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**COMMUNICATION TO THE COMMISSION**

**Explanatory Memorandum accompanying**

**COMMISSION REGULATION (EC) No .../...**  
**implementing Directive 2009/125/EC of the European Parliament and of the Council**  
**with regard to ecodesign requirements for professional storage cabinets, blast cabinets,**  
**condensing units and process chillers**

# COMMUNICATION TO THE COMMISSION

## Explanatory Memorandum accompanying

### COMMISSION REGULATION (EC) No .../... implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for professional storage cabinets, blast cabinets, condensing units and process chillers

#### 1. CONTEXT OF THE PROPOSAL

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

The Ecodesign Framework Directive 2009/125/EC<sup>1</sup> establishes a framework for setting ecodesign requirements for energy-related products. It is a key instrument of EU policy for improving the energy efficiency and other aspects of the environmental performance of products in the internal market. The Ecodesign Working Plan for 2009-2011<sup>2</sup> identified "refrigerating and freezing equipment" as one of the ten priority product groups. DG Enterprise and Industry explored, within this group, the possibility of setting Ecodesign requirements on the category of professional refrigeration, which includes five products: professional storage cabinets, blast cabinets, condensing units, industrial process chillers and walk-in cold rooms. Following the usual practice in Ecodesign regulations, also the possibility of introducing a labelling system under the Energy Labelling Directive (2010/30/EU) of the European Parliament and of the Council has been explored. Accordingly to the conclusions of the impact assessments (one concerning professional storage cabinets and blast cabinets, and the other one concerning condensing units and process chillers), it is proposed to launch Ecodesign requirements for professional storage cabinets, blast cabinets, condensing units and process chillers, and energy labelling requirements for professional storage cabinets. The fifth product of the professional refrigeration lot, walk-in cold rooms, has been kept separate because of its unique characteristics within the group, therefore walk in cold rooms are not currently being addressed by the proposed Regulation and Delegated Regulations.

The grounds for the proposed Ecodesign Regulation derive from the fact that, as from the impact assessments findings, the criteria<sup>3</sup> listed in Article 15(2) of the Ecodesign Directive are met, therefore, as from Article 15(1), the product "shall be covered by an implementing measure or by a self-regulation measure". Both the solutions were considered among the policy options.

For products belonging to the professional refrigeration group, the market is today driven primarily by purchase price, with little focus on the significant savings that can be reaped by purchasing energy efficient products. This happens despite the fact that cost-effective energy-saving technologies are available and that the products are bought by professionals who might have higher expertise than the average consumer.

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<sup>1</sup> OJ L 285, 31.10.2009, p. 10.

<sup>2</sup> COM (2008) 660

<sup>3</sup> (a) the energy using product shall "represent a significant volume of sales and trade, indicatively more than 200 000 units a year";

(b) it shall "have a significant environmental impact within the EU";

(c) it shall "present significant potential for improvement in terms of its environmental impact without entailing excessive costs"

The general objective of the proposed Regulation is to develop a policy which addresses the problem described above, and which consequently reduces energy consumption and related CO<sub>2</sub> and pollutant emissions, and promotes energy efficiency hence encouraging innovation and reducing energy dependence and contributing to the EU objective of saving 20% of the EU's energy consumption by 2020. The specific objectives are:

- to facilitate the removal of the poorest performing products from the market, where their life cycle cost disadvantages have proven insufficient to drive this.
- to help purchasers to make an informed and rational choice based on performance information that reflects real life usage, thereby moving the market to adopt improved technology solutions.
- to set incentives for producers to further develop and market energy efficient technology and products.
- to generate cost savings for business-to business customers.

### **General context**

Annual electricity consumption related to condensing units, process chillers and professional storage cabinets was estimated to have been 116,5 TWh in the Union in 2012, corresponding to 47 Mt CO<sub>2</sub> emissions. Unless specific measures are taken, annual energy consumption is expected to be 134,5 TWh in 2020 and 154,5 TWh in 2030, corresponding to 54,5 and 62,5 Mt CO<sub>2</sub> respectively. The combined effect of this Regulation, and of the Commission Delegated Regulation supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of storage cabinets, is expected to result in annual electricity savings of 6,3 TWh (respectively 1,5 TWh, 3 TWh and 1,8 TWh for professional chillers, condensing units and professional storage cabinets) by 2020 and 15,6 TWh (respectively 4,5 TWh, 7 TWh and 4,1 TWh for professional chillers, condensing units and professional storage cabinets) by 2030, if compared to what would happen if no measures were taken.

Apart from energy efficiency, the possibility of regulating noise emissions has not been investigated in depth because a consensus emerged during the consultations that since these products are used in a noisy professional setting, the gains achievable are disproportionate to the related costs.

As refrigerants are addressed under Regulation (EC) No 842/2006 of the European Parliament and of the Council of 17 May 2006 on certain fluorinated greenhouse gases<sup>4</sup>, and as a review of this Regulation has been proposed by the Commission on 7 November 2012<sup>5</sup>, no specific requirements on refrigerants are set in the proposed Regulation. However, a bonus is proposed under the ecodesign requirements for condensing units and process chillers to steer the market towards the use of refrigerants with reduced harmful impact on the environment. The bonus will lead to lower minimum energy efficiency requirements for condensing units and process chillers intended to be used with low-global warming potential (GWP) refrigerants. The bonus should act as a stimulus to incentivise the necessary technological development in the coming years, both for advances in fluorinated gas refrigerants, and in the design of the equipment in which they are used.

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

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<sup>4</sup> OJ L 161, 14.6.2006, p.1.

<sup>5</sup> COM(2012) 643 final

No direct regulatory approach to reduce the energy consumption professional refrigeration products has been identified in the EU to date. Other legislation with relevance for professional refrigeration products on environmental aspects includes:

- Directive 2002/96/EC<sup>6</sup> of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE)
- Directive 2011/65/EU<sup>7</sup> 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;
- Regulation (EC) No 842/2006 of the European Parliament and of the Council of 17 May 2006 on certain fluorinated greenhouse gases<sup>4</sup>.

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

The Ecodesign Framework Directive 2009/125/EC is an important instrument for achieving the objective of 20% energy savings compared with projections for 2020, and its implementation is one of the priorities in the Commission's Communication on Energy 2020 and Energy Efficiency Plan 2011. Furthermore, implementation of Directive 2009/125/EC will contribute to the EU's target of reducing greenhouse gases by at least 20% by 2020, or by 30% if there is an international agreement that commits other developed countries to comparable emissions reductions. The proposed Regulation is a concrete contribution to this process and is in line with the Commission Action Plan on Sustainable Consumption and Production and Sustainable Industrial Policy.

Promotion of market take-up of efficient professional refrigeration products complies with the Europe 2020 agenda and its 20% energy savings target by the year 2020, as it aims to support more efficient and sustainable use of resources, protect the environment, strengthen EU's leadership in developing new green technologies, improve the business environment and help business-to-business customers to make more informed choices.

Finally, it will contribute to the objective of decoupling economic growth from the use of resources set out in the Europe 2020 strategy<sup>8</sup> under the 'Resource-efficient Europe' flagship initiative.

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

### **Consultation of interested parties**

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

The opinions of stakeholders were gathered throughout the process through the Consultation Forum created in compliance with Article 18 of the Ecodesign Directive and through numerous bilateral meetings, from the very beginning. The preparatory study consulted manufacturers in three stakeholder meetings and registered stakeholders were granted access to the documents publicly available on the project website <http://ecofreezercom.org>. The Ecodesign Consultation Forum was consulted on 19 January 2012 with the participation of Member States, consumer organisations, environmental NGOs and the manufacturers represented by ASERCOMM (a platform of leading component manufacturers within the European Heating, Ventilation, Air Conditioning and Refrigeration Industry), EUROVENT (which certifies the performance ratings of air-conditioning and refrigeration products) and

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<sup>6</sup> OJ L 37, 13.2.2003, p.24.

<sup>7</sup> OJ L 174, 1.7.2011, p. 88.

<sup>8</sup> COM(2010) 2020

EFCEM (European Federation of Catering Equipment Manufacturers). The working document presenting the policy options was sent one month in advance of the meeting. All replies to the working document are available on the CIRCA website. Several other meetings, stakeholders consultations, SMEs consultations and conference calls occurred, in order to identify the key issues of concern, to discuss the data analysis process, to agree thresholds and finally to review the proposal.

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

Member States largely agreed with the introduction of regulatory measures for professional refrigeration products, collaborated in the definition of a shared methodology, and some provided useful data from national schemes already in place and explained the relevant national regulations. However, they differed in the suggested level of requirements, somehow reflecting different average efficiency levels in their home markets.

Environmental NGOs were generally in favour of the introduction of regulatory measures, wishing that they could cover also noise emissions and incentivize the use of low GWP refrigerants.

The consultation with the industry (both associations and individual companies) has been an important part of the development of the proposed Regulation, its effect on the market, the relative stringency of the thresholds and the testing methodologies. Important issues for SMEs (Small and Medium-sized Enterprises) were also identified; in particular, it emerged that the cost of testing was clearly on top of their agenda, and important suggestions were made about how to reduce it.

#### International stakeholders

The proposed measure will be notified to the WTO/TBT at the end of this Interservice Consultation to ensure that no barrier to trade is introduced.

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

#### Scientific/expertise domains concerned

External expertise was mainly gathered through the preparatory study providing a technical, environmental and economic analysis, which was carried out on behalf of the Commission's DG Enterprise and Industry. Additionally, a scenario analysis of various policy options was developed for the impact assessment by an external consultant.

#### Methodology used

The methodology followed the provisions of the Ecodesign Directive 2009/125/EC, in particular Article 15 and Annexes I and II. The technical, environmental and economic analysis followed the structure of the 'Methodology Study Ecodesign of Energy-using Products' devised for the Commission's DG Enterprise and Industry and endorsed by stakeholders.

#### Main organisations/experts consulted

The preparatory studies were conducted in an open process, taking into account input from stakeholders, including manufacturers, retailers and their associations, environmental NGOs, consumer organisations, EU/EEA Member State experts and experts from third countries.

#### Summary of advice received and used

The technical, market and economic analysis carried out for the preparatory studies resulted in recommendations for ecodesign requirements for professional storage cabinets, blast cabinets,

condensing units and process chillers. These recommendations were used, in conjunction with the most recent available data from the industry, for suggesting possible ecodesign requirements for professional storage cabinets, blast cabinets, condensing units and process chillers to the Consultation Forum. The comments of members of the Consultation Forum were addressed during the impact assessment, which involved continuous collaboration with various individual stakeholders and experts.

No potentially serious risks with irreversible consequences were mentioned by any stakeholder, nor were any identified during the preparatory work.

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

The preparatory study was accompanied by a dedicated website where interim results and further relevant materials were published regularly for timely stakeholder consultation and input. The study websites were publicised on DG Enterprise and Industry specific ecodesign websites.

The written input received during the Consultation Forum process and the minutes of the Forum meetings on professional refrigeration products are available on the Commission's CIRCABC portal.

#### **Impact assessments**

Two impact assessments of the possible policy measures (one concerning professional storage cabinets and blast cabinets, and the other one concerning condensing units and process chillers) were carried out in accordance with Article 15(4)(b) of the Ecodesign Directive 2009/125/EC which also examined the option of labelling.

Several policy options for achieving a market transformation fulfilling the appropriate level of ambition are considered in both the impact assessments, including the business as usual case, self-regulation, energy labelling, ecodesign requirements, mandatory information requirements, and other measures regarding the Global Potential Warming (GWP) of refrigerants.

However, due to the clear mandate given by the legislator to establish ecodesign requirements and energy labelling for professional refrigeration products, the depth of analysis for options other than an implementing legal act is proportionate, and the focus is on the assessment of the proposed implementing regulations.

Concerning **professional storage cabinets and blast cabinets**, the impacts of several policy scenarios involving the establishment of ecodesign requirements as an important feature have therefore been assessed:

- Option A: No new EU action
- Option B: Adoption of existing foreign policy
- Option C: Self-Regulation
- Option D: Mandatory Information Requirements
- Option E: Information and Minimum Energy Performance Requirements (MEPS)
- Option F: Energy Labelling
- Option G: MEPS and Energy Labelling
- Option H: Malus/bonus and/or other measures regarding GWP of refrigerants.

Options A, B, C and H have been considered not viable due to limited impact on the problem, impracticability of their implementation, lack of stakeholders' support and/or an unfavourable burden/results ratio. Option D has been retained for blast cabinets alone, while Options E, F and G have been retained for storage cabinets. They have been assessed in detail against the baseline option.

#### Option D: Mandatory Information Requirements

Under this option, retained only for blast cabinets, producers would be obliged to declare information about the energy performance of their products. This option will thus improve the amount of information available to buyers, and could therefore contribute to solving the problem. Clearly, it would depend on the development of a shared methodology which is at the moment still lacking, since users could not assess the performance across the market if each producer would develop its own. The effect of Option D on the market and on energy efficiency is estimated to be limited, given the persistent lack of focus on energy consumption by most buyers.

#### Option E: Information and MEPS

Under this option, which as the following ones is viable only for storage cabinets at the present moment, only products that declare information about their energy performance and that perform above a given energy efficiency level would be granted placing on the market. It is a very common option in Ecodesign regulations, and it would help to tackle the problem by removing the worst performing products from the market. The diffusion of energy savings technologies would be encouraged, while the effect on innovation would be limited, since only the lower end of the market would be affected. Option E would allow significant annual energy savings estimated at 3 TWh (Terawatt hour) in 2030, as well as substantial total savings (energy bill savings minus product cost increases) to users, estimated at 277 million Euro in 2030.

#### Option F: Energy Labelling

Energy labelling is a user friendly way of giving information about the energy performance of the products, which would not only have to be accompanied by information, but also ranked according to their performance. Therefore, users would not have to go through the difficult and time-consuming process of comparing products themselves by collecting the necessary information: the labels convey it immediately. Such a system has already been introduced for many household products, including refrigerators. The effect of this option on the market is quite different from Option E's: minimum requirements would improve the average performance by pushing the worst performing products out of the market, while labels would encourage the improvement of all products, including the already efficient ones, through an increased demand for energy efficiency by better informed buyers. Option F would allow energy savings estimated at 1 TWh in 2030, as well as total savings to users estimated at 114 million Euro in 2030.

#### Option G: MEPS and Energy Labelling

Combining Options E and F for storage cabinets could achieve the effect of removing the worst products from the market together with the motivating effect of transparency on efficiency information that will drive competition and innovation on energy efficiency issues. The simultaneous introduction of both measures (MEPS and labelling) could thus combine the pushing effect of the minimum requirements and the pulling effect of the new labelling energy efficiency scale. This pattern is well experienced in the practice of many Ecodesign and Energy labelling regulations. Option G would allow energy savings estimated at 4.1 TWh in 2030, as well as total savings to users estimated at 391 million Euro in 2030.

Based on the assessment of costs and benefits, in terms of annual energy savings, TEWI (Total Equivalent Warming Impact, expressed in million tonnes CO<sub>2</sub> equivalent) savings, savings to users and costs to manufacturers, option G, which foresees both MEPS and Energy Labelling, is the preferred option for professional storage cabinets. Option G was deemed superior because it achieves more energy savings, less TEWI emissions and more value added to the users. Moreover, its impact on innovation and competitiveness is estimated to be positive. The testing burden which is entailed by this option can be optimally reduced through a scheduled entry into force of requirements and extensive use of agreed calculation methodologies that reduce the number of tests necessary to comply with the regulation.

Regarding blast cabinets, Option D is the only currently viable option for blast cabinets, given the limited market and performance data available. Namely, the likelihood to set wrong requirements on the basis of limited data is unacceptably high. Since the imposition of mandatory information requirements foreseen by Option D imposes a cost on producers while doing little to achieve the objectives of the Ecodesign Directive, it can be accepted only as a preliminary step for further policy measures. Given the technology and market similarities between blast and storage cabinets, it is clear that once data is made available by the mandatory information requirements the same policy options now retained for storage cabinets will become viable for blast cabinets as well.

Concerning **condensing units and process chillers**, the following policy options have been considered:

- Option A': No new EU action
- Option B': Adoption of existing foreign policy
- Option C': Self-Regulation
- Option D': Mandatory Information Requirements
- Option E'1: Minimum Energy Performance Requirements (MEPS)
- Option E'2: MEPS with delayed timing and lower thresholds for Condensing Units
- Option E'3: Addition of minimum requirements for high-temperature chillers
- Option F': Energy Labelling
- Option G': Malus/bonus based on GWP of refrigerants

Options B', C', D' and F' have been considered not viable due to limited impact on the problem, impracticability of their implementation, lack of stakeholders' support, limited amount of available data and/or an unfavourable burden/results ratio. The other options have been retained and assessed in detail against the baseline (Option A', retained for comparison).

#### Option D': Mandatory Information Requirements

While not retained, this option has been integrated in all following ones. It would oblige producers to declare information about the energy performance of their products. Such information would be made comparable by the use of a standard methodology to measure energy performance. Under this regard, it is similar to a labelling scheme, with the important difference that the information would be less user friendly and comparison among products would be much more time and effort-consuming.

#### Option E'1: Minimum Energy Performance Requirements (MEPS)

This option consists in the setting, in addition to the information requirements, of Ecodesign Minimum Energy Performance Requirements (MEPS) for condensing units and medium and



low temperature chillers. Following the introduction of minimum performance requirements, only products above a given performance threshold would be allowed to the market. Option E'1 would allow significant annual energy savings estimated at 11.6 TWh in 2030, as well as very substantial total savings (energy bill savings minus product cost increases) to users, estimated at 1,539 million Euro in 2030.

**Option E'2: Minimum Energy Performance Requirements (MEPS) with delayed timing and lower thresholds for Condensing Units**

This option would not affect the measures foreseen in Option E'1 for chillers, while it would depart significantly from them for condensing units, since it would delay the entry into force of the MEPS on them by one year and also lower their stringency in the case of the second tier of requirements. There are different reasons for this choice: SMEs producers, which are likely to find it more difficult to comply with the regulation, are more prevalent in condensing units than in chillers; the feedback on the stringency of the proposed MEPS has been much greater and concerned for CUs than for chillers; the delaying would be much more beneficial if performed for only one of the two products, so that producers of both CUs and chillers not only would have more time to cope with the regulation, but could also spread the connected costs over a longer time frame. Given its less ambitious requirements, it is no surprise that Option E'2 achieves inferior savings to Option E'1. In comparison with the baseline scenario, energy savings in 2030 would decrease to 10.2 TWh from the 11.6 TWh achieved by Option E'1, and users would be benefitting much less from Option E'2 than from Option E'1: about one hundred million Euro less would be saved in 2020 and two hundred million in 2030. This happens despite the reduced impact on prices of Option E'2, which is more than offset by the reduced energy savings it achieves. The impact on manufacturers will not deviate from the one caused by Option E'1 in absolute terms, but it would be spread over a longer period and would therefore be less burdensome for producers in general and the smaller among them in particular.

**Option E'3: Addition of minimum requirements for high-temperature chillers**

Option E'1 could be expanded by adding MEPS also on high-temperature (HT) chillers. They fall within the scope of the regulation but it had been envisaged since the Consultation Forum working document not to place Ecodesign performance requirements on them. The main reason for this choice was the assumption that HT chillers would fall under the air conditioning chillers regulation which is currently under consideration. However, it has emerged following discussion with industry that the optimization of the performance of an industrial and an air conditioning chiller differ because of their different usage patterns. Apart from the data availability, there is an important caveat about Option E'3 to be considered: there is a clear lack of adequate technical definitions of the two types of product (air conditioning and industrial process chillers) and of a legally appropriate mean to distinguish them for market surveillance and enforcement purposes. Option E'3 is clearly vastly superior to all others: all figures would roughly double in comparison with Option E'1, and increase even more when compared to those of Option E'2.

**Option G': Malus/bonus based on GWP of refrigerants**

Option G' consists in the creation of a system that would reward low GWP gases with a lower minimum requirement (Bonus). The establishment of a malus system that instead penalises high GWP gases with a higher minimum requirement has been found impractical in the case of process chillers and condensing units, since the diversity of product types and applications for industrial purposes is such that a very detailed knowledge of each market segment, corroborated by robust data, would be necessary to establish a fair system; otherwise some segment would be much more penalised, since low GWP gases alternatives are not available

for all segments, so that a malus would amount to raising the MEPS for them alone. Therefore it has been chosen to analyse the option of giving a bonus, which would be beneficial in particular for the development of new technologies, since the switch to such gases would be costly for manufacturers. Option G' would lead to the same results of Option E'1, since it foresees the same requirements and it is at present not possible to quantify the impact of the bonus on the condensing units and process chillers markets.

As for the first impact assessment (concerning professional storage cabinets and blast cabinets), the previously shown options were compared in their costs and benefits, in terms of annual energy savings, TEWI (Total Equivalent Warming Impact, expressed in million tonnes CO<sub>2</sub> equivalent) savings, savings to users and costs to manufacturers. Option G' represents the best trade-off for effectiveness, efficiency and coherence profile. Moreover, there is a qualitative element from Option E'2 that could be easily integrated into Option G' without diminishing its potential. The delayed timing foreseen by Option E'2 for condensing units could be added to Option G' but without the lower MEPS thresholds: this way the same level of savings of energy, emissions and to users would be achieved, only one year later, helping companies, in particular SMEs to better cope with the regulatory burden by spreading it over a longer time frame. A combination of Option G' with this element from Option E'2 can thus be considered the preferred Option for condensing units and process chillers.

Concerning walk-in cold rooms, the impact assessment study concluded that there are specific reasons to keep these products separate within the Lot1, because of their unique features. First of all, walk-in cold rooms could be considered as halfway between being a product and being a building. Second, the roles of the designer, the producer, the assembler and the installer cannot be clearly differentiated for many of these products, therefore it is difficult to identify who can be considered the manufacturer. Moreover, the market is dominated by customised products where the minimisation of the pricing is deemed as fundamental, and there are also strong differences, between different areas of Europe, in terms of insulation quality. Walk-in cold rooms are not currently being addressed by the proposed Regulation, but the appropriateness of setting ecodesign requirements for these products will be assessed at the time of the review.

### **3. LEGAL ELEMENTS OF THE PROPOSAL**

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

##### *Scope of the proposed Regulation*

The scope of the proposed Ecodesign Regulation covers:

electric mains-operated blast cabinets, and electric mains-operated professional storage cabinets including those sold for the refrigeration of items other than foodstuffs

process chillers intended to operate at low and medium temperature

condensing units operating at low and medium temperature.

##### *Phased implementation of ecodesign requirements*

It is proposed that requirements on minimum energy efficiency and information to be provided by manufacturers will enter into force as follows:

- (a) From 1 July 2015, condensing units shall comply with the requirements set out in points 1(a) and 2 of Annex V of the proposed Ecodesign Regulation, and process chillers shall comply with the requirements set out in points 1(a) and 2 of Annex VII of the proposed Ecodesign Regulation;

- (b) From 1 January 2016, professional storage cabinets shall comply with the requirements set out in points 1(a)(i) and 2(a) of Annex II of the proposed Ecodesign Regulation, and heavy-duty cabinets shall comply with the requirements set out in point 1(b) of Annex II of the proposed Ecodesign Regulation;
- (c) From 1 July 2016, blast cabinets shall comply with requirements set out in point 2(b) of Annex II of the proposed Ecodesign Regulation;
- (d) From 1 July 2017, professional storage cabinets shall comply with requirements set out in point 1(a)(ii) of Annex II of the proposed Ecodesign Regulation;
- (e) From 1 July 2018, condensing units shall comply with the requirements set out in point 1(b) of Annex V of the proposed Ecodesign Regulation and process chillers shall comply with the requirements set out in point 1(b) of Annex VII of the proposed Ecodesign Regulation;
- (f) From 1 July 2019, professional storage cabinets shall comply with requirements set out in point 1(a)(iii) of Annex II of the proposed Ecodesign Regulation.

These requirements are aimed at realising the potential for reducing the use-phase energy consumption while fulfilling the criteria for ecodesign implementing measures set out in the Ecodesign Directive. This process will be complemented by the new energy label providing business-to-business customers with comparative information on the efficiency of professional storage cabinets. This pull strategy will further encourage manufacturers to place more efficient products on the market. The two-stages approach for condensing units and process chillers, the three-stages approach for professional storage cabinets and the information requirements for blast cabinets are proposed accordingly the hypothesis laid down in the chosen policy options.

#### Measurements and calculations

Measurements and calculations of the relevant product parameters should be performed taking into account generally recognised state-of-the-art calculation and measurement methods. In this context, manufacturers may apply reliable, accurate and reproducible measurement and calculation methods<sup>9</sup> and harmonised standards established in accordance with Article 10 of Directive 2009/125/EC, as soon as they are made available and published for that purpose in the *Official Journal of the European Union*. Requirements for calculation and measurement methods are specified in Annexes III, IV, VI and VIII of the proposed Ecodesign Regulation.

#### Benchmarks

Based on the currently available technologies, benchmarks are provided for best performing products (respectively seasonal energy performance ratio for process chillers, rated coefficient of performance and seasonal energy performance ratio for condensing units, annual energy consumption and net storage volume for professional storage cabinets).

#### Date for evaluation and possible revision

Taking into account the time necessary to collect, analyse and complement the data in order to properly assess technological progress, a review can be presented to the Consultation Forum:

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<sup>9</sup> The draft transitional methods and the calculation tools, before harmonized standards will be available, can be found at the following internet address: [http://ec.europa.eu/enterprise/policies/sustainable-business/ecodesign/product-groups/freezing/chillers/index\\_en.htm](http://ec.europa.eu/enterprise/policies/sustainable-business/ecodesign/product-groups/freezing/chillers/index_en.htm)

no later than four years, regarding professional storage cabinets, blast cabinets and walk-in cold rooms;

and no later than five years, regarding process chillers and condensing units (assessing, among others, the appropriateness of setting ecodesign requirements covering direct greenhouse gas emissions related to refrigerants).

### **Legal basis**

The proposed Regulation is an implementing measure pursuant to Directive 2009/125/EC, in particular Article 15(1) thereof. The Directive is based on Article 114 of the Treaty.

### **Subsidiarity principle**

Action at EU level is appropriate to ensure the free circulation of goods, since there is significant EU and international trade in these products. Regulation at national or regional level would lead to a fragmentation of the market in consequence of the imposition of multiple and different requirements, and would also increase the burden of testing and product development on manufacturers.

The proposal therefore complies with the subsidiarity principle.

### **Proportionality principle**

In accordance with the principle of proportionality, this measure does not go beyond what is necessary to achieve the objective. It offers requirements which act as an incentive for technology leaders to invest in high-efficiency technology for professional storage cabinets, blast cabinets, condensing units and industrial process chillers. It also leads to higher savings than any other conceivable option with minimum administrative costs.

### **Choice of instrument**

Proposed instrument: Regulation.

The proposed form of action is a Commission Regulation implementing Directive 2009/125/EC, because the objectives of the action can be achieved most efficiently by fully harmonised requirements throughout the EU (including the date of entry into force), thus ensuring the free movement of complying products. No costs arise for national administrations for transposition into national legislation.

## **4. BUDGETARY IMPLICATION**

The proposal has no implications for the EU budget.

## **5. ADDITIONAL INFORMATION**

### **Review/revision/sunset clause**

The proposal includes a review clause.

### **European Economic Area**

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