COMMISSION REGULATION (EU) …/…

of 1.10.2019


and repealing Commission Regulation (EC) 642/2009

(Text with EEA relevance)

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THE EUROPEAN COMMISSION,

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

Having regard to Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products\(^1\), and in particular Article 15(1) thereof;

Whereas:

(1) Pursuant to Directive 2009/125/EC the Commission should set ecodesign requirements for energy-related products which account for significant volumes of sales and trade, in the Union and which have a significant environmental impact and presenting significant potential for improvement through design in terms of their environmental impact, without entailing excessive costs.

(2) The Commission established ecodesign requirements for televisions in Commission Regulation (EC) No 642/2009 of 22 July 2009\(^2\) and pursuant to that Regulation, the Commission should review the Regulation in the light of technological progress.

(3) The Communication from the Commission COM(2016)773\(^3\) (ecodesign working plan), established by the Commission in application of Article 16(1) of Directive 2009/125/EC, sets out the working priorities under the ecodesign and energy labelling framework for the period 2016-2019. The ecodesign working plan identifies the energy-related product groups to be considered as priorities for the undertaking of preparatory studies and eventual adoption of implementing measures, as well as the review of Commission Regulation (EC) No 642/2009 of 22 July 2009.

(4) Measures from the Ecodesign Working Plan have an estimated potential to deliver a total in excess of 260 TWh of annual primary energy savings in 2030, which is equivalent to reducing greenhouse gas emissions by approximately 100 million tonnes per year in 2030. Electronic displays are one of the product groups listed in the working plan.

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Pursuant to Article 6 of Regulation (EC) No 642/2009, the Commission has reviewed the Regulation in light of technological progress and analysed the technical, environmental and economic aspects of televisions and other electronic displays. The review was carried out in close cooperation with stakeholders and interested parties from the Union and third countries. The results of the review were made public and presented to the Consultation Forum established by Article 18 of Directive 2009/125/EC.

The review concluded that there was a need for the introduction of new ecodesign energy-related requirements for televisions and that the same requirements should also apply to other displays, such as computer monitors, because of the rapidly increasing functionality overlap between different display types. Projectors use very different technologies and consequently should be out of scope of this Regulation.

Digital signage displays are used in public spaces such as airports, metro and train stations, retail stores, shop windows, restaurants, museums, hotels, conference centres or in prominent positions outside buildings and represent a relevant emerging market. Their energy needs are different and generally higher than those of other electronic displays because they are often used in luminous places and continuously on. Minimum requirements for digital signage displays in on-mode should be evaluated once additional data will be available, however they should at least have minimum requirements on off, standby and networked standby modes and on material efficiency.

The annual energy consumption in 2016 of televisions in the Union constituted more than 3% of the European Union’s electricity consumption. The projected energy consumption of televisions, monitors and digital signage displays would be expected be close to 100 TWh/yr in 2030. This Regulation, together with the accompanying energy labelling regulation, is estimated to reduce the overall consumption by 39 TWh/yr by 2030.

Specific requirements should be laid down for standby, networked standby and off mode electric power demand of electronic displays. Therefore, the requirements of Commission Regulation (EC) No 1275/2008 that does not apply to televisions, should no longer apply to the additional electronic displays types covered by the scope of this Regulation. Regulation (EC) No 1275/2008 should be amended accordingly.

Electronic displays for professional use such as video-editing, computer-aided design, graphics or for the broadcast sector, possess enhanced performance and very specific features that, although usually involving higher energy use, should be not subject to on-mode energy efficiency requirements set for more generic products.

The Commission Communication on the circular economy and the Communication on the ecodesign working plan underline the importance of using the ecodesign framework to support the move towards a more resource efficient and circular economy.

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5 Communication from the Commission to the European Parliament, the Council, the European Economic Social Committee and the Committee of the Regions: Closing the loop - An EU action plan for the Circular Economy, COM/2015/0614 final of 02.12/2015.

economy. Recital (11) and Article 4 of Directive 2012/19/EU of the European Parliament and of the Council\(^7\) refer as well to Directive 2009/125/EC and indicate that ecodesign requirements should facilitate the re-use, dismantling and recovery of waste electrical and electronic equipment (WEEE) by tackling the issues upstream, thus facilitating the objectives of waste prevention and recovery in Member States as from Directive (EU) 2018/851\(^8\). In addition, Decision No 1386/2013/EU on a General Union Environment Action Programme to 2020 includes the goal ‘to turn the Union into a resource-efficient, green and competitive low-carbon economy’. Implementable and enforceable requirements at the product design phase may be appropriate for optimising resource and material efficiency at end of life. Finally, in accordance with the Union action plan for the Circular Economy\(^9\), the Commission should make sure that special emphasis is placed on aspects relevant to the circular economy when setting out or revising ecodesign criteria. This Regulation should therefore lay down appropriate non-energy related requirements contributing to circular economy objectives including requirements to facilitate repair and the availability of spare parts.

(12) Liquid crystal screens (LCD) with a screen area greater than 100 square centimetres are in the scope of the requirements set in Article 8 and Annex VII of the Directive 2012/19/EU in relation to the selective treatment for materials and components of WEEE which means that such displays need to be removed from the product integrating them. Considering, in addition, that screens with a screen area smaller than or equal to 100 square centimetres have very limited energy use, all such electronic displays should be outside the scope of this Regulation both for energy and for requirements contributing to circular economy objectives.

(13) Once delivered to an electrical and electronic equipment waste collection facility at the end of their life, televisions, computer monitors, digital signage displays, professional displays, broadcast displays, security displays, as well as displays integrated into tablets, "all-in-one" desktop or portable computers are, generally, not distinguishable from each other. Therefore they should all be subject to the same requirements for proper end of life treatment and they should also facilitate circular economy objectives. However electronic displays integrated into computers, such as tablets, laptops or all-in-one desktops, although hardly distinguishable from other electronic displays, should be covered in a review of Commission Regulation (EU) No 617/2013 on computers.

(14) Shredding of electronic displays causes large losses of resources and hinders circular economy objectives such as recovery of some rare and precious materials. Moreover, Article 8(1) and (2) of the Directive 2012/19/EU require Member States to ensure that all separately collected waste undergoes proper treatment including, as a minimum, a selective treatment of a number of components – typically present in electronic displays – in preparation for recovery or recycling and before shredding. Dismantling of at least the specific components listed in Annex VII of that Directive should therefore be facilitated. Furthermore, Article 15 makes provision for information to be provided free of charge by producers to facilitate the preparation for re-use and the

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correct and environmentally sound treatment of WEEE, which can be provided using a voluntary electronic platform\textsuperscript{10}.

(15) Presence of halogenated flame retardants represents a major issue in the recycling of plastics of electronic displays. Some halogenated compounds have been restricted by Directive 2011/65/EU\textsuperscript{11} because of their high toxicity, but may be still found in old displays and others are still allowed. Control on maximum content of non permitted compounds in recycled plastic is not cost-effective, resulting in all being incinerated. Alternative solutions would exist for the bulk of the plastic part in an electronic display, such as the enclosure and the stand, permitting higher yields of recycled plastics. Use of halogenated flame retardants in these parts should be limited.

(16) Presence of cadmium, a highly toxic and carcinogenic substance in display panels is an additional obstacle to efficient management of the waste stream. Use of certain hazardous substances in electrical and electronic equipment, including cadmium, is restricted by Directive 2011/65/EU of the European Parliament and of the Council. Use of cadmium in electronic displays, however, is among the applications in Annex III exempted from the restriction for a limited time. A specific marking on displays that contain cadmium, to facilitate the correct and environmentally sound treatment at end of life, should therefore be provided by manufacturers.

(17) The relevant product parameters should be measured using reliable, accurate and reproducible methods, which take into account recognised state-of-the-art measurement methods and, 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\textsuperscript{12}.

(18) In line with Article 8 of Directive 2009/125/EC, this Regulation should specify the applicable conformity assessment procedures.

(19) To facilitate compliance checks, manufacturers, importers or authorised representatives should provide information in the technical documentation referred to in Annexes IV and V to Directive 2009/125/EC in so far as that information relates to the requirements laid down in this Regulation. For market surveillance purposes, manufacturers, importers or authorised representatives should be allowed to refer to the product database if the technical documentation as per Commission Delegated Regulation (EU) 2019/XXX\textsuperscript{13} [OP –please insert the number of Regulation C(2019)1796 on energy labelling for electronic displays] contains the same information.

\textsuperscript{10}‘Information for Recyclers – I4R’ platform for the exchange of information between manufacturers of electrical and electronic equipment (EEE) and recyclers of Waste EEE: http://www.i4r-platform.eu.


\textsuperscript{13}Commission Delegated Regulation (EU) 2019/XXX [OP please enter the full OJ-L references of Regulation C(2019) 1796].
(20) To improve the effectiveness of this Regulation and to protect consumers, products that automatically alter their performance in test conditions to improve the declared parameters should be prohibited from being placed on the market.

(21) In addition to the legally binding requirements laid down in this Regulation, indicative benchmarks for best available technologies should be identified to make information on products environmental performance over their life-cycle subject to this Regulation widely available and easily accessible, in accordance with Directive 2009/125/EC, Annex 1, part 3, point (2).

(22) A review of this Regulation should assess the appropriateness and effectiveness of its provisions in achieving its goals. The timing of the review should take into account the fast rate of technological progress in the products covered by this Regulation.

(23) Regulation (EC) No 642/2009 should therefore be repealed.

(24) The measures provided for in this Regulation are in accordance with the opinion of the Committee established by Article 19 of Directive 2009/125/EC,

HAS ADOPTED THIS REGULATION:

**Article 1**

**Subject matter and scope**

1. This Regulation establishes ecodesign requirements for the placing on the market and putting into service of electronic displays, including televisions, monitors and digital signage displays.

2. This Regulation shall not apply to the following:

   (a) any electronic display with a screen area smaller than or equal to 100 square centimetres;

   (b) projectors;

   (c) all-in-one video conference systems;

   (d) medical displays;

   (e) virtual reality headsets;

   (f) displays integrated or to be integrated into products listed into Article 2, point 3(a) and point 4 of Directive 2012/19/EU;\(^{14}\)

   (g) displays that are components or subassemblies of products covered by implementing measures adopted under Directive 2009/125/EU;\(^{15}\)

3. The requirements in points A and B of Annex II shall not apply to the following displays:

   (a) broadcast displays;

   (b) professional displays;

   (c) security displays;

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(d) digital interactive whiteboards;
(e) digital photo frames;
(f) digital signage displays.

4. The requirements in points A, B and C of Annex II shall not apply to the following displays:
(a) status displays;
(b) control panels.

Article 2
Definitions

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

(1) ‘electronic display’ means a display screen and associated electronics that, as its primary function, displays visual information from wired or wireless sources;
(2) ‘television’ means an electronic display designed primarily for the display and reception of audiovisual signals and which consists of an electronic display and one or more tuners/receivers;
(3) ‘tuner/receiver’ means an electronic circuit that detects television broadcast signal, such as terrestrial digital or satellite, but not internet unicast, and facilitates the selection of a TV channel from a group of broadcast channels;
(4) ‘monitor’ or ‘computer monitor’ or ‘computer display’ means an electronic display intended for one person for close viewing such as in a desk-based environment;
(5) ‘digital signage display’ means an electronic display that is designed primarily to be viewed by multiple people in non-desktop based and non domestic environments. Its specifications shall include all of the following features:
(a) unique identifier to enable addressing a specific display screen;
(b) a function disabling unauthorised access to the display settings and displayed image;
(c) network connection (encompassing a hard-wired or wireless interface) for controlling, monitoring or receiving the information to display from remote unicast or multicast but not broadcast sources;
(d) designed to be installed hanging, mounted or fixed to a physical structure for viewing by multiple people and not placed on the market with a ground stand;
(e) does not integrate a tuner to display broadcast signals;
(6) ‘screen area’ means the viewable area of the electronic display calculated by multiplying the maximum viewable image width by the maximum viewable image height along the surface of the panel (both flat or curved);
(7) ‘digital photo frame’ means an electronic display that displays exclusively still visual information;
(8) ‘projector’ means an optical device for processing analogue or digital video image information, in any format, to modulate a light source and project the resulting image onto an external surface;
‘status display’ means a display used to show simple but changing information such as selected channel, time or power consumption. A simple light indicator is not considered a status display;

’control panel’ means an electronic display whose main function is to display images associated with product operational status; it may provide user interaction by touch or other means to control the product operation. It may be integrated into products or specifically designed and marketed to be used exclusively with the product;

‘all-in-one video conference system’ means a dedicated system designed for video conferencing and collaboration, integrated within a single enclosure, whose specification shall include all of the following features:

(a) support for specific videoconference protocol ITU-T H.323 or IETF SIP as delivered by the manufacturer;

(b) camera(s), display and processing capabilities for two-way real-time video including packet loss resilience;

(c) loudspeaker and audio processing capabilities for two-way real-time hands-free audio including echo cancellation;

(d) an encryption function;

(e) HiNA;

‘HiNA’ means High Network Availability as defined in Article 2 of Commission Regulation (EC) No 1275/2008;

‘broadcast display’ means an electronic display designed and marketed for professional use by broadcasters and video production houses for video content creation. Its specifications shall include all of the following characteristics:

(a) colour calibration function;

(b) input signal analysis function for input signal monitoring and error detection, such as wave-form monitor/vector scope, RGB cut off, facility to check the video signal status at actual pixel resolution, interlace mode and screen marker;

(c) Serial Digital Interface (SDI) or Video over Internet Protocol (VoIP) integrated with the product;

(d) not intended for use in public areas;

‘digital interactive whiteboard’ means an electronic display which allows direct user interaction with the displayed image. The digital interactive whiteboard is designed primarily to provide presentations, lessons or remote collaboration, including the transmission of audio and video signals. Its specification shall include all of the following features:

(a) primarily designed to be installed hanging, mounted on a ground stand, set on a shelf or desk or fixed to a physical structure for viewing by multiple people;

(b) to be necessarily used with computer software with specific functionalities to manage content and interaction;

(c) integrated or designed to be specifically used with a computer for running the software in point (b);

(d) a display screen area greater than 40 dm²;
(e) user interaction by finger or pen touch or other means such as hand, arm gesture or voice;

(15) ‘professional display’ means an electronic display designed and marketed for professional use for editing video and graphic images. Its specification shall include all of the following features:

(a) a contrast ratio of at least 1000:1 measured at a perpendicular to the vertical plane of the screen and at least 60:1 measured at a horizontal viewing angle of at least 85° relative to that perpendicular and at least 83° from the perpendicular on a curved screen, with or without a screen cover glass;

(b) a native resolution of at least 2,3 mega pixels;

(c) colour Gamut support is 38,4 % of CIE LUV or greater (equivalent to greater than 99 % of Adobe RGB and over 100 % of sRGB colour space). Shifts in colour space are allowable as long as the resultant colour space is at least 38,4 % of CIE LUV. Colour and luminance uniformity shall be as required for grade 1 monitors;

(16) ‘security display’ means an electronic display whose specification shall include all of the following features:

(a) self-monitoring function capable of communicating at least one of the following information to a remote server:
   – power status;
   – internal temperature from anti-overload thermal sensing;
   – video source;
   – audio source and audio status (volume/mute);
   – model and firmware version;

(b) user-specified specialist form factor facilitating the installation of the display into professional housings or consoles;

(17) ‘integrated’, referring to a display which is part of another product as a functional component, means an electronic display that is not able to be operated independently from the product and that depends on it for providing its functions, including power;

(18) ‘medical display’ means an electronic display covered by the scope of:

(a) Directive 93/42/EEC concerning medical devices; or

(b) Regulation (EU) 2017/745 on medical devices; or

(c) Directive 90/385/EEC on the approximation of the laws of the Member States relating to active implantable medical devices; or

(d) Directive 98/79/EC on in vitro diagnostic medical devices; or

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(e) Regulation (EU) 2017/746 on in vitro diagnostic medical devices;

(19) ‘grade-1 monitor’ means a monitor for high-level technical quality evaluation of images at key points in a production or broadcast workflow, such as image capture, post-production, transmission and storage;

(20) ‘Virtual reality headset’ means a head-wearable device that provides immersive virtual reality for the wearer by displaying stereoscopic images for each eye with head motion tracking functions.

For the purposes of the Annexes, additional definitions are set out in Annex I.

Article 3
Ecodesign requirements

The ecodesign requirements set out in Annex II shall apply from the dates indicated therein.

Article 4
Conformity assessment

1. The conformity assessment procedure referred to in Article 8 of Directive 2009/125/EC shall be the internal design control system set out in Annex IV to that Directive or the management system set out in Annex V to that Directive.

2. For the purposes of conformity assessment pursuant to Article 8 of Directive 2009/125/EC, the technical documentation shall contain the reason why certain, if any, plastic parts are not marked as per the exemption set out in point D(2) of Annex II, and the details and results of the calculations set out in Annex III to this Regulation.

3. Where the information included in the technical documentation for a particular model has been obtained:

(a) from a model that has the same technical characteristics relevant for the technical information to be provided but is produced by a different manufacturer, or

(b) by calculation on the basis of design or extrapolation from another model of the same or a different manufacturer, or both,

the technical documentation shall include the details of such calculation, the assessment undertaken by the manufacturer to verify the accuracy of the calculation and, where appropriate, the declaration of identity between the models of different manufacturers.

The technical documentation shall include a list of all equivalent models, including the model identifiers.

4. The technical documentation shall include the information in the order and as set out in Annex VI of Regulation (EU) 2019/XXX [OP - Please insert the number of Regulation C(2019)1796 for electronic displays]. For market surveillance purposes, manufacturers, importers or authorised representatives may, without prejudice to Annex IV, point 2(g) of Directive 2009/125/EC, refer to the technical documentation.

uploaded to the product database which contains the same information laid down in Regulation (EU) 2019/XXX [OP - Please insert the number of Regulation C(2019) 1796].

**Article 5**

Verification procedure for market surveillance purposes

Member State authorities shall apply the verification procedure set out in Annex IV to this Regulation when performing the market surveillance checks referred to in Article 3 point 2 of Directive 2009/125/EC.

**Article 6**

Circumvention and software updates

The manufacturer or importer or authorised representative shall not place on the market products designed to be able to detect they are being tested (e.g. by recognising the test conditions or test cycle) and to react specifically by automatically altering their performance during the test with the aim of reaching a more favourable level, for any of the parameters declared by the manufacturer, importer or authorised representative, in the technical documentation or included in any of the documentation provided.

The energy consumption of the product and any of the other declared parameters shall not deteriorate after a software or firmware update when measured with the same test standard originally used for the declaration of conformity except with explicit consent of the end-user prior to the update. No performance change shall occur as result of rejecting the update.

A software update shall never have the effect of changing the product's performance in a way that makes it non-compliant with the ecodesign requirements applicable for the declaration of conformity.

**Article 7**

Indicative benchmarks

The indicative benchmarks for the best-performing products and technologies available on the market at the time of adopting this Regulation are set out in Annex V.

**Article 8**

Review

The Commission shall review this Regulation in the light of technological progress and shall present the results of the assessment, including, if appropriate, a draft revision proposal, to the Consultation Forum no later than [OP – please insert date - three years after its entry into force].

This review shall in particular assess:

(a) the need to update the definitions or the scope of the Regulation;

(b) the appropriateness of the balance of stringency between larger and smaller products;

(c) the need to adapt regulatory requirements as result of new technologies available, such as HDR, 3D mode, high frame rate, resolution levels above UHD-8K;

(d) the appropriateness of the allowances;
(e) the appropriateness of setting on-mode energy efficiency requirements for digital signage displays or other displays not covered in this respect;

(f) the appropriateness of setting different or additional requirements to enhance durability, to facilitate repair and reuse, including the time frame for making available spare parts, and for including a standardised external power supply;

(g) the appropriateness of setting different or additional requirements to improve dismantling at end of life and recyclability, including in relation to critical raw materials and in relation to the conveying of information to recyclers;

(h) resource efficiency requirements for displays integrated into products covered by Directive 2009/125/EC and into any other product belonging to the scope of Directive 2012/19/EU.

Article 9
Amendment to Regulation (EC) No 1275/2008

Annex I to Regulation (EC) No 1275/2008 is amended as follows:

(a) point 2 is replaced by the following:

‘2. Information technology equipment intended primarily for use in the domestic environment, but excluding desktop computers, integrated desktop computers and notebook computers as defined in Commission Regulation (EU) No 617/2013, as well as electronic displays covered by Regulation (EU) 2019/XXX [OP – please insert here the number of the present Regulation].’

(b) in point 3, the last entry is replaced by the following:

‘and other equipment for the purpose of recording or reproducing sound or images, including signals or other technologies for the distribution of sound and image other than by telecommunications, but excluding electronic displays covered by Regulation (EU) 2019/XXX [OP – please insert here the number of the present Regulation].’

Article 10
Repeal

Regulation (EC) No 642/2009 is repealed with effect from 1 March 2021.

Article 11
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 March 2021. However, Article 6, first paragraph shall apply from [OP – please insert the day of entry into force of this Regulation].
This Regulation shall be binding in its entirety and directly applicable in all Member States.
Done at Brussels, 1.10.2019

For the Commission
The President
Jean-Claude JUNCKER