental, economic and behavioural aspects of commercial refrigeration. It showed that there was significant energy saving potential. In 2013-2014, the JRC updated the preparatory study.

The preparatory study and its update confirmed an existing and cost-effective potential to reduce energy consumption. Therefore, the objectives of this proposal are to:

- introduce an energy label for commercial refrigeration to allow consumers to differentiate effectively and sufficiently between the appliances on the market;
- create incentives for producers to further develop and market energy efficient technology and products;
- generate cost savings for end users;
- reduce the average energy consumption of commercial refrigeration cabinets. Reduce additionally GHG emissions which for commercial refrigeration are mainly related to

<sup>8</sup> [https://ec.europa.eu/clima/policies/ets\\_en](https://ec.europa.eu/clima/policies/ets_en).

<sup>9</sup> Communication from the Commission to the European Parliament and the Council, European security strategy (COM/2014/0330 final, Brussels 28.5.2014).

- energy consumption, but also refrigerant leakage. Promoting energy efficiency, encouraging innovation, and reducing energy dependence;
- promote energy efficiency as a contribution to security of energy supply in the framework of the Community objective of saving 32,5 % of the EU's energy consumption by 2030 by increasing the market take-up of energy-efficient refrigerating appliances with a direct sales function through the introduction of an energy label (together with the proposed ecodesign requirements);
- introduce specific end-of-life requirements to facilitate the dismantling of the cabinets and the fulfilment of the objectives of Directive 2012/19/EU of the European Parliament and the Council<sup>10</sup> (WEEE Directive).

### **Consistency with existing provisions in the policy area**

**Commission Delegated Regulation (EU) No 1060/2010**<sup>11</sup> includes residential refrigerating appliances in its scope. These refrigerating appliances are mainly used in a household environment. This Regulation is currently being revised. The proposal for a revision exempts refrigerating appliances with a direct sales function from its scope, therefore there will not be overlapping requirements.

**Commission Delegated Regulation (EU) 2015/1094**<sup>12</sup> includes professional refrigerated storage cabinets and blast cabinets in its scope. These appliances are refrigerating appliances that are used in professional environments (e.g. restaurants), but that are not intended for display or customers access. This proposal exempts products in the scope of the Ecodesign Regulation for professional refrigeration, therefore there will not be overlapping requirements.

**Energy Labelling Regulations on components** - In addition to Energy Labelling Regulations on the final products, energy labelling requirements might be applicable to the components of refrigerating appliances with a direct sales function. Currently, there is one component that is regulated under energy labelling is the following, that is lamps (Commission Delegated Regulation (EU) No 874/2012<sup>13</sup>). The components of refrigerating appliances with a direct sales function are not in the scope of this Regulation.

### **Consistency with other Union policies**

No EU legislation has been identified in the field of energy consumption of commercial refrigeration. For commercial refrigeration, relevant Community legislation applies in the field of safety, both mechanical and electrical, and standards. Other legislation with relevance for commercial refrigeration products on environmental aspects includes:

- The **WEEE Directive** set requirements on e.g. recovery and recycling of Waste of Electrical and Electronic Equipment to reduce the negative environmental effects resulting from the generation and management of WEEE and from resource use. The

<sup>10</sup> Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE) (OJ L 197 of 27-07-2012, p 38).

<sup>11</sup> Commission Delegated Regulation (EU) No 1060/2010 of 28 September 2010 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of household refrigerating appliances (OJ L 314, 30.11.2010, p. 17).

<sup>12</sup> Commission Delegated Regulation (EU) 2015/1094 of 5 May 2015 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers (OJ L 177, 8.7.2015, p. 2).

<sup>13</sup> Commission Delegated Regulation (EU) No 874/2012 of 12 July 2012 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of electrical lamps and luminaires (OJ L 258, 26.9.2012, p. 1).

WEEE Directive applies directly to refrigerating appliances with a direct sales function. Ecodesign implementing measures can complement the implementation of the WEEE Directive by including e.g. measures for material efficiency, thus contributing to waste reduction, instructions for correct assembly and disassembly, thus contributing to waste prevention and others;

- The **Directive 2011/65/EU of the European Parliament and the Council**<sup>14</sup> (RoHS Directive) restricts the use of six specific hazardous materials and four different phthalates found in electrical and electronic equipment (EEE). The RoHS Directive does not apply explicitly to refrigeration appliances with a direct sales function, but the electronics in these appliances are expected to be in compliance with this Directive through the implementation of the Directive in the general product portfolio of suppliers. There is no overlapping requirement with this proposal;
- **Regulation (EU) No 517/2014 of the European Parliament and of the Council**<sup>15</sup> (F-gas Regulation) controls the emissions from fluorinated greenhouse gases (F-gases), including hydrofluorocarbons (HFCs). The F-gas Regulation applies to refrigeration appliances with a direct sales function. In this proposal it has been decided not to include requirements on refrigerant gasses, therefore, there will not be overlapping requirements;
- The **ETS** sets a cap on the total amount of certain greenhouse gasses that can be emitted by installations. This cap reduces over time, so that the total emissions fall. Within this cap companies receive or buy emission allowances which they can trade with one another as needed. They can also buy a limited amount of international credits. The ETS does not directly apply to refrigerating appliances with a direct sales function, however, it does apply to electricity production. This either leads to lower ETS prices (which could in turn decrease electricity prices) or to the need for less emission reductions in ETS sectors (lower renewable energy targets or less reductions of carbon emissions in industry).

## 2. LEGAL BASIS, SUBSIDIARITY AND PROPORTIONALITY

### Legal Basis

The proposed Regulation is a delegated measure adopted pursuant to Regulation (EU) 2017/1369, in particular Articles 11 and 16 thereof. The legal basis for acting at EU level through the Ecodesign Framework Directive and the Energy Labelling Framework Regulation is Article 114 and Article 194 of the Treaty on the Functioning of the European Union (TFEU)<sup>16</sup>. Article 114 relates to the ‘the establishment and functioning of the internal market’, while Article 194 gives, amongst others, the EU the objective ‘in the context of the establishment and functioning of the internal market and with regard for the need to preserve and improve the environment’ to ‘ensure security of energy supply in the Union’ and ‘promote energy efficiency and energy saving and the development of new and renewable forms of energy’.

### Subsidiarity (for non-exclusive competence)

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<sup>14</sup> Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) (OJ L 174, 1.7.2011, p. 88).

<sup>15</sup> Regulation (EU) No 517/2014 of the European Parliament and of the Council of 16 April 2014 on fluorinated greenhouse gases and repealing Regulation (EC) No 842/2006 (OJ L 150, 20.5.2014, p.195).

<sup>16</sup> Consolidated version of the Treaty on the Functioning of the European Union (OJ C 326, 26.10.2012, p. 47.)

The adoption of energy labelling measures for refrigerating appliances with a direct sales function by individual Member States' legislation would lead to obstacles to the free movement of goods within the Union. Such measures must therefore have the same content throughout the Union. In line with the principle of subsidiarity<sup>17</sup>, it is thus appropriate for the measure in question to be adopted at Union level.

The Consultation Forum meeting of 2 July 2014 resulted in broad support from Member States to EU-wide implementing measures for refrigerating appliances with a direct sales function. The EU will limit itself only to setting the legislative framework. As far as certain aspects of the implementation are concerned, i.e. market surveillance and monitoring, EU action is not necessary to achieve the objectives, as Member States assume these responsibilities under the Energy Labelling Framework Directive.

### **Proportionality**

The Energy Labelling Framework Regulation includes a built-in proportionality and significance test in Article 16(2), which state that the delegated acts shall specify product that meet the following criteria:

- (a) the product group should have significant potential for saving energy and where relevant, other resources;
- (b) models with equivalent functionality should differ significantly in the relevant performance levels within the product group;
- (c) there should be no significant negative impact as regards the affordability and the life cycle cost of the product group;
- (d) the introduction of energy labelling requirements for a product group should not have a significant negative impact on the functionality of the product during use.

An assessment of the proposal in view of such requirements was carried out in the impact assessment. This concluded that the proposal fulfils these criteria, while achieving the objectives described in Section 1 of this Explanatory Memorandum. In accordance with the principle of proportionality, this measure does not go beyond what is necessary in order to achieve the objective, which is to set harmonised energy labelling requirements for refrigerating appliances with a direct sales function.

### **Summary of the proposed action**

Two impact assessments were carried out in the period 2008-2009 and in the period 2014-2015. The Regulatory Scrutiny Board issued a positive opinion with comments on 07 July 2015. Scenarios with different levels of energy efficiency were assessed, in the second study these scenarios were:

- (a) a business-as-usual scenario, where all other relevant EU-level policies and measures are assumed to continue;
- (b) a voluntary agreement;
- (c) mandatory ecodesign requirements only;
- (d) mandatory energy labelling requirements only;

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<sup>17</sup> The principle of subsidiarity as is defined in Article 5 of the Treaty establishing the European Union intends to ensure that decisions are taken as closely as possible to the citizen; the Union should take action only in areas which fall within its exclusive competence and which do not lead to a more effective action if taken at national, regional or local level.

- (e) mandatory ecodesign and energy labelling requirements coming into force in three sets of increasing stringency;
- (f) mandatory ecodesign and energy labelling requirements coming into force in two sets of increasing stringency.

Seeing the extended period between the finalisation of the impact assessment and the inter service consultation, the requirements proposed in the impact assessment were checked and updated where necessary with 2017 data for refrigerating appliances with a direct sales function based on industry input and in cooperation with the JRC.

The scenario with energy efficiency requirements in two tiers and an energy label was retained as the preferred scenario. By 2030, this scenario is estimated to result in:

- electricity savings of 19 TWh/yr (48 TWh/y in primary energy terms) and GHG emission savings of 7,4 MtCO<sub>2</sub>eq./a;
- savings on annual end-user expenditure of EUR 2,9 billion and extra business revenue of EUR 0,4 billion per year;
- an alignment with technological progress and global minimum energy efficiency requirements in other economies;
- a contribution to the EU industry's competitiveness and its leading role in high-quality manufacturing;
- safeguarding of small and medium enterprises.

#### *Energy label*

While household refrigerating appliances and professional refrigerated storage cabinets are covered by energy labelling regulations, this is not the case for refrigerating appliances with a direct sales function. In addition, despite this being a business-to-business product, the energy labelling would be a useful communication tool to purchase departments, and would help bring energy consumption to the centre of purchase considerations. Moreover, minimum requirements alone would not drive the market to purchase appliances with doors, which is one of the most cost effective measures that could be taken to improve energy efficiency. Therefore, an energy label is proposed to complement the ecodesign requirements.

The energy label proposal will apply from 1 September 2020 onwards. The efficiency classes are set out in the table below. The energy labelling classes were set to find a distribution of the data points similar to a normal distribution over the different energy classes. The A class is expected to be empty in 2020. This is in line with the Energy Labelling Framework Regulation.

The proposal lists the parameters and other information to be entered, in particular:

- in the public part of the product database established pursuant to Regulation (EU) 2017/1369 (this part can be printed as the product information sheet);
- in the compliance part of the product database established pursuant to Regulation (EU) 2017/1369 (this is a part of the technical documentation).

The list of parameters to be entered in the product database includes not only information strictly related to the energy label and its verification, but also all information useful for end-users and for market surveillance authorities to verify compliance with the ecodesign regulation on light sources, which is being drafted currently.

It is the intention of the Commission that this act should apply from the same date as the ecodesign act which is being drafted currently.

### Energy efficiency classes of refrigerating appliances with a direct sales function

Energy Efficiency Class	Energy Efficiency Index (EEI)
A	$EEI < 10$
B	$10 \leq EEI < 20$
C	$20 \leq EEI < 35$
D	$35 \leq EEI < 50$
E	$50 \leq EEI < 65$
F	$65 \leq EEI < 80$
G	$EEI \leq 80$

### 3. RESULTS OF EX-POST EVALUATIONS, STAKEHOLDER CONSULTATIONS AND IMPACT ASSESSMENT

#### Consultation of interested parties

Stakeholders have been extensively consulted during the preparatory studies, and before and after the two Consultation Forum meetings. External expert advice was also collected and analysed during the stakeholder consultation.

The preparatory study followed the Methodology for Ecodesign of Energy related Products (MEErP)<sup>18</sup>.

That study covered refrigeration with a direct sales function (commercial refrigerated cabinets) and included a technical, environmental and economic analysis identifying the need to set requirements and policy options.

The preparatory study was developed in an open process, taking into account input from relevant stakeholders including manufacturers and their associations, environmental Non-governmental Organisations (NGOs), consumer organisations and Member State representatives.

To facilitate communication with stakeholders, a dedicated website was set up for the first study on which the interim results and other relevant materials were published. During the course of this study, two open consultation meetings were held to discuss the study. These open consultation meetings, were attended by a wide range of stakeholders, including industry, NGOs and Member States representatives.

Pursuant to Article 18 of Directive 2009/125/EC, Member State representatives and stakeholders were formally consulted through the Ecodesign Consultation Forum. The first Consultation Forum on commercial refrigerators and freezers took place on 23 April 2010. However, the work did not result in proposals for measures because stakeholders' views were too divergent and extra analysis was requested.

The process was re-launched in 2012. To update the preparatory work and the formulate of technical options for the implementing measures, the JRC worked intensively with stakeholders, in a Technical Working Group (TWG).

<sup>18</sup> Kemna, R.B.J., Methodology for the Ecodesign of Energy-related Products (MEErP) – Part 2, VHK for the European Commission, 2011 (MEErP).



The TWG on commercial refrigeration was composed of experts from Member States' administration, industry, NGOs and academia. They collaborated through the project's website<sup>19</sup>, and contributed with data, information and/or written comments to interim draft versions of the preparatory study. Two workshops were held on 23 April 2013 in Seville and on 10 December 2013 in Brussels. Three questionnaires were distributed to the TWG, requesting information and data updates, and gathering opinions on the scope of the legislation, definitions, and energy consumption. Stakeholders were involved through numerous bilateral meetings, and site visits to manufacturing, testing and dismantling plants.

A second meeting of the Consultation Forum took place on 2 July 2014, preceded by the distribution of updated working documents (explanatory notes, the draft Ecodesign Regulation, the draft Regulation energy label and draft transitional methods).

At the time of the entry into force of the Interinstitutional agreement between the European Parliament, the Council of the European Union and the European Commission on better law-making<sup>20</sup>, the draft Regulation was already beyond the stage of the open public consultation, therefore no open public consultation was held.

In the period 2017-2018, some bilateral meetings were organised with industry and the JRC to update the data and the requirements from the impact assessment. The draft proposal with updated requirements was consulted during an inter service consultation that ran in the period September - October 2018.

### **Impact Assessment**

An impact assessment is required if the expected economic, environmental or social impacts of EU action are likely to be significant. The impact assessment for the ecodesign and energy labelling regulation for refrigerating appliances with a direct sales function was carried out in 2014-2015.

It was based on the data collected in the preparatory study. Additional data and information was collected and discussed by the impact assessment study team with industry and experts, and with other stakeholders including representatives of the Member States.

In general, all stakeholders are in favour of ecodesign and energy labelling requirements for refrigerating appliances with a direct sales function. In particular most of the European industry supports the introduction of the legislation as soon as possible: they consider that new requirements would stimulate innovation and allow industry to better plan investments in new products.

### **Choice of instrument**

The proposed form of action is a directly applicable Commission Delegated Regulation supplementing Regulation (EU) 2017/1369.

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<sup>19</sup> <http://susproc.jrc.ec.europa.eu/comrefrig/index.html>.

<sup>20</sup> Interinstitutional agreement between the European Parliament, the Council of the European Union and the European Commission on better law-making of 13 April 2016 on better law-making (OJ L 123, 12.05.2016, p. 1).

**COMMISSION DELEGATED REGULATION (EU) .../...**

**of XXX**

**supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with regard to energy labelling of refrigerating appliances with a direct sales function**

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to Article 114 of the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2017/1369 of the European Parliament and of the Council of 4 July 2017 setting a framework for energy labelling and repealing Directive 2010/30/EU<sup>21</sup>, and in particular Articles 11 and 16 thereof,

Whereas:

- (1) Regulation (EU) 2017/1369 empowers the Commission to adopt delegated acts as regards the labelling or re-scaling of the labelling of product groups representing significant potential for energy savings and, where relevant, other resources.
- (2) The Communication from the Commission COM(2016)773 final<sup>22</sup> (codesign working plan) established by the Commission in application of point 1 of Article 16 of Directive 2009/125/EC of the European Parliament and of the Council<sup>23</sup> sets out the working priorities under the codesign and energy labelling framework for the period 2016-2019. Refrigerating appliances with a direct sales function are among the energy-related product groups to be considered as priorities for the undertaking of preparatory studies and eventual adoption of measure.
- (3) Measures from the codesign working plan have an estimated potential to deliver a total in excess of 260 TWh of annual final energy savings in 2030, which is equivalent to reducing greenhouse gas emissions by approximately 100 million tonnes per year in 2030. Refrigerating appliances with a direct sales function is one of the product groups listed in the codesign working plan, with an estimated 48 TWh of annual final energy savings in 2030.
- (4) The Commission carried out two preparatory studies covering the technical, environmental and economic characteristics of refrigerating appliances with a direct sales function typically used in the Union. The studies were carried out in close cooperation with stakeholders and interested parties from the Union and third

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<sup>21</sup> OJ L 198, 28.07.2017, p. 1.

<sup>22</sup> Communication from the Commission. Ecodesign working plan 2016-2019. (COM(2016)773 final, Brussels, 30.11.2016).

<sup>23</sup> Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of codesign requirements for energy-related products (OJ L 285, 31.10.2009, p. 10).

countries. The results of these studies were made public and presented to the Consultation Forum established by Article 14 of Regulation (EU) 2014/1369.

- (5) The preparatory studies concluded that there was a need to the introduce energy labelling requirements for refrigerating appliances with a direct sales function.
- (6) The preparatory studies identified that energy consumption in the use phase is the most significant environmental aspect of refrigerating appliances with a direct sales function.
- (7) The preparatory studies have shown that the electricity consumption of products subject to this Regulation can be further reduced significantly by an energy labelling measure focusing on refrigerating appliances with a direct sales function.
- (8) This Regulation should apply to the following refrigerating appliances with a direct sales function: supermarket refrigerating (freezer or refrigerator) cabinets, beverage coolers, small ice-cream freezers, gelato-scooping cabinets and refrigerated vending machines.
- (9) The relevant product parameters should be measured using reliable, accurate and reproducible methods. Those methods should take into account recognised state-of-the-art measurement methods including, where available, harmonised standards adopted by the European standardisation bodies, as listed in Annex I to Regulation (EU) No 1025/2012 of the European Parliament and of the Council<sup>24</sup>.
- (10) The terminology and testing methods of this Regulation are consistent with the terminology and testing methods adopted in EN 16901, EN 16902, EN 50597 and EN ISO 23953-2.
- (11) The measures provided for in this Regulation were discussed by the Consultation Forum and the Member States' experts in accordance with Articles 14 and 18 of Regulation (EU) 2017/1369.

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 refrigerating appliances with a direct sales function, including remote and integral cabinets, and including those sold for refrigeration of items other than foodstuff.
2. This Regulation does not apply to:
  - (a) refrigerated appliances with a direct sales function that are only powered by energy sources other than electricity;
  - (b) refrigerating appliances with a direct sales function other than compression-type refrigerating appliances, such as absorption-type and thermoelectric-type refrigerating appliances;
  - (c) the part of the refrigeration system, typically the condensing unit, placed outside the refrigerated cabinets with direct sales function in remote cabinets;

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<sup>24</sup> OJ L 316, 14.11.2012, p. 12

- (d) refrigerating appliances with a direct sales function specifically tested and approved for carrying out food processing such as ice-cream makers or microwave-equipped refrigerated vending machines, and excluding refrigerating appliances with a direct sales function equipped with one compartment specifically designed for carrying out food processing which is equivalent to less than 20 % of the net volume;
- (e) refrigerating appliances with a direct sales function specifically tested and approved for the storage of medicines and scientific samples;
- (f) refrigerating appliances with a direct sales function for the sale and display of live foodstuff, such as refrigerating appliances for the sale and display of living fish and shellfish, refrigerated aquaria and water tanks;
- (g) custom-made refrigerating appliances with a direct sales function made on a one-off basis according to individual customer specification and not equivalent to other refrigerating appliances with direct sales function as defined in Annex I;
- (h) built-in cabinets;
- (i) vertical static-air cabinets;
- (j) saladettes;
- (k) chilled horizontal serve-over counters with integrated chilled storage;
- (l) back-wall cabinets in assisted service, placed behind the serving personnel, with added back storage;
- (m) refrigerating appliances with direct sales function that have no integrated system for producing cooling and function by ducting chilled air that is produced by an external air chiller unit;
- (n) corner cabinets;
- (o) products covered by Commission Regulation (EU) 2015/1095<sup>25</sup>;
- (p) refrigerated drum vending machines;
- (q) wine storage appliances and low noise appliances.

## **Article 2**

### **Definitions**

For the purpose of this Regulation, the following definitions shall apply:

1. 'electric mains' means the electricity supply from the grid of 230 ( $\pm 10$  %) volt (V) of alternating current at 50 hertz (Hz);
2. 'refrigerating appliance with a direct sales function' means an insulated cabinet with one or more compartments that are controlled at specific temperatures, cooled by natural or forced convection through one or more energy consuming means and intended for displaying and selling items to customers, accessible directly through open sides or through one or more doors, and/or drawers, including refrigerating

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<sup>25</sup> Commission Regulation (EU) 2015/1095 of 5 May 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers (OJ L 177, 8.7.2015, p. 19).

appliances with a direct sales function with areas used for storage or assisted serving of items not accessible by the customers;

3. 'remote cabinet' means a refrigerating appliance with a direct sales function which consists of a factory-made assembly of components that in order to function as a refrigerating appliance, needs:
  - (a) input of electricity; and
  - (b) to be connected additionally to remote components (condensing unit and/or compressor and/or water condensed unit) which are not an integral part of the cabinet;
4. 'integral cabinet' means a refrigerating appliance with a direct sales function that does not need to be connected to remote components in order to function as a refrigerator or freezer, because it has an integral refrigeration system (i.e. incorporating a compressor and condensing unit);
5. 'refrigerator' means a refrigerating appliance with a direct sales function that maintains the temperature of the products stored in the cabinet at chilled operating temperature;
6. 'chilled operating temperature' means that the temperature of products stored in the compartment or cabinet is continuously maintained between -3,5 degrees celcius (°C) and 15 degrees celcius (°C) for appliances equipped with energy management systems for saving energy (EMD or EMS) and between -3,5 degrees celcius (°C) and 10 degrees celcius (°C) for appliances not equipped with EMD or EMS;
7. 'freezer' means a refrigerating appliance with a direct sales function that maintains the temperature of the products stored in the cabinet at frozen operating temperature;
8. 'frozen operating temperature' means that the temperature of products stored in the compartment or cabinet is continuously maintained below -12 degrees celcius (°C);
9. 'foodstuff' means food, ingredients, beverages, and other items primarily intended for consumption which require refrigeration at specified temperatures;
10. 'compression-type refrigerating appliance' means a refrigerating appliance with a direct sales function in which refrigeration is effected by means of a motor-driven compressor;
11. 'absorption-type refrigerating appliance' means a refrigerating appliance with a direct sales function in which refrigeration is effected by means of an absorption process using heat as the energy source;
12. 'thermoelectric-type refrigerating appliance' means a refrigerating appliance with a direct sales function in which refrigeration is effected by means of a thermoelectric process;
13. 'condensing unit' means a product integrating at least one electrically driven compressor and one condenser, capable of cooling down and continuously maintaining low or medium temperature inside a refrigerated appliance or system, using a vapour compression cycle once connected to an evaporator and an expansion device, as defined in Regulation (EU) 2015/1095;
14. 'specifically tested and approved' means that the product complies with all the following requirements:

- (2) it has been specifically tested for the mentioned operating condition or application, according to the European legislation mentioned or related acts, relevant Member State legislation, and/or relevant European or international standards;
  - (3) it is accompanied by evidence, in the form of a certificate, a type approval mark, a test report or other documentation, that the product has been specifically approved for the mentioned operating condition or application;
  - (4) it is placed on the market specifically for the mentioned operating condition or application, as evidenced at least by the technical documentation, information on the packaging and any advertising or marketing materials;
15. 'refrigerated vending machine' means a refrigerating appliance with a direct sales function designed to accept consumer payments or tokens to dispense chilled items without on-site labour intervention;
  16. 'net volume' means the part of the gross volume of any compartment which is left after deduction of the volume of components and spaces unusable for the storage and display of items, in dm<sup>3</sup> or litres;
  17. 'gross volume' means the volume within the inside liner of the compartment with an external door, without internal fittings and with doors or lids closed, in dm<sup>3</sup> or litres;
  18. 'built-in cabinet' means a refrigerating appliance with a direct sales function that is designed, tested and marketed exclusively to be:
    - (a) installed in cabinetry or encased (top, bottom and sides) by panels;
    - (b) securely fastened to the sides, top or floor of the cabinetry or panels; and
    - (c) equipped with an integral factory-finished face or to be fitted with a custom front panel;
  19. 'vertical static-air cabinet' means a vertical cabinet without internal forced-air circulation; a single static-air compartment within the cabinet is not sufficient to designate the refrigerating appliance with a direct sales function as a static air cabinet;
  20. 'vertical cabinet' means a refrigerating appliance with a direct sales function with a vertical display opening from the front;
  21. 'saladette' means a refrigerating appliance with a direct sales function with one or more doors or drawer fronts in the vertical plane that has cut-outs in the top surface into which temporary storage bins can be inserted for easy-access storage of foodstuff (e.g. pizza toppings and salad items);
  22. 'horizontal serve-over counter' means a horizontal for assisted service;
  23. 'horizontal cabinet' means a refrigerating appliance with a direct sales function with horizontal display opening on its top and accessible from above;
  24. 'corner cabinet' means a refrigerating appliance with a direct sales function used to achieve geometrical continuity between two linear cabinets that are at an angle to each other and/or that form a curve. A corner cabinet does not have a recognisable longitudinal axis or length since it consists only of a filling shape (wedge or similar) and is not designed to function as a stand-alone refrigerated unit. The two ends of the corner cabinet are inclined at an angle between 30 ° and 90 °;

25. ‘refrigerated drum vending machines’ means a refrigerated vending machine with rotating drums each divided in partitions, in which the products are placed horizontally, and where the products are retrieved through individual delivery doors;
26. ‘wine storage appliance’ means a refrigerating appliance with only one type of compartment for the storage of wine, with precision temperature control for the storage conditions and target temperature, and equipped with anti-vibration measures, as defined in Commission Regulation (EU) *[PO – please insert number of ecodesign regulation for refrigerating appliances]*<sup>26</sup>;
27. ‘compartment’ means an enclosed space within a cabinet, which is directly accessible through one or more external doors or drawers and may itself be divided into sub-compartments. For the purpose of this Regulation, unless specified otherwise, ‘compartment’ refers to both compartments and sub-compartments;
28. ‘external door’ is the part of a cabinet that can be moved or removed to at least allow inserting the load from the exterior to the interior or extracting the load from the interior to the exterior of the cabinet;
29. ‘sub-compartment’ means a permanent enclosed space within a compartment having a different operating temperature range from the compartment within which it is located;
30. ‘low noise refrigerating appliance’ means a refrigerating appliance with airborne acoustical noise emission lower than 23 A-weighted decibel (dB(A)), as defined in Commission Regulation (EU) *[OP – please insert the references of the ecodesign regulation for refrigerating appliances]*;
31. ‘energy efficiency index’ (EEI) means an index number for the relative energy efficiency of a refrigeration appliance expressed in percentage (%).

### Article 3

#### Obligations of suppliers

1. Suppliers shall ensure that:
  - (a) each refrigerating appliance with a direct sales function is supplied with a printed label in the format, as set out in Annex III;
  - (b) the parameters of the product information sheet, set out in Annex V, are entered into the product database;
  - (c) if requested by the dealer, the product information sheet shall be made available in printed form;
  - (d) the content of the technical documentation uploaded, set out in Annex VI, are entered into the product database;
  - (e) any visual advertisement for a specific model of a refrigerating appliance with a direct sales function, including technical promotional material on the internet, contains the energy efficiency class and the range of energy efficiency classes available on the label, in accordance with Annex VII;

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<sup>26</sup> Commission Regulation (EU) *[OP – please enter the number of the Regulation]* of *[OP-please enter the date]* laying down ecodesign requirements for refrigerating appliances pursuant to Directive 2009/125/EC of the European Parliament and of the Council and repealing Commission Regulation (EC) No 364/2009 (*[OP – please enter the references to the OJ]*)

- (f) any technical promotional material concerning a specific model of refrigerating appliances with a direct sales function, including on the internet, which describes its specific technical parameters includes the energy efficiency class of that model and the range of energy efficiency classes available on the label, in accordance with Annex VII;
  - (g) an electronic label in the format and containing the information, as set out in Annex VIII, shall be made available to dealers for each refrigerating appliance with a direct sales function model;
  - (h) an electronic product information sheet, as set out in Annex VIII, is made available to dealers for each refrigerating appliance with a direct sales function model.
2. The energy efficiency class shall be based on the energy efficiency index calculated in accordance with Annex II.

#### *Article 4* **Obligations of dealers**

Dealers shall ensure that:

- (a) each refrigerating appliance with a direct sales function, at the point of sale, bears the label provided by suppliers, in accordance with point 1(a) of Article 3, with the label displayed in such a way as to be clearly visible;
- (b) in the event of distance selling and sale through internet, the label and product information sheet are provided, in accordance with Annexes VII and VIII;
- (c) in the case of a refrigerating appliance with a direct sales function operating in premises whose owners do not buy the appliance but cover the electricity costs of operating them, the label is communicated to the owners of the premises before they decide to accept the installation of the appliance;
- (d) any visual advertisement for a specific model of a refrigerating appliance with a direct sales function, including on the internet, contains the energy efficiency class and the range of efficiency classes available on the label, in accordance with Annex VII;
- (e) any technical promotional material concerning a specific model of a refrigerating appliance with a direct sales function, including technical promotional material on the internet, which describes its specific technical parameters includes the energy efficiency class of that model and the range of energy efficiency classes available on the label, in accordance with Annex VII.

#### *Article 5* **Obligations of internet hosting platforms**

Where a hosting service provider as referred to in Article 14 of Directive 2000/31/EC allows the selling of refrigerating appliances with a direct sales function through its internet site, the service provider shall enable the showing of the electronic label and electronic product fiche sheet provided by the dealer on the display mechanism, in accordance with the provisions of Annex VIII, and shall inform the dealer of the obligation to display them.



*Article 6*  
**Measurement methods**

The information to be provided pursuant to Articles 3 and 4 shall be obtained by reliable, accurate and reproducible measurement and calculation methods, which take into account the recognised state-of-the-art measurement and calculation methods, set out in Annex IV.

*Article 7*  
**Verification procedure for market surveillance purposes**

Member States shall apply the verification procedure laid down in Annex IX when performing the market surveillance checks, referred to in point 3 of Article 8 of Regulation (EU) 2017/1369.

*Article 8*  
**Review**

The Commission shall review this Regulation in the light of technological progress and present the results of this assessment, including, if appropriate, a draft revision proposal, of this review to the Consultation Forum no later than *[OP- please insert date: five years after its entry into force of the present regulation]*. The review shall in particular assess the energy efficiency classes and the possibility to introduce requirements on circular economy.

*Article 9*  
**Entry into force and application**

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

It shall apply from 1 September 2020.

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

Done at Brussels,

*For the Commission*  
Jean-Claude JUNCKER  
*The President*



Brussels, **XXX**  
[...](2018) **XXX** draft

ANNEXES 1 to 9

## **ANNEXES**

**to the**

**COMMISSION DELEGATED REGULATION (EU) .../...**

**supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with regard to energy labelling of refrigerating appliances with a direct sales function**

## ANNEX I

### Definitions applicable for the Annexes

- (1) ‘annual energy consumption’ (*AE*) means the average daily energy consumption multiplied with 365 (days per year) expressed in kilowatt hour (kWh), calculated in accordance with point 2(b) of Annex III;
- (2) ‘daily energy consumption’ (*E<sub>daily</sub>*) means the electricity used by a refrigerating appliance with a direct sales function over 24 hours at reference conditions, expressed in kilowatt hour per day (kWh/24h);
- (3) ‘operating temperature’ means the reference temperature inside a compartment during testing;
- (4) ‘standard annual energy consumption’ (*SAE*) means the reference annual energy consumption of a refrigeration appliance, expressed in kilowatt hour (kWh), calculated in accordance with point 2(c) of Annex IV;
- (5) ‘M’ and ‘N’ means modelling parameters that take into account the volume-dependence of the energy use, with values as set out in Table 3, Annex IV;
- (6) ‘beverage cooler’ means a refrigerating appliance with a direct sales function designed to cool at a specified speed, packaged non-perishable beverages loaded at ambient temperature, for sale at specified temperatures below the ambient temperature, which allows access the beverages directly through open sides or through one or more doors, drawers or both. The temperature inside the cooler may be allowed to increase during periods of no demand, for the purpose of energy saving, in view of the non-perishable nature of beverages;
- (7) ‘multi-temperature vending machine’ means a refrigerated vending machine including at least two compartments with different operating temperatures;
- (8) ‘ice-cream freezer’ means a horizontal closed cabinet intended to store and/or display and sell pre-packed ice cream, where access by the consumer to the pre-packed ice-cream is achieved by opening a solid or transparent lid from the top, with a net volume  $\leq 600$  litres (l) and, only in the case of transparent lid ice-cream freezers, a net volume divided by the TDA  $\geq 0,35$  meter (m);
- (9) ‘transparent lid’ means a door made of a transparent material that allows the user to clearly see items through it;
- (10) ‘total display area (TDA)’ means the total visible items area, including visible area through glazing, defined by the sum of horizontal and vertical projected surface areas of the net volume, expressed in dm<sup>3</sup> or liters;
- (11) ‘gelato-scooping cabinet’ means a refrigerating appliance with a direct sales function in which ice-cream can be stored, displayed and scooped, within prescribed temperature limits;
- (12) ‘semi-vertical cabinet’ means a vertical cabinet whose overall height does not exceed 1,5 meter (m) and that has either a vertical or inclined display opening;
- (13) ‘combined cabinet’ means a refrigerating appliance with a direct sales function which combines display and opening directions from a vertical, a horizontal or a semi-vertical cabinet;
- (14) ‘supermarket cabinet’ means a refrigerating appliance with a direct sales function intended for the sale and display of items in retail applications, such as in

supermarkets, including refrigerator or freezers but excluding beverage coolers, refrigerated vending machines, gelato-scooping cabinets and ice-cream freezers;

- (15) 'roll-in cabinet' means a cabinet which enables goods to be displayed directly on their pallets or rolls which can be placed inside by lifting, swinging, or removing the lower front part, where fitted;
- (16) 'M-package' means a test package fitted with a temperature measuring device;
- (17) 'global warming potential' (*GWP*) means the climatic warming potential of a greenhouse gas relative to that of carbon dioxide (CO<sub>2</sub>), calculated in terms of the 100-year warming potential of one kilogram of a greenhouse gas related to one kilogram of CO<sub>2</sub>, as set out in Regulation (EU) No 517/2014;
- (18) 'blowing agent' means the gas trapped in the bubbles forming the insulation panel (typically PUR foams in a closed-cell shape) of a cabinet, this gas expands to support the structure and gives it insulating properties;
- (19) 'display mechanism' means any screen, including tactile screen, or other visual technology used for displaying internet content to users;
- (20) 'tactile screen' means a screen responding to touch, such as that of a tablet computer, slate computer or a smartphone;
- (21) 'nested display' means a visual interface where an image or data set is accessed by a mouse click, mouse roll-over or tactile screen expansion of another image or data set;
- (22) 'alternative text' means text provided as an alternative to a graphic allowing information to be presented in non- graphical form where display devices cannot render the graphic or as an aid to accessibility such as input to voice synthesis applications.

*ANNEX II*  
**Energy efficiency classes**

The energy efficiency class of a refrigerating appliance with a direct sales function shall be determined on the basis of its EEI as set out in Table 1.

**Table 1: Energy efficiency classes of refrigerating appliances with a direct sales function**

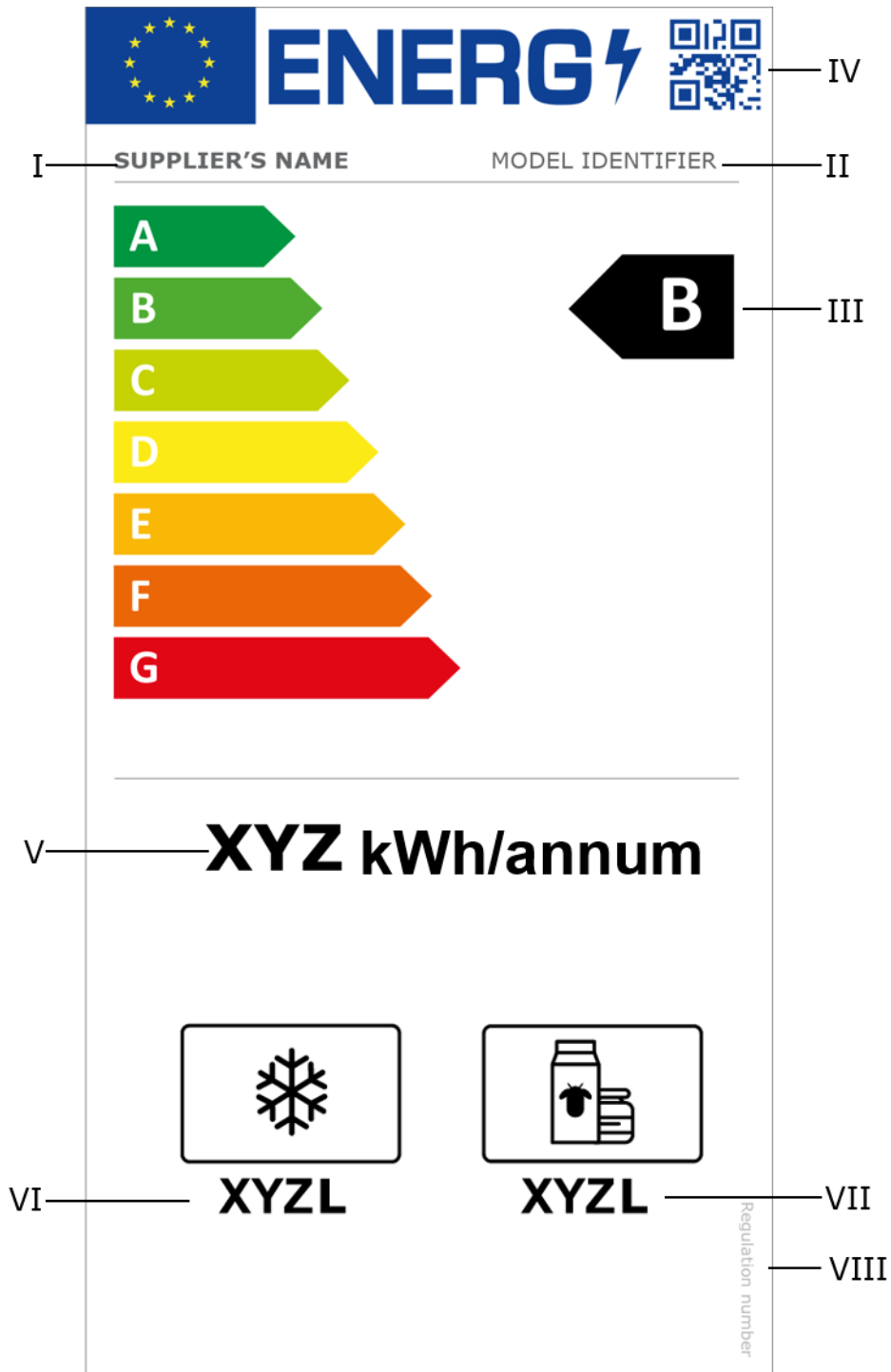
<b>Energy Efficiency Class</b>	<b>EEI</b>
A	$EEI < 10$
B	$10 \leq EEI < 20$
C	$20 \leq EEI < 35$
D	$35 \leq EEI < 50$
E	$50 \leq EEI < 65$
F	$65 \leq EEI < 80$
G	$EEI \geq 80$

The Energy EEI of a refrigerating appliance with a direct sales function shall be determined in accordance with point 2 of Annex IV.

ANNEX III

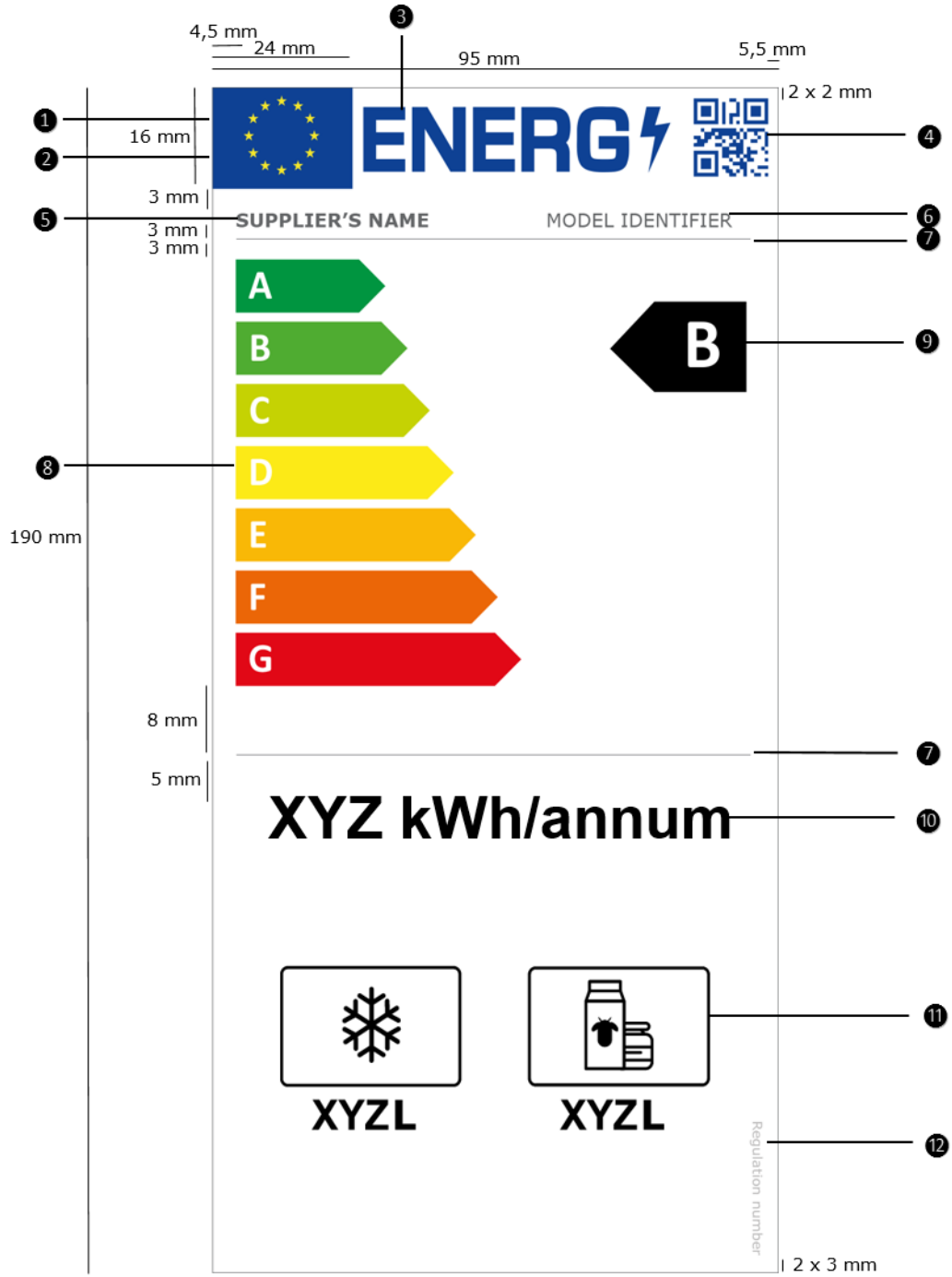
Label for refrigerating appliances with a direct sales function

1. Label:



2. The following information shall be included in the label:
- I. supplier's name or trade mark;
  - II. supplier's model identifier;
  - III. the energy efficiency class; the head of the arrow containing the energy efficiency class of the refrigerating appliance with a direct sales function shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;
  - IV. QR-code, linking to the model information available in the public part of the product database;
  - V. *AE* in kWh per year and rounded to the nearest integer;
  - VI.
    - for beverage coolers: the sum of the gross volumes of all compartments with frozen operating temperatures, expressed in litres (l) and rounded to the nearest integer;
    - for ice cream freezers and vending machines: the sum of the net volumes of all compartments with frozen operating temperatures, expressed in litres (l) and rounded to the nearest integer;
    - for all other refrigerating appliances with a direct sales function: the sum of the display areas with frozen operating temperatures, expressed in litres (l) and rounded to the nearest integer;
    - if the refrigerating appliance with a direct sales function does not contain compartments with frozen operating temperatures the icon and the values in litres in VI can be omitted;
  - VII.
    - for beverage coolers: the sum of the gross volumes of all compartments with chilled operating temperatures, expressed in litres (l) and rounded to the nearest integer;
    - for ice cream freezers and vending machines: the sum of the net volumes of all compartments with chilled operating temperatures, expressed in litres (l) and rounded to the nearest integer;
    - for all other refrigerating appliances with a direct sales function: the sum of the display areas with chilled operating temperatures, expressed in litres (l) and rounded to the nearest integer;
    - if the refrigerating appliance with a direct sales function does not contain compartments with chilled operating temperatures the icon and the values in litres in VII can be omitted;
  - VIII. the number of this Regulation, that is *[OP – please insert the references of this Regulation]*.

3. Label design





### 3.1. Description


Whereby:

- (a) The background of the label shall be white.
- (b) The single typeface shall be Verdana.
- (c) Colours shall be CMYK – cyan, magenta, yellow and black, following this example: 0,70,100,0: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.
- (d) The label shall fulfil all the following requirements (numbers refer to the numbers in the black bullets in the figure above):
  - (1) the border of the label shall have weight of 1 pt;
  - (2) the colour of the background of the EU logo shall be 100,80,0,0 and the colour of the stars shall be 0,0,100,0;
  - (3) the colour of the energy logo shall be 100,80,0,0;
  - (4) the colour of the QR code shall be 100,80,0,0;
  - (5) the supplier's name shall be in colour black and in font bold, 9 pt;
  - (6) the model identifier shall be in colour black and in font regular, 9 pt;
  - (7) the dividers shall be 86 mm wide and have a weight of 1 pt. The colour of the divider shall be 39,4,0,62;
  - (8) the A to G scale shall be as follows:
    - the colour of the energy rating scale shall be white and font bold, 19 pt;
    - the dimensions and colours of the energy rating scale shall be as follows:

Rating scale and class	Colours (CMYK)
<p>The diagram shows a vertical energy rating scale with seven classes, A through G, represented by horizontal arrows pointing to the right. The arrows are colored as follows: A (green), B (light green), C (yellow-green), D (yellow), E (orange), F (red-orange), and G (red). The scale is 69 mm high. The width of each class is indicated by a horizontal line above or below the arrow: A: 23 mm, B: 29 mm, C: 33 mm, D: 36 mm, E: 40 mm, F: 44 mm, and G: 48 mm. The height of each class is 1,5 mm. The background of the scale is white.</p>	A-class: 100,0,100,0
	B-class: 70,0,100,0
	C-class: 30,0,100,0
	D-class: 0,0,100,0
	E-class: 0,30,100,0
	F-class: 0,70,100,0
	G-class: 0,100,100,0

(9) the energy efficiency class shall be as follows:


- the colour of the letter shall be white and the font shall be in font bold, 33 pt and positioned in such a way that the edges of the rating scale arrow and the energy efficiency class arrow are aligned;
- the dimensions and colour shall be as follows:

Rating scale and class	Colours (CMYK)
 <p>The diagram shows a black arrow pointing left with the letter 'B' in white. Above the arrow, a horizontal line indicates a width of 23 mm. To the right of the arrow, a vertical line indicates a height of 14 mm.</p>	<p>The arrow: 0,0,0,100</p>

(10) the annual energy consumption and kWh shall be in font bold, 26 pt; 'annum' shall be in font bold, 16 pt; and the text shall be centred;

(11) the pictograms shall be as follows:

- the dimensions and the colours shall be as follows:

Rating scale and class	Colours (CMYK)
 <p>The diagram shows a square box containing a snowflake symbol. Above the box, a horizontal line indicates a width of 24 mm. To the left of the box, a vertical line indicates a height of 16 mm.</p>	<p>Pictogram: 0,0,0,100</p>

- the text under the pictogram shall be in colour black, in font bold, 12 pt and shall be centred under the pictogram.

(12) the numbering of the regulation shall be in colour 0,0,0,100 and in font regular, 6 pt.

(e) If the label is printed over 95 mm wide and over 190 mm high, its content shall nevertheless be proportionate to the specifications above.

## ANNEX IV

### Measurement and calculation methods

For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements and calculations shall be made using harmonised standards, or other reliable, accurate and reproducible methods, which take into account the generally recognised state-of-the-art methods and are in line with the following provisions set out below. The reference numbers of these harmonised standards have been published for this purpose in the *Official Journal of the European Union*.

1. General conditions for testing:
  - (a) the ambient conditions shall correspond to Set 1 as set out in Table 2, except for small ice-cream freezers and gelato scooping cabinets which shall be tested in ambient conditions corresponding to Set 2 set out in Table 2;
  - (b) where a compartment can be set to different temperatures, it shall be tested at the lowest operating temperature;
  - (c) refrigerated vending machines with compartments with variable volumes shall be tested with the volume of the compartment with the highest operating temperature is adjusted to its minimum volume.

**Table 2: Ambient conditions**

	Dry bulb temperature, °C	Relative humidity, %	Dew point, °C	Water vapour mass in dry air, g/kg
Set 1	25	60	16,7	12,0
Set 2	30	55	20,0	14,8

2. Determination of the EEI:
  - (a) For all refrigerating appliances with a direct sales function, the EEI, expressed in % and rounded to the first decimal place, compares the *AE* (in kWh/a) with the reference *SAE* (in kWh/a) and is calculated as:

$$EEI = AE / SAE.$$

- (b) The *AE*, expressed in kWh/a and rounded to two decimal places, is calculated as follows:

$$AE = 365 \cdot E_{daily};$$

with:

*AE* is the sum of the *AE* of all compartments of the cabinet;

*E<sub>daily</sub>* is the energy consumption of the cabinet over 24 hours, expressed in kWh/24h and rounded to three decimal places.

The *SAE*, expressed in kWh/a and rounded to two decimal places, is calculated as follows. For cabinets with multiple temperature classes, the *SAE* is calculated separately for each compartment and added together to obtain the total *SAE* of the cabinet.

$$SAE = (M + N \cdot Y) \cdot 365 \cdot C \cdot P$$

with:

- (1) M and N are the coefficient values of the modelling parameters per cabinet type and are given in Table 3. For roll-in cabinets the values in Table 3 shall apply from 1 September 2023; from 1 September 2020 to 31 August 2023 the values for roll-in cabinets shall be  $M = 9,2$  and  $N = 11,6$ .

**Table 3: M and N coefficient values of the modelling parameters**

Category	Value for M	Value for N
Beverage coolers	2,1	0,006
Ice-cream freezers	2,0	0,009
Refrigerated vending machines	4,1	0,004
Gelato-scooping cabinets	25	30,4
Vertical, semi-vertical and combined supermarket refrigerator cabinets	9,1*	9,1*
Horizontal supermarket refrigerator cabinets	3,7	3,5
Vertical, semi-vertical and combined supermarket freezer cabinets	7,5	19,3
Horizontal supermarket freezer cabinets	4,0	10,3

- (2) C is the temperature coefficient value per cabinet type and the values are given in Table 4.
- (3) as regards the coefficient Y:
  - (a) for beverage coolers:

Y is the equivalent volume of the appliance ( $Veq$ ), calculated as follows:

$$Y = Veq = GrossVolume \cdot ((25 - Tc)/20) \cdot Cc$$

where  $Tc$  is the average compartment classification temperature of the compartment and  $Cc$  is the climate class factor. The values for  $Tc$  are set out in Table 5. The values for  $Cc$  are set out in Table 6.

**Table 4: Temperature coefficient values, C**

<b>(a) Supermarket cabinets</b>					
<b>Category</b>	<b>Name of the class**</b>	<b>Highest temperature of warmest M-package (°C)</b>	<b>Lowest temperature of coldest M-package (°C)</b>	<b>Highest minimum temperature of all M-package (°C)</b>	<b>Value for C</b>
Vertical, semi-vertical and combined supermarket refrigerator cabinet	M2	$\leq +7$	$\geq -1$	n.a.	1
	H1 and H2	$\leq +10$	$\geq -1$	n.a.	0,82
	M1	$\leq +5$	$\geq -1$	n.a.	1,15
Horizontal supermarket refrigerator cabinets	M2	$\leq +7$	$\geq -1$	n.a.	1
	H1 and H2	$\leq +10$	$\geq -1$	n.a.	0,92
	M1	$\leq +5$	$\geq -1$	n.a.	1,08
Vertical, semi-vertical and combined supermarket freezer cabinets	L1	$\leq -15$	n.a.	$\leq -18$	1
	L2	$\leq -12$	n.a.	$\leq -18$	0,9
	L3	$\leq -12$	n.a.	$\leq -15$	0,9
Horizontal supermarket freezer cabinets	L1	$\leq -15$	n.a.	$\leq -18$	1
	L2	$\leq -12$	n.a.	$\leq -18$	0,92
	L3	$\leq -12$	n.a.	$\leq -15$	0,92
<b>(b) Refrigerated vending machines</b>					
<b>Category</b>	<b>Name of the class***</b>	<b>Maximum measured product temperature (<math>T_V</math>) (°C)</b>		<b>Value for C</b>	
Refrigerated vending machine	Category 1	7		$1+(12-T_V)/25$	
	Category 2	12			
	Category 3	3			
	Category 4	$(T_{V1}+T_{V2})/2$			
	Category 5	25			
	Category 6	$(T_{V1}+T_{V2})/2$			
<b>(c) other appliances</b>					
<b>Category</b>			<b>Value for C</b>		
Other appliances			1		
<p><i>Notes:</i></p> <p>* For multi-temperature vending machines, <math>T_V</math> shall be the average of <math>T_{V1}</math> (the maximum measured product temperature in the warmest compartment) and <math>T_{V2}</math> (the maximum measured product temperature in the coldest compartment).</p> <p>** Following EN ISO 23953-2:2015.</p> <p>*** Following EN 50597:2018.</p> <p>n.a = not applicable</p>					

**Table 5:  $T_c$  values for beverage coolers**

<i>Class of the beverage cooler*</i>	<i><math>T_c</math> (°C)</i>
K1	+3,5
K2	+2,5
K3	-1
K4	+5

*Note:*  
\*The classes of the beverage cooler are defined according to EN 16902.

**Table 6:  $C_c$  values for beverage coolers**

<i>Warmest temperature of the beverage cooler (°C)</i>	<i>Relative humidity of the beverage cooler (%)</i>	<i><math>C_c</math></i>
+25	60	1,00
+32	65	1,05
+40	75	1,10

(b) for ice-cream freezers:

$Y$  is the equivalent volume of the appliance ( $V_{eq}$ ), calculated as follows:

$$Y = V_{eq} = \text{NetVolume} \cdot ((12 - T_c)/30) \cdot C_c$$

where  $T_c$  is the average compartment classification temperature of the compartment and  $C_c$  is the climate class factor. The values for  $T_c$  are set out in Table 7. The values for  $C_c$  are set out in Table 8.

**Table 7:  $T_c$  values for ice-cream freezers**

<i>Class of the ice-cream freezer</i>		<i><math>T_c</math> (°C)</i>
<i>Warmest M-package temperature colder or equal to in all tests (except lid opening test) (°C)</i>	<i>Warmest M-package maximum temperature rise allowed during the lid opening test (°C)</i>	
-18	2	-18
-7	2	-7

**Table 8: Cc values for ice-cream freezers**

<i>Ice-cream freezer type</i>	<i>Operating conditions of the ice-cream freezer</i>				<i>Cc</i>
	<i>Minimum</i>		<i>Maximum</i>		
	<i>Temperature (°C)</i>	<i>Relative humidity (%)</i>	<i>Temperature (°C)</i>	<i>Relative humidity (%)</i>	
Ice-cream freezer with transparent lid	16	80	30	55	1,00
			35	75	1,10
			40	40	1,20
Ice-cream freezer with solid lid	16	80	30	55	1,00
			35	75	1,04
			40	40	1,10

(c) for refrigerated vending machines:

Y is the volume of the appliance, which is the sum of the volumes of all compartments of the cabinet, expressed in litres. For refrigerated vending machines the net volume shall be used and only those compartments that are directly available for vending without service visit shall be taken into account.

(d) for all other cabinets:

Y is the TDA, which is the sum of the display areas of all compartments of the cabinet, expressed in square meters (m<sup>2</sup>).

(4) P is the coefficient to distinguish between remote and integral cabinets. The values for P are set out in Table 9.

**Table 9: P values**

<i>Cabinet type</i>	<i>P</i>
Non-remote supermarket cabinets	1,10
Other cabinets	1,00

ANNEX V

**Product information sheet**

- The information in the product information sheet of refrigerating appliances with a direct sales function shall be provided in the order and according to the information set out in Table 10.

**Table 10: Information requirements for refrigerating appliances with a direct sales function**

<b>Supplier's name or trademark:</b>	
<b>Supplier's address:</b>	
<b>Model identifier:</b>	
<b>Model(s):</b> [information identifying the model(s) to which the information relates]	
<b>Use:</b>	Display and sale
<b>Climate class for which energy test results are declared:</b>	[Set 1 / Set 2]
<b>Classification according to temperature</b> [class name (L1, M1, M2 etc. according to Table 4 in Annex IV) and the standard minimum / maximum temperature of the class. Where the cabinet has different compartments working at different temperatures, or a compartment can be set to different temperatures, all the respective class names and standard minimum/maximum temperatures shall be provided]:	[First compartment] [Lowest temperature class name] [x,x °C / x,x °C] ... [Last temperature class name] [x,x °C / x,x °C] [...] [Last compartment] [...]
<b>Category / subcategory</b> [as applicable, at least the following categorisation shall be indicated, further subcategorisation is allowed]:	[Supermarket cabinet , including subcategory: e.g. horizontal / vertical / semi-vertical, remote / integral, roll-in -Beverage cooler - Ice-cream freezer -Refrigerated vending machine, including subcategory or description: e.g. closed fronted can & bottle; glass fronted can & bottle, confectionary and snack; multi-temperature glass fronted - Gelato-scooping cabinet]



<p><b>Refrigerant fluid(s)</b> [In the case of remote cabinets, state the fluid used for the test and/or for which the declared energy data is valid]: [category (e.g. HC, HFC), name (e.g. R290, R134a) and GWP of the fluid supplied in the cabinet]</p> <p><b>Refrigerant charge</b> [for integral cabinets only]: [x,xx kg]</p> <p><b>Blowing agent(s):</b> [category, name and GWP of the blowing agent(s)]</p>			
Item	Symbol	Value	Unit
<b>daily energy consumption</b>	$E_{daily}$	x,xx	kWh
<p><b>Annual energy consumption</b></p> <p>[If the cabinet has different compartments working at different temperatures, the annual energy consumption of the integrated unit shall be provided. If separate refrigeration systems provide cooling for separate compartments of the same unit, the energy consumption associated with each sub-system shall also be provided where possible]</p>	$AE$	x,xx	kWh/a
<b>Energy efficiency index</b>	$EEI$	x,xx	%
Contact details	Name and address of the manufacturer or its authorised representative.		
<p>The weblink to the manufacturer's website, where the information in point 3(a) Annex II of Regulation (EU) <i>[OP-please insert Regulation number of the accompanying Ecodesign Regulation on refrigerating appliances with a direct sales function]</i> is found:</p>			

2. One product information sheet may cover a number of refrigerating appliances with a direct sales function supplied by the same supplier.
3. The information contained in the product information sheet may be given in the form of a copy of the label, either in colour or in black and white in which case, the information referred to in point 1 or 2 shall also be provided unless it is already displayed on the label.

*ANNEX VI*

**Technical documentation**

1. The technical documentation referred to in point 1(d) of Article 3 shall include:
  - (a) the information as set out in point 1 of Annex V;
  - (b) a general description of the refrigerating appliance with direct sales function model, sufficient for it to be unequivocally and easily identified;
  - (c) where appropriate, the references of the harmonised standards applied;
  - (d) where appropriate, any other technical standards and specifications used;
  - (e) where appropriate, identification and signature of the person empowered to bind the supplier;
  - (f) the results of calculations performed in accordance with Annex IV;
  - (g) a list of equivalent models.
  
2. Where the information included in the technical documentation file for a particular model has been obtained by calculation on the basis of design, or extrapolation from other equivalent model, the documentation shall include details of:
  - (a) such calculations or extrapolations, or both; and
  - (b) tests undertaken by suppliers to verify the accuracy of the calculations undertaken.

## ANNEX VII

### Information to be provided in visual advertisements, in promotional material, in distance selling except distance selling on the internet

1. In visual advertisements, for the purposes of ensuring conformity with the requirements laid down in point 1(e) Article 3 and point 1(d) of Article 4, the energy class and the range of efficiency classes available on the label shall be shown as set out in point 4 of this Annex.
2. In promotional material, for the purposes of ensuring conformity with the requirements laid down in point 1(f) Article 3 and point 1(d) of Article 4 the energy class and the range of efficiency classes available on the label shall be shown as set out in point 4 of this Annex.
3. Any paper based distance selling shall show the energy class and the range of efficiency classes available on the label as set out in point 4 of this Annex.
4. The energy class and the range of efficiency classes shall be shown, as indicated in Figure 1, with:
  - (c) an arrow containing the letter of the energy class;
  - (d) the colour of the arrow matching the colour of the energy class, and;
  - (e) the range of available efficiency classes.



**Figure 1: Coloured arrow example, with range of energy classes indicated**

By derogation, if the visual advertisements, promotional material or paper based distance selling is printed in black and white, the colour of the arrow can be in black and white in that visual advertisements, promotional material or paper based distance selling.

5. Telemarketing based distance selling must specifically inform the customer of the energy class of the product and of the range of energy efficiency classes available on the label, and that the consumer can access the full label and the product information sheet through a free access website, or by requesting a printed copy.
6. For all the situations mentioned in points 1 to 3, it must be possible for the customer to access the full label and the product information sheet through a link to the product database website, or by requesting a printed copy.

## ANNEX VIII

### Information to be provided in the case of distance selling through the Internet

1. The appropriate label made available by suppliers in accordance with point 1(g) of Article 3 shall be shown on the display mechanism in proximity to the price of the product. The size shall be such that the label is clearly visible and legible and shall be proportionate to the size specified in point 3 of Annex III. The label may be displayed using a nested display, in which case the image used for accessing the label shall comply with the specifications laid down in point 3 of this Annex. If nested display is applied, the label shall appear on the first mouse click, mouse roll-over or tactile screen expansion on the image.
2. The image used for accessing the label in the case of a nested display shall:
  - (a) be an arrow in the colour corresponding to the energy efficiency class of the product on the label;
  - (b) indicate the energy efficiency class of the product on the arrow in white in a font size equivalent to that of the price; and
  - (c) have one of the following two formats:



3. In the case of a nested display, the sequence of display of the label shall be as follows:
  - (a) the image referred to in point 2 of this Annex shall be shown on the display mechanism in proximity to the price of the product;
  - (b) the image shall link to the label;
  - (c) the label shall be displayed after a mouse click, mouse roll-over or tactile screen expansion on the image;
  - (d) the label shall be displayed by pop up, new tab, new page or inset screen display;
  - (e) for magnification of the label on tactile screens, the device conventions for tactile magnification shall apply;
  - (f) the label shall cease to be displayed by means of a close option or other standard closing mechanism;
  - (g) the alternative text for the graphic, to be displayed on failure to display the label, shall be the energy efficiency class of the product in a font size equivalent to that of the price.
4. The appropriate product information sheet made available by suppliers in accordance with point 1(b) of Article 3 shall be shown on the display mechanism in proximity to the price of the product. The size shall be such that the product information sheet is clearly visible and legible. The product information sheet may be displayed using a nested display or by referring to the product database established under Regulation (EU) 2017/1369, in which case the link used for accessing the product information sheet shall clearly and legibly indicate 'Product information sheet'. If a nested display is used, the product information sheet shall appear on the first mouse click, mouse roll-over or tactile screen expansion on the link.

## ANNEX IX

### Verification procedure for market surveillance purposes

The verification tolerances set out in this Annex relate only to the verification of the measured parameters by Member State authorities and shall not be used by the supplier as an allowed tolerance to establish the values in the technical documentation. The values and classes on the label or in the product fiche shall not be more favourable for the supplier than the values reported in the technical documentation.

When verifying the compliance of a product model with the requirements laid down in this Regulation, the authorities of the Member States shall apply the following procedure:

- (1) The Member State authorities shall verify one single unit of the model.
- (2) The model shall be considered to comply with the applicable requirements if:
  - (a) the values given in the technical documentation pursuant to point 3 of Article 3 of Regulation (EU) 2017/1369 (declared values), and, where applicable, the values used to calculate these values, are not more favourable for the supplier than the corresponding values given in the test reports; and
  - (b) the values published on the label and in the product information sheet are not more favourable for the supplier than the declared values, and the indicated energy efficiency class is not more favourable for the supplier than the class determined by the declared values; and
  - (c) when the Member State authorities test the unit of the model, the determined values (the values of the relevant parameters as measured in testing and the values calculated from these measurements) comply with the respective verification tolerances as given in Table 11.
- (3) If the results referred to in points 2(a) or (b) are not achieved, the model and all models that have been listed as equivalent refrigerating appliance with a direct sales function models in the supplier's technical documentation shall be considered not to comply with this Regulation.
- (4) If the result referred to in point 2(c) is not achieved, the Member State authorities shall select three additional units of the same model for testing. As an alternative, the three additional units selected may be of one or more different models that have been listed as equivalent models in the supplier's technical documentation.
- (5) The model shall be considered to comply with the applicable requirements if for these three units, the arithmetical mean of the determined values complies with the respective tolerances given in Table 11.
- (6) If the result referred to in point 5 is not achieved, the model and all models that have been listed as equivalent refrigerating appliance with a direct sales function models in the supplier's technical documentation shall be considered not to comply with this Regulation.
- (7) The Member State authorities shall provide all relevant information to the authorities of the other Member States and to the Commission without delay once a decision has been taken on the non-compliance of the model according to points 3 and 6.

The Member State authorities shall use the measurement and calculation methods set out in Annex IV.

The Member State authorities shall only apply the verification tolerances that are set out in Table 11 and shall only use the procedure described in points 1 to 7 for the requirements referred to in this Annex. No other tolerances, such as those set out in harmonised standards or in any other measurement method, shall be applied.

**Table 11: Verification tolerances for measured parameters**

Parameters	Verification tolerances
Net volume, gross volume or TDA	The determined value shall not be more than 3 % or 1 l lower – whichever is the greater value – than the declared value.
<i>AE</i>	The determined value shall not be more than 10 % higher than the declared value.