



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

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

of **XXX**

**supplementing Regulation (EU) 2017/1369 of the European Parliament and
of the Council as regards energy labelling of electronic displays**

and repealing Commission Delegated Regulation (EU) No 1062/2010

(Text with EEA relevance)

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE DELEGATED ACT

1.1. Legal and political context of the proposal

In the EU, the Ecodesign Framework Directive¹ provides a framework that manufacturers of energy-related products are required to use to improve the environmental performance of their products. The framework sets out minimum energy efficiency requirements and other environmental criteria such as water consumption, emission levels or minimum durability of certain components that manufacturers have to fulfil before they can place their products on the market.

The Energy Labelling Framework Regulation² complements the Ecodesign Framework Directive by enabling end-consumers to identify the better-performing energy-related products, via an A-G/green-to-red scale³. The legislative framework builds upon the combined effect of these two pieces of legislation.

The ecodesign and energy labelling framework are central to making Europe more energy efficient, contributing in particular to the 'Energy Union Framework Strategy'⁴ and to the priority of a deeper and fairer internal market with a strengthened industrial base⁵. Firstly, this legislative framework pushes industry to improve the energy efficiency of products and removes the worst-performing ones from the market. Secondly, it helps consumers and companies to reduce their energy bills. In the industrial and services sectors, this results in support to competitiveness and innovation. Thirdly, it ensures that manufacturers and importers responsible for placing products on the European Union (EU) market only have to comply with a single EU-wide set of rules.

A number of third countries have established or are establishing policy frameworks similar to the European one and a number of energy efficiency labels are mandatory on energy-related products that generally resemble to the European energy efficiency label, such as the Republic of South Africa⁶, Hong Kong⁷, China, Macedonia⁸, Brasil⁹, Argentina¹⁰, Peru, Chile¹¹, Turkey, Iran, Arab Emirates, Ghana and others.

¹ 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. OJ L OJ L 285, 31.10.2009, p. 10 (Ecodesign Framework Directive).

² 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 (Energy Labelling Framework Regulation)

³ Under the old Energy Labelling Framework Directive 2010/30/EU, energy labels were allowed to include A+ to A+++ classes, the new framework regulation requires a rescaling of existing energy labels, back to the original A to G scale (See also Section 1.3).

⁴ 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 a Forward-Looking Climate Change Policy. COM/2015/080 final. (Energy Union Framework Strategy)

⁵ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Upgrading the Single Market: more opportunities for people and business COM/2015/550 final. 28 October 2015. (Deeper and fairer internal market)

⁶ <https://www.savingenergy.org.za/wp-content/uploads/2018/05/Energy-Label-Learner-Guide.pdf>

⁷ <https://www.clp.com.hk/en/my-home/energy-saving-ideas/understanding-energy-labels>

⁸ <https://www.procreditbank.com.mk/understanding-energy-efficiency-labels.nspx>

⁹ <http://www2.inmetro.gov.br/pbe/>

¹⁰ <https://www.argentina.gob.ar/televisor>

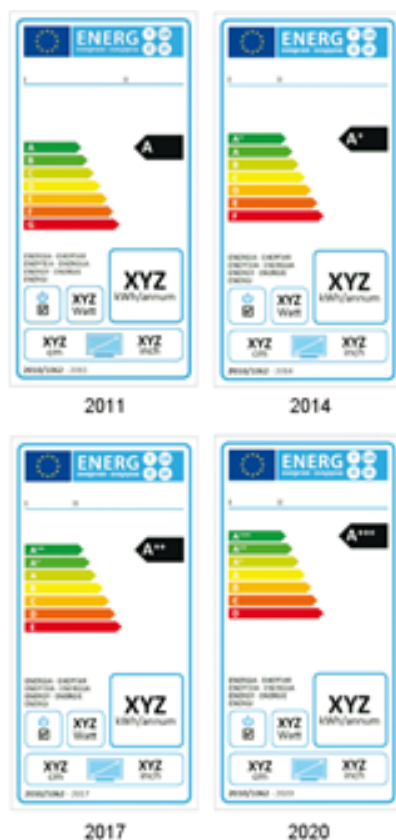


Figure 1: The four energy labels for televisions by the Regulation in force.

A study on the impact of the energy label – and potential changes to it – on consumer understanding and on purchase decisions¹² was completed in October 2014 and was the basis for the review of the energy Labelling Directive 2010/30/EU of the European Parliament and of the Council¹³. The study revealed that the energy label is recognised and used by 85 % of Europeans¹⁴ and represents the second best known symbol associated to the EU¹⁵, second to the Euro currency symbol. The majority of the EU consumers were able to correctly identify the product that was least costly to use indicating that they understand the meaning of the information in the label, such as kWh/annum. Similarly, consumers that understand the meaning of indications resulted more likely to correctly identify the product that is least costly 'for them' to run.

In August 2017, the new Energy Labelling framework Regulation (EU) 2017/1369 of the European Parliament and of the Council entered into force, repealing Directive 2010/30/EU¹⁶. Under the repealed Directive, energy labels were allowed to include A+ to A+++ classes to address the overpopulation of the top classes. Over time, due to technological development,

¹¹ <https://energiaen Chile.cl/conoce-la-nueva-etiqueta-energetica-para-televisores/>

¹² https://ec.europa.eu/info/sites/info/files/impact_of_energy_labels_on_consumer_behaviour_en.pdf

¹³ Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products, OJ L 153, 18.6.2010, p. 1

¹⁴ 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 (https://ec.europa.eu/info/sites/info/files/impact_of_energy_labels_on_consumer_behaviour_en.pdf)

¹⁵ Aster the Euro currency symbol.

¹⁶ Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products. OJ L 153, 18.6.2010, p. 1.

also the A+ to A+++ class became overpopulated, which significantly reduce the effectiveness of the labels. To resolve this, the new framework Regulation requires a rescaling of existing energy labels, back to the original A to G scale. Article 11 of the Energy Labelling framework Regulation lists five priority product groups for which new delegated acts with rescaled energy labels must be adopted at the latest on 2 November 2018. Televisions are one of the priority product groups.

Finally, several new policy initiatives indicate that ecodesign and energy labelling policies are relevant in a broader political context, and in particular in:

- the Energy Union Framework Strategy², which calls for a sustainable, low-carbon and climate-friendly economy,
- the Paris Agreement¹⁷, which calls for a renewed effort in carbon emission abatement,
- the Gothenburg Protocol¹⁸, which aims at controlling air pollution,
- the Circular Economy Initiative¹⁹, which among other things, stresses the need to include reparability, recyclability and durability in ecodesign,
- the Emissions Trading Scheme (ETS)²⁰, aim at reducing greenhouse gas (GHG) emissions in a cost-effective manner and indirectly affected by the energy consumption of the electricity using products in the scope of ecodesign and energy labelling policies, and
- the Energy Security Strategy²¹, which sets out a strategy to ensure a stable and abundant supply of energy.

Under the framework of Ecodesign and Energy Labelling, televisions and television monitors are regulated by Commission Regulation (EC) No 642/2009²² (Ecodesign) and Commission Delegated Regulation (EU) No 1062/2010 (Energy Label)²³. Article 7 of Regulation (EU) No 1062/2010 requires a review within 5 years (i.e. by December 2015).

Furthermore, the Commission's 2016-2019 Ecodesign Working Plan²⁴ also includes the review of both regulations, requiring in particular an examination of how aspects relevant to the circular economy can be assessed and taken on board. This is in line with the Circular Economy Initiative²⁵, which concluded that product design is a key in achieving the goals, as

¹⁷ Global agreement in response to climate change of 2015 (Paris Agreement)

¹⁸ Protocol to abate acidification, eutrophication and ground-level ozone of 1999 (Gothenburg Protocol)

¹⁹ [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](#) (Circular Economy Initiative)

²⁰ https://ec.europa.eu/clima/policies/ets_en (ETS)

²¹ Communication from the Commission to the European Parliament and the Council European Security Strategy. COM(2014)0330 final.

²² Commission Regulation (EC) No 642/2009 of 22 July 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for televisions. OJ L 191, 23.7.2009, p. 42–52

²³ Commission Delegated Regulation (EU) No 1062/2010 of 28 September 2010 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of televisions. OJ L 314, 30.11.2010, p. 64–80

²⁴ Communication from the Commission Ecodesign Working Plan. COM(2016) 773 final, Brussels, 30 November 2016. (Ecodesign Working Plan 2016-2019)

²⁵ 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 (Circular Economy Initiative)

it can have significant impacts across the product life cycle (e.g. in making a product more durable, easier to repair, reuse or recycle). Moreover, signage displays are specifically listed in the 2016-2019 Ecodesign Working Plan to be taken up in the revision of the existing regulations for televisions.

1.2. General context

The Ecodesign together with the Energy Labelling legislative framework²⁶ represent a push and pull market mechanism aiming at reducing carbon emissions (Figure 2) by determining a major impact on the choices that consumers make when purchasing energy consuming products.

The two policy frameworks are contributing to permit to 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.

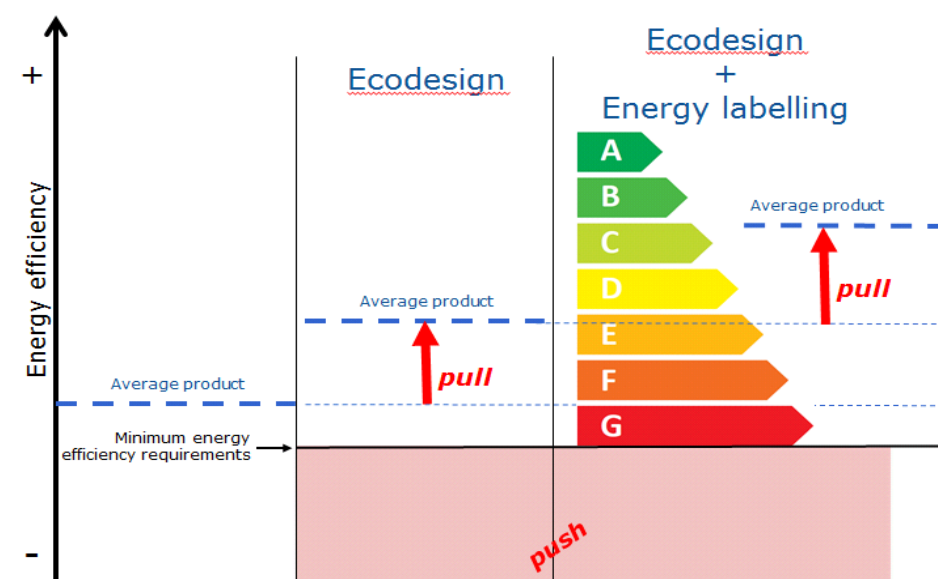


Figure 2: Effect of Ecodesign alone and when combined with Energy Labelling

The two policy frameworks also contribute to the reduction of the consumer expenditure, both by reducing the cost of the electricity bills²⁷ and the cost of products as manufacturer can reduce the variety of models to produce because of the single regulatory framework at EU level.

There have been relevant improvements in the energy efficiency of all electronic displays, mostly thanks to the television manufacturing sector. Computer monitors in particular are not going to represent a major share of energy consumption in the coming years. However, it is

²⁶ 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 (Energy Labelling Framework Regulation).

²⁷ Nearly Euro 500 per year for the average EU household.

estimated that all electronic displays, mainly because they are becoming bigger and more numerous, will continue to account for a sizeable share of energy use, unless corrective action is taken. This is the case of signage displays in particular, which are generally of bigger size and have far higher luminance, as Figure 3 illustrates.

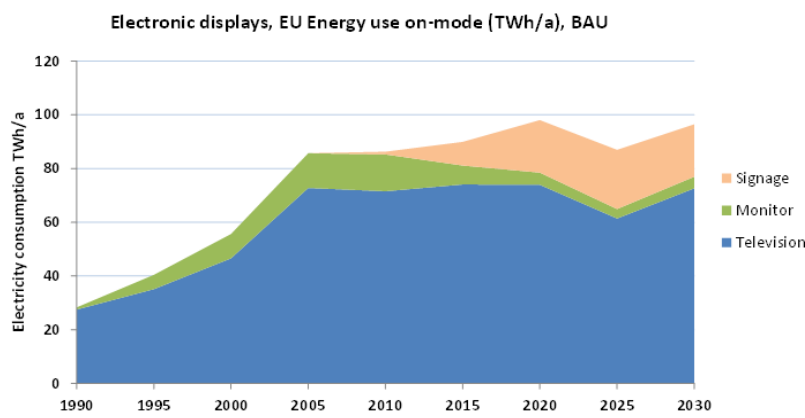


Figure 3: Yearly energy use in TWh, in on-mode of the three most relevant types of electronic displays, 1990-2030 in a business as usual (BAU) scenario (source VHK, 2018).

So far, of the different types of electronic displays, only TVs have been subject to mandatory energy labelling measures (under Regulation (EU) 1062/2010) and ecodesign requirements (laid down by Regulation (EC) 642/2009). Other displays are only covered by horizontal requirements (i.e. Standby Commission Regulation (EC) 1275/2008).

The regulations in force are based on a preparatory study and assessment that now dates back 10 years²⁸. As required by the review clause, in 2012, the Commission started reviewing the two television regulations with a study and presented its conclusions to stakeholders. The review showed already at that time that regulatory gaps and market failures existed, thus preventing full achievement of the identified energy savings potential. The collection of information was extended and data analysis repeated, highlighting the opportunity of corrective action. In total a database of over 3 thousand models of electronic displays placed on the EU market was analysed between 2012 and the end of 2017 in four different stages.

Market and regulatory failures have been highlighted since the beginning of the review and a number of new issues have emerged in the meantime that need to be corrected and that can be summarised as follows:

- insufficiently stringent minimum and ecodesign requirements and energy labelling applying to TVs due to unpredicted technological change and which led to overpopulating the top classes: already in 2017 over 85 % of televisions sold were in classes above "B";
- rapidly progressing functional convergence between different electronic displays, such as televisions, computer monitors, and signage displays, creating possible regulatory loopholes. TVs have been increasingly enabled for web browsing, for watching Internet streamed content or even for gaming and other displays and a variety of different displays are commonly used to watch content traditionally viewed only on TVs. Moreover the obsolete definition of "television monitor" in the

²⁸ The preparatory study for the regulations in force was performed in 2006-2007, during an unprecedented technology and market revolution and is available from <https://circabc.europa.eu/w/browse/5263110f-17fc-465b-b1b9-b64552035b03>

Regulation in force may be interpreted as covering many of the computer monitors now on the market²⁹;

- lack of requirements for new energy-intensive features, such as high dynamic range (HDR), that first appeared in premium models in 2016 and is progressively available in more affordable models (although the availability of HDR-enabled content is still extremely limited). HDR, when poorly implemented, can more than double the energy consumption of the electronic display;
- lack of requirements for resource efficiency aspects.

The aim of the proposed Regulation on energy labelling is to provide a renewed incentive to manufacturers to improve the energy efficiency of electronic displays, reboosting the market take-up of energy-efficient products mainly by:

- extending its scope to the most common electronic displays;
- rescaling the energy label, now ranging from A+++ to D (Figure 1), to the original A to G scale;
- providing customers with indications in the label that better correspond to real-life use and enable them to make a better informed purchase choice, and better compare products that are comparable.

1.3. Existing provisions in the area of the proposal

The following measures, currently in force, address the environmental performance of electronic displays:

- Directive 2010/30/EU³⁰ on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products;
- Directive 2009/125/EC³¹ establishing a framework for the setting of ecodesign requirements for energy-related products ;
- Regulation (EU) No 1062/2010³² with regard to energy labelling of televisions;
- Regulation (EC) No 642/2009³³ with regard to ecodesign requirements for televisions.

Moreover, Commission Decision 2009/300/EC establishing the revised ecological criteria for the award of the Community Eco-label covers televisions with some stricter energy efficiency requirements and addresses other environmental issues³⁴.

Furthermore, standby Regulation 1275/2008 covers the displays not covered by the Television Regulation. Finally, monitors and signage displays were included in the now elapsed EU-US Energy Star Agreement (in Annex C). As a result, monitors and signage displays are today no longer covered by any labelling programme, even on voluntary basis, and no labelling instrument exist to cover these products as public procurement criteria.

²⁹ Definitions are based on obsolete interface definitions and cause legal uncertainty.

³⁰ OJ L 153, 19.05.2010, p. 1

³¹ OJ L 285, 31.10.2009, p. 10

³² OJ L 314, 30.11.2010, p. 64

³³ OJ L 191, 23.07.2009, p. 42

³⁴ About a hundred television models have been certified with an Ecolabel since its establishment 9 years ago. Requirements include e.g. absence of the most toxic flame retardant (FR) additives, design facilitating repair and dismantling at end of life.

1.4. Consistency with other EU policies and objectives

Promoting market take-up of efficient electronic displays contributes to 2020 and 2030 energy efficiency and greenhouse gas emission reductions objectives³⁵. It aims to support more efficient and sustainable use of resources, protect the environment, strengthen the EU's leadership in developing new green technologies, improve the business environment and help consumers make more informed choices.

2. CONSULTATIONS PRIOR TO THE ADOPTION OF THE ACT

2.1. Consultation of interested parties

EU and international stakeholders and Member States' experts have participated in the process from the beginning.

The proposal for energy labelling was discussed together with potential ecodesign requirements in four different Consultation Forums (CF) with Member State experts, representatives of manufacturers, environmental non-governmental organisations ('NGOs') and consumer organisations. A number of representatives of other organisations also took part in the discussions, such as European organisations representing the recycling industry, repairers, waste management and environmental services (municipalities and the private sector).

All relevant working documents were sent to the Member States, the European Parliament and stakeholders and were published in the Commission's CIRCA website 30 days before the CF meetings. Following the CF meetings stakeholders were given an additional 30 days for submitting written comments (available on the CIRCA³⁶ website).

Furthermore, specific aspects of individual requirements were discussed between Commission staff and various stakeholders at several bilateral and multilateral meetings between 2013 and March 2018. The process was conducted in an open process, taking into account input from all relevant stakeholders and independent technical experts.

In principle, the proposed energy labelling scheme for electronic displays has been supported by Member States and stakeholders.

Regarding the product scope, following the CF in 2012 and the discussion held in a previous CF in 2009³⁷, an overwhelming majority of Member States and NGOs agreed on a proposed extension of the labelling scheme to electronic displays other than televisions. Manufacturers, however, requested exceptions or different requirements for specialised displays, such as public displays, professional monitors for graphic applications and broadcast monitors.

The proposed energy labelling measure incorporates the comments expressed by Member States and stakeholders at and after the three CF meetings.

During the preparatory process, additional additional evidence and data has been collected for the Impact Assessment of 2013³⁸ and its update in 2015 (see further). Market and technical

³⁵ I.e. 20% energy savings by 2020 and 32.5% by 2030.

³⁶ <https://circabc.europa.eu/w/browse/d46d97b6-b78b-45ce-b0be-56864222a689>

³⁷ ENER Lot 3, Computers and computer displays, resulting in the Computers ecodesign Regulation 617/2013.

³⁸ This first impact assessment was approved by the Impact Assessment Board on 4 September 2013.

data were acquired through several bilateral and multilateral meetings with stakeholders or via publicly available data³⁹.

Furthermore, the Commission established a dataset of information about the environmental performance of electronic displays (mainly, televisions and computer monitors), updated four times to reflect the market, to support the development of the proposed ecodesign and energy labelling measures. This helps to ensure that the requirements are laid down at the proper ambition level and that they reflect recent technology developments.

An online public consultation⁴⁰ took place from 12 February to 7 May 2018, to collect stakeholders' views on issues such as the expected effect of potential legislative measures on business and energy consumption trends.

The public consultation contained a common part on Ecodesign and Energy labelling, followed by product-specific questions on (i) refrigerators, (ii) dishwashers, (iii) washing machines, (iii) televisions, (iv) electronic displays and (v) lighting.

1 230 responses were received of which 67 % were consumers and 19 % businesses (of which three quarters were SMEs and one-quarter large companies). NGOs made up 6 % of respondents, and 7 % were "other" categories. National or local governments were under 1 % of respondents, and 0,25 % came from national market surveillance authorities (MSAs).

It should be noted that of the 1 230 respondents, 719 (58 %) replied only to lighting related questions as part of a coordinated campaign on lighting in theatres.

Some 63 % of the participants were in favour of including Ecodesign requirements on reparability and durability, and 65 % of respondents considered that this information should be on energy labels.

On the reparability of products, participants valued mostly as "very important" to "important" (in the range 62 %-68 %)⁴¹ each of the following: a warranty, the availability of spare parts, and a complete manual for repair and maintenance. The delivery time of spare parts was rated as 56 % "very important" to "important".

For electronic displays, the public consultation was mainly focused on options for a redesigned energy label. The majority of respondents considered that the label should show at least the display screen area, its resolution level, the use of high dynamic range (HDR) and the annual power consumption.

2.2. Impact assessment

An impact assessment (IA) of the possible policy measures was carried out pursuant to Article 15(4)(b) of Directive 2009/125/EC. A previous impact assessment was prepared in 2013 (approved by the Impact Assessment Board (IAB) on 4 September 2013 and a full update was completed in 2015. The impact assessment accompanying the current proposal is an extensive review of the previous one, using updated evidence additional stock market data and taking into consideration the comments received before, during and after the four mentioned Consultation Forums, the position letters addressed to the Commission over the

³⁹ The Regulation in force includes information on availability requirements that was particularly useful for collecting verifiable, non-anonymised and official data. The Energy Star database was and additional source of relevant information, particularly for monitors and signage displays.

⁴⁰ https://ec.europa.eu/info/consultations/public-consultation-ecodesign-and-energy-labelling-refrigerators-dishwashers-washing-machines-televisions-computers-and-lamps_en

⁴¹ Scale ranging from not important, somewhat important, important, very important, don't know or no opinion and no answer

last 6 years from the beginning of the review process and the online public consultation. The Regulatory Scrutiny Board required a review of a first draft of the Impact Assessment submitted, improving clearness in respect to the problem definition and better integration of circular economy aspects. A second edition, with improved coverage of circular economy aspects and better description of the consultation process was given a positive opinion.

Different policy options for achieving a market transformation fulfilling the appropriate level of ambition were considered, including: no new EU action ('business-as-usual' of BAU; termination of the existing television regulations, a self-regulation measure concluded by industry, all discarded, and revision of the existing television regulations (articulated into three options, indicated as 'ECO', 'Ambi' and 'Leni').

The impacts of a policy option comprising an introduction of a new energy label for televisions and other electronic displays (together with new ecodesign requirements) were assessed against the 'business-as-usual' scenario. Three different proposals for revised energy labelling (and ecodesign) measures were analysed. The ECO proposal corresponds to the working documents presented to the CF of July 2017 and based on the proposals presented during the two previous discussions of 2014 and of 2012. The Ambi option partially⁴² incorporates the strong and renewed request by various Member States and NGOs to extend the scope to signage displays, while the Leni fully responds to the manufacturers request for more lenient requirements for new features and technologies, such as UHD/HDR and OLED.

Based on an assessment of costs and benefits, a combination of energy labelling and ecodesign requirements for electronic displays emerged as a preferred option to address regulatory and market failures in the electronic displays sector.

Consequently, the option of introducing a labelling scheme for energy efficiency of the three main display product categories was chosen, together with ecodesign requirements, as it delivers the highest savings.

An internal Consultation process followed, with a number of suggestions and detailed improvements incorporated in the draft legislative proposal and in accompanying documents.

3. LEGAL ELEMENTS OF THE DELEGATED ACT

The proposed measure applies to electronic displays irrespective of the display technology. Displays not in the scope of the Ecodesign Regulation for on-mode requirements are completely out of scope of energy labelling, apart from signage displays, where a correction factor is used to take into account the higher luminosity characterising this product group in relation to televisions or computer monitors⁴³.

Displays integrated into other products, such as computers, refrigerators, vending machines, etc. are completely out of the scope of both the Ecodesign and Labelling Regulations, as are displays in means of transport, and medical displays.

The proposed measure uses the same "formula" of eco-design to calculate the Energy Efficiency Index (EEI) in order to have a correct correspondence between the lowest limit of the "G" class and the maximum energy use allowed in the Ecodesign Regulation to access the

⁴² No on-mode minimal energy efficiency requirements are being proposed so far in Ecodesign but Energy Labelling is proposed. The Ecodesign proposal includes a review clause for setting on-mode minimal requirements on signage displays and possibly further extend the scope to modular systems.

⁴³ New, 'self-reflective' technologies known as 'electronic ink' are in any case emerging for indoor and outdoor signage display products. These technologies have outstanding efficiency in applications with moderate image change rate, as no backlight is necessary. Energy is almost only used to change the picture, and a small PV panel and/or a battery can provide the necessary power.

EU market. The requirements will be introduced in three tiers, with Tier 2 (by 2022) of ecodesign involving the elimination of the ‘G’ class and Tier 3 (by 2024) the elimination of the ‘F’ class.

Table 1: ECO energy efficiency classes

| Energy efficiency class | New EEI |
|-------------------------|------------------------|
| A | $EEI \leq 0.30$ |
| B | $0.30 < EEI \leq 0.40$ |
| C | $0.40 < EEI \leq 0.50$ |
| D | $0.50 < EEI \leq 0.60$ |
| E | $0.60 < EEI \leq 0.75$ |
| F | $0.75 < EEI \leq 0.90$ |
| G | $0.90 < EEI$ |

A comparison between the current energy classes and the new ones can be only approximated, as the formula to set the limits is different: a linear bar in the current Regulation, a curve in the new proposal. **Figure 4** provides such an illustration, for comparison of relatively small displays.

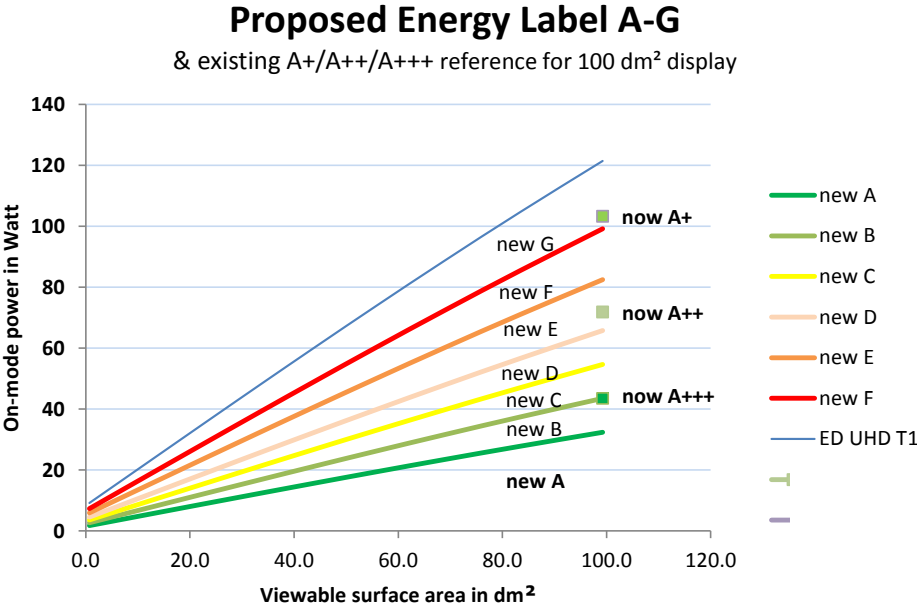


Figure 4: Approximate comparison between new and old energy labelling classes.

Figure 5 provides a visual distribution of the electronic displays which are part of the 2014-2017 dataset used in the hypothesis that the same displays would be on the market when rescaling the televisions and setting labelling requirements for the other monitors would not be within the scope of the current Regulation. All displays above the red curve would be eliminated by the minimum ecodesign requirements. However, it is unlikely that models on the market in 2014 will still be available on the market in 2021.

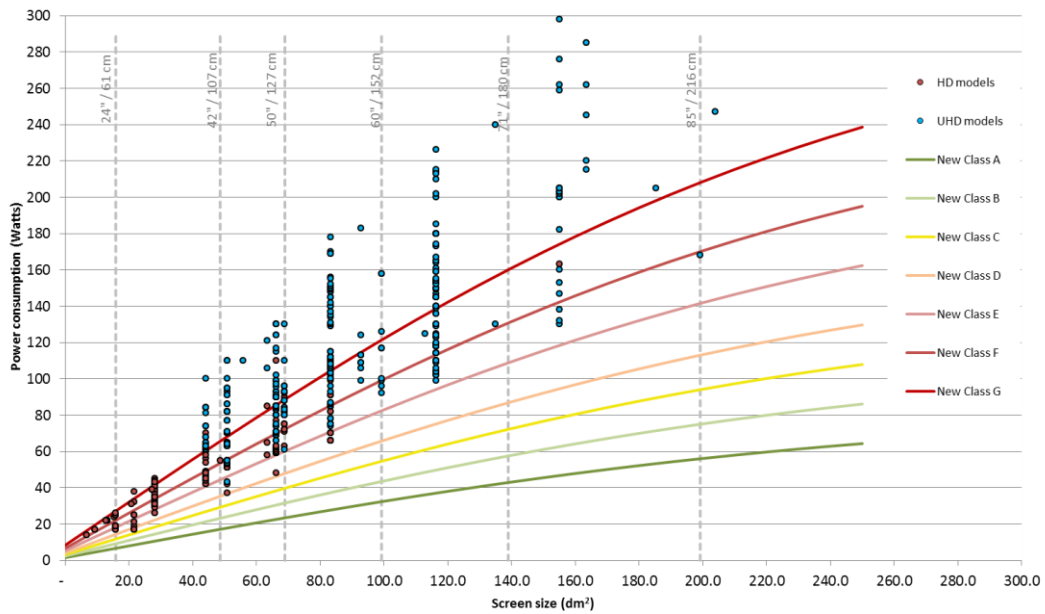


Figure 5: Distribution of displays from the 2018 dataset ‘unadjusted’ to the new labelling classes.

Figure 6 includes an adjustment of the energy efficiency to the same dataset on the basis of average improvements observed when comparing the datasets over the years (from 2012 to 2017).

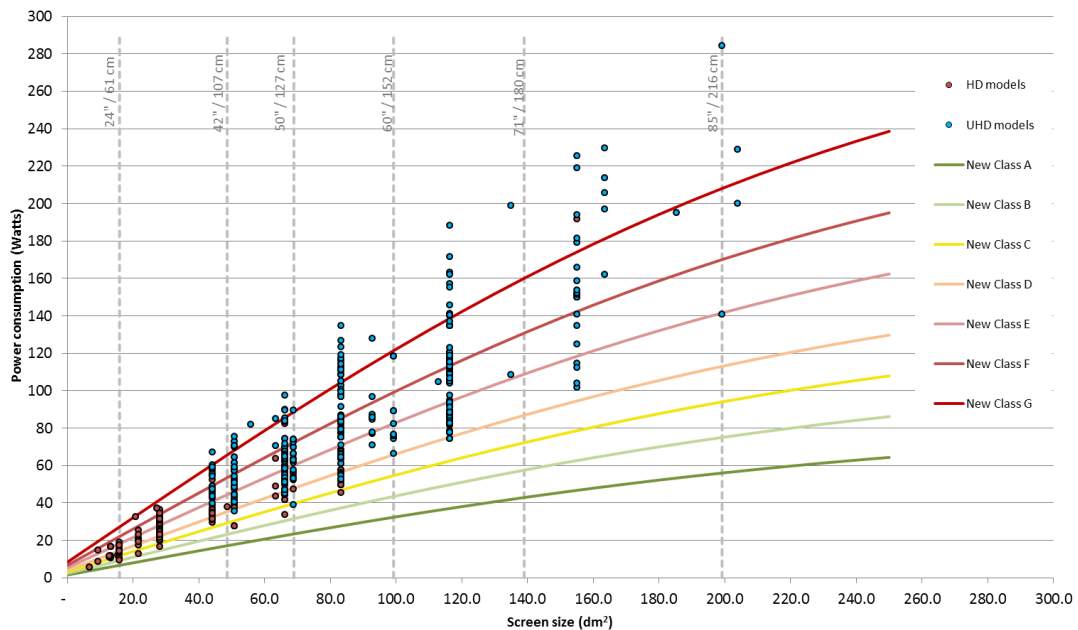


Figure 6: Distribution of displays from the 2018 dataset with projection of expected improvements at entry in force of the rescaled labels.

Figure 7 projects the same dataset with the same assumptions showing the hypothetical distribution by 2025 and by 2030. If Ecodesign Tier 2 and Tier 3 are applied, models in class G will be eliminated by 2022 and models in class F by 2024.

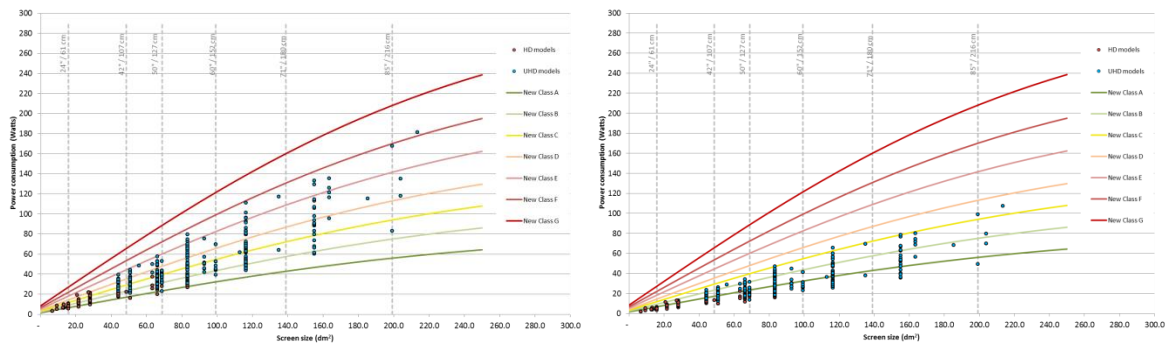


Figure 7: Distribution of displays from the 2018 dataset with projection of expected improvements by 2025 (left) and 2030 (right).

Figure 8 illustrates the expected trend in energy labelling under the ECO scenario. Under the Lenient scenario, the lower classes would include more products (as more products are allowed on the market under Ecodesign). In the Ambitious scenario, where signage displays fall within the scope, it is also expected that the lower energy label classes will be more populated. ‘Edx’ indicates the three different tiers proposed in ecodesign.

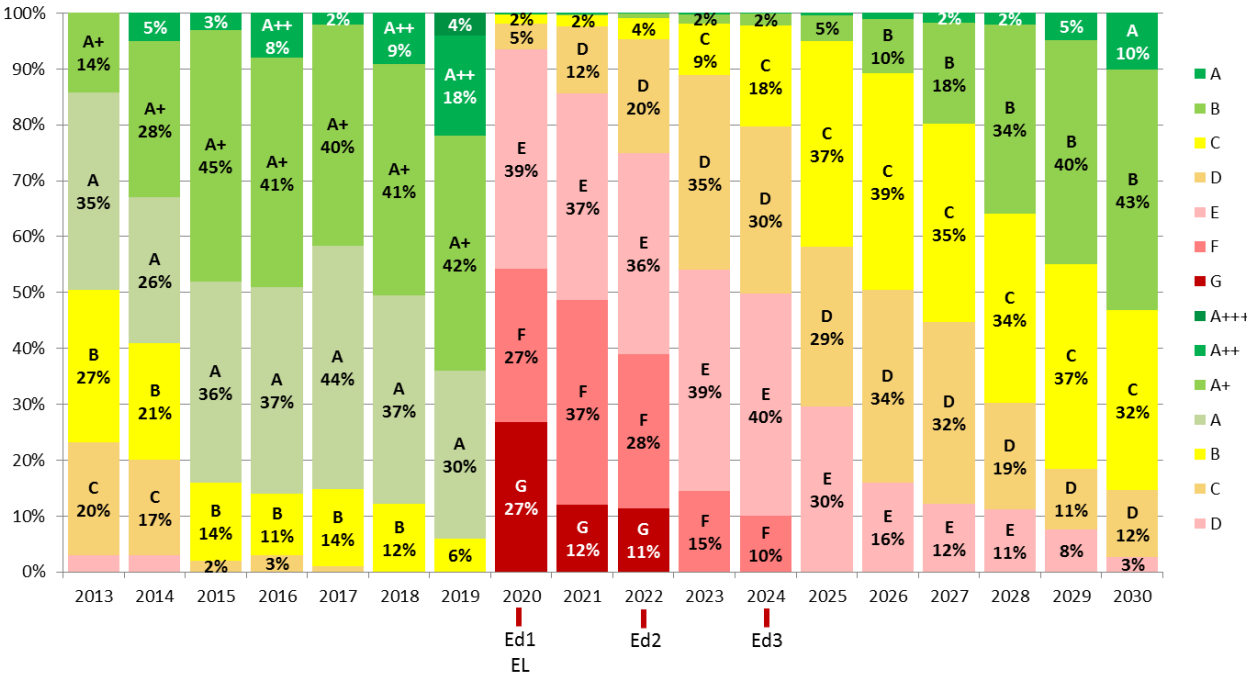


Figure 8: Energy label class distribution of standard electronic display models available in the EU over the period 2010-2030 (actual situation in 2013-2016 and projected situation for 2017-2030) with proposed ecodesign and energy labelling measures.

There are considerable uncertainties in future projections for this product group because new technologies may result in ‘tipping points’ improving energy efficiency⁴⁴ and new features eroding some savings.

Finally, no direct relation has been demonstrated between retail prices and the level of energy efficiency in electronic displays, as a number of factors, other than energy use, are decisive in determining the product cost, such as display size, adoption of new technologies, available features particularly in terms of ‘smartness’, etc.

⁴⁴ Such as self-reflective, self-emissive or transfective technologies, now at the demonstrative stage.

The new label would include two energy classes, one for the traditional way of playing images⁴⁵ and a separate one for HDR, shown separately in the label. The reason is that because of the novelty of HDR and the scarce data available, no minimum energy efficiency index has been set in the Ecodesign Regulation and no weighted mix of the standard dynamic range (SDR) and HDR would be acceptable⁴⁶.

Displays of the same size and resolution level should be compared. Therefore, the label would contain the basic information to compare comparable displays. Finally, the label would indicate whether the display is powered via an external and standardised power supply⁴⁷ and a pictogram variant would indicate if the power supply is present in the packaging or not. The diffusion of standardised external power supplies (EPS, also improperly called "chargers"), converting AC 230 Volt current into low voltage DC current has a multi-fold relevance in terms of reparability, durability, health and recyclability, i.e.:

- repairs are more convenient: A broken EPS can be replaced by any user at moderate/low cost while an internal one would require a technician and often is not cost-effective⁴⁸;
- there is an unbundling of products with different lifespans⁴⁹;
- fewer or no flame retardants are needed: removing the power source from the interior of an electronic display reduces or possibly nullifies the need to use flame retardants in plastics⁵⁰.

4. LEGAL BASIS, SUBSIDIARITY AND PROPORTIONALITY

4.1. Legal basis

The proposed Regulation is an delegated measure adopted pursuant to Regulation (EU) 2017/1369, in particular Articles 11 and 16 thereof. Regulation (EU) 2017/1369, in turn, is based on Articles 194(2) of the Treaty.

4.2. Subsidiarity principle

The adoption of energy labelling measures for electronic displays by individual Member States, through their national legislation, would create obstacles to the free movement of goods within the EU. It is necessary for such measures in force throughout the EU to have the same content. In line with the principle of subsidiarity, it is thus appropriate for the measures in question to be adopted at EU level.

⁴⁵ Indicated as Standard Dynamic Range or SDR in the working document)

⁴⁶ How long a display is used in SDR or HDR will change in the coming years but not at the same rate and proportion (e.g. a monitor used for office use would make no use at all of HDR, a TV typically relying on broadcast or streamed content. Broadcasters will probably be slow to move on, as almost no programme is in 4k while even displays of 8k will soon be available. We can expect, on the contrary, that signage displays showing advertisements and needing to capture people's attention will largely make use of HDR, but, again, not all signage is used for commercial adverts.

⁴⁷ Such as e.g. USB with PD (Power Delivery) and 'Type-C' connector that can power a 100 W display such such as a television of over 60-inches.

⁴⁸ E.g. because integrated on the main electronic board and with a cost comparable to a new display.

⁴⁹ A standard EPS can have its own lifespan, unbundled from different products that it can power, in the same way that a 'USB charger' (that is an EPS) can be used for different smartphones and vice versa.

⁵⁰ Flame retardants hinder recyclability and halogenated substances in particular are highly toxic and ecotoxic during the display's entire lifetime. Pilot projects have demonstrated the possibility of avoiding use of flame retardants by removing the power supply from inside the TV (e.g. <https://corporate.bestbuy.com/fewer-chemicals-same-fire-safety-for-insignia-tvs/>)

4.3. Proportionality principle

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 electronic displays. It repeals and replaces an existing Regulation. It sets requirements that act as an incentive for technology leaders to invest in high-efficiency electronic displays.

5. CHOICE OF INSTRUMENT

Proposed instrument: Delegated Regulation.

Other means would not be appropriate for the following reason(s):

The form of the implementing measure is a regulation, which is directly applicable in all Member States. This has been chosen because the objectives of the action can be achieved most efficiently by introducing fully harmonised requirements throughout the EU. Furthermore, it repeals and replaces an existing Commission regulation. Moreover, it ensures that national and EU administrations will not incur costs transposing the implementing legislation into national legislation.

6. BUDGETARY IMPLICATION

The proposal has no implications for the EU budget.

7. ADDITIONAL INFORMATION

Review/revision/sunset clause

The proposal includes a review clause.

European Economic Area

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

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

of XXX

**supplementing Regulation (EU) 2017/1369 of the European Parliament and
of the Council as regards energy labelling of electronic displays**

and repealing Commission Delegated Regulation (EU) No 1062/2010

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to 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 28 July 2017 setting a framework for energy labelling and repealing Directive 2010/30/EU⁵¹, and in particular Article 11(5) and Article 16 thereof,

Whereas:

- (1) Regulation (EU) 2017/1369 of the European Parliament and of the Council 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) Provisions on the energy labelling of televisions were established by Commission Delegated Regulation (EU) No 1062/2010⁵².
- (3) The Ecodesign Working Plan 2016-2019 established by the Commission in application of Article 16(1) of Directive 2009/125/EC sets out the working priorities under the eco-design and energy labelling framework for the period 2016-2019. The 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 the current regulations.
- (4) Measures from the 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. Electronic displays are one of the product groups listed in the Working Plan, with an estimated 39 TWh of annual final energy savings in 2030.
- (5) Televisions are among the product groups mentioned in Article 11(5)(b) of Regulation (EU) 2017/1369 for which the Commission should adopt a delegated act introducing an A to G rescaled label.

⁵¹ OJ L 198, 28.07.2017, p. 1.

⁵² Commission Delegated Regulation (EU) No 1062/2010 of 28 September 2010 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of televisions (OJ L 314, 30.11.2010, p. 64).

- (6) Regulation (EU) No 1062/2010 required the Commission to review the regulation in light of technological progress.
- (7) The Commission has reviewed Regulation (EU) No 1062/2010 pursuant to Article 7 of that Regulation and analysed technical, environmental and economic aspects of televisions and other electronic displays, including monitors and signage displays as well as real-life user understanding and behaviour of different labelling elements. 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 referred to in Article 14 of Regulation (EU) 2017/1369.
- (8) It appears from the review that the same requirements for televisions should also apply to monitors because of the rapidly increasing functionality overlap between such displays and televisions, whilst for signage displays specific energy requirements should be set. Moreover, signage displays are specifically listed in the Commission's 2016-2019 Ecodesign Working Plan to be taken up in the revision of the existing regulations for televisions. The scope of this Regulation should thus comprise electronic displays including televisions, monitors and signage displays.
- (9) The annual energy consumption in 2016 of televisions in the Union constituted more than 3 % of the Union's electricity consumption. The projected energy consumption of televisions, monitors and signage displays in a business as usual scenario is expected to be close to 100 TWh/yr in 2030. This Regulation, together with the accompanying ecodesign regulation, is estimated to reduce the overall consumption up to 39 TWh/yr by 2030.
- (10) The high dynamic range (HDR) encoding function may lead to a different energy use, suggesting a separate energy efficiency indication for such a function.
- (11) The material efficiency aspect of electronic displays identified as significant for the purposes of this Regulation is the encouragement of unbundling of standardised external power supplies.
- (12) The information provided on the label for the electronic displays in the scope of this Regulation should be obtained through reliable, accurate and repeatable measurement procedures, which take into account the recognised state of the art measurement methods including, where available, harmonised standards adopted by the European standardisation organisations, as listed in Annex I to Regulation (EU) No 1025/2012 of the European Parliament and of the Council⁵³.
- (13) Recognising the growth of sales of energy-related product through web-stores and internet sales platforms, rather than directly from suppliers, it should be clarified that service providers of web-stores and internet sales platforms should be responsible for displaying the label provided by the supplier in proximity to the price, as from Commission Delegated Regulation (EU) No 518/2014⁵⁴.

⁵³ Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation, amending Council Directives 89/686/EEC and 93/15/EEC and Directives 94/9/EC, 94/25/EC, 95/16/EC, 97/23/EC, 98/34/EC, 2004/22/EC, 2007/23/EC, 2009/23/EC and 2009/105/EC of the European Parliament and of the Council and repealing Council Decision 87/95/EEC and Decision No 1673/2006/EC of the European Parliament and of the Council (OJ L 316, 14.11.2012, p. 12).

⁵⁴ Commission Delegated Regulation (EU) No 518/2014 of 5 March 2014 amending Commission Delegated Regulations (EU) No 1059/2010, (EU) No 1060/2010, (EU) No 1061/2010, (EU) No 1062/2010, (EU) No 626/2011, (EU) No 392/2012, (EU) No 874/2012, (EU) No 665/2013, (EU) No

- (14) To improve the effectiveness of this Regulation, products that automatically alter their performance in test conditions to improve the declared parameters should be prohibited.
- (15) The measures provided for in this Regulation were discussed by the Consultation Forum referred to in Article 14 of Regulation (EU) 2017/1369.
- (16) Regulation (EU) No 1062/2010 should be repealed,

HAS ADOPTED THIS REGULATION:

Article 1

Subject matter and scope

- 1. This Regulation establishes requirements for the labelling of, and the provision of supplementary product information on electronic displays that are primarily intended for household, office or commercial use, including televisions, monitors and signage displays.
- 2. This Regulation shall not apply to the following:
 - (a) any electronic display with a surface area smaller than or equal to 100 square centimetres;
 - (b) digital photo frames;
 - (c) projectors;
 - (d) all-in-one video conference systems;
 - (e) medical displays;
 - (f) electronic displays where the main function of the display is status display or control or function activation;
 - (g) electronic displays integrated or to be integrated exclusively into products whose main function is not displaying images;
 - (h) broadcast displays;
 - (i) professional displays;
 - (j) security displays;
 - (k) digital interactive whiteboards;
 - (l) digital signage displays which meet any of the following characteristics:
 - (1) designed and constructed as a display module to be integrated as a partial image area of a larger display screen area and not intended for use as a stand – alone display device;
 - (2) distributed self-contained in an enclosure for permanent outdoor use;
 - (3) distributed self-contained in an enclosure with a visible display screen area less than 30dm² and greater than 130 dm²;
 - (4) the display has a pixel density less than 230 pixels/cm² and more than 3025 pixels/cm²;

811/2013 and (EU) No 812/2013 with regard to labelling of energy-related products on the internet. OJ L 147, 17.5.2014, p. 1

- (5) a peak white luminance in standard dynamic range (SDR) operating mode of greater than or equal to 1000 cd/m²;
- (6) no video signal input interface and display drive allowing the correct display of a standardised dynamic video test sequence for power measurement purposes.

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 a 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 network channels;
- (4) ‘*monitor*’ or ‘*computer monitor*’ means an electronic display intended for one person for close viewing such as in a desk based environment;
- (5) ‘*digital photo frame*’ means an electronic display that displays exclusively still visual information;
- (6) ‘*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;
- (7) ‘*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;
- (8) ‘*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) High Network Availability (HiNA) as defined in Article 1 of Commission Regulation (EC) No 1275/2008;
- (9) ‘*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 features:
 - (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 or 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.
- (10) ‘*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 or fixed to a physical structure for viewing by multiple people;
 - (b)
 - (c) to be necessarily used with computer software with specific functionalities to manage content and interaction;
 - (d) integrated or or to be integrated with a computer for running the software in point (c);
 - (e) a display surface greater than 40 dm²;
 - (f) user interaction by touch or other means such as hand, arm gesture or voice.
- (11) ‘*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 RGB 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;
- (12) ‘*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 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.
- (13) *'digital signage display'* or *'signage display'* means an electronic display that is designed primarily to be viewed by multiple people in non-desktop based 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;
 - (e) does not integrate a tuner to display broadcast signals.
- (14) *'integrated'* means organized and structured inside a product so that all constituent units of the whole function cooperatively;
- (15) *'Medical display'* means an electronic display covered by the scope of:
- (a) Council Directive 93/42/EEC concerning medical devices; or
 - (b) Regulation (EU) 2017/745 of the European Parliament and of the Council on medical devices; or
 - (c) Council Directive 90/385/EEC of 20 June 1990 on the approximation of the laws of the Member States relating to active implantable medical devices⁵⁵; or
 - (d) Directive 98/79/EC of the European Parliament and of the Council on in vitro diagnostic medical devices; or
 - (e) Regulation (EU) 2017/746 of the European Parliament and of the Council on in vitro diagnostic medical devices; or
 - (f) any amendment to or modification of the above mentioned legislation.
- (16) *'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.

Article 3

Obligations of suppliers

1. Suppliers of electronic displays shall ensure that:
 - (a) each electronic display is supplied with a label in printed form in the format and containing the information set out in Annex III;
 - (b) the parameters of the product information sheet, as 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;

⁵⁵ OJ L 189, 20.7.1990, p. 17.

- (d) the content of the technical documentation uploaded into the product database is according to Annex VI;
 - (e) any visual advertisement for a specific model of electronic display, including on the Internet, contains the energy efficiency class and the range of efficiency classes available on the label in accordance with Annex VII;
 - (f) any technical promotional material concerning a specific model of electronic display, including on the Internet, which describes its specific technical parameters, includes the energy efficiency class of that model and the range of efficiency classes available on the label, in accordance with Annex VII;
 - (g) a label shall be printed on the packaging or stuck on it;
 - (h) an electronic label in the format and containing the information as set out in Annex III shall be made available to dealers for each electronic display model;
 - (i) an electronic product information sheet, as set out in Annex V, is made available to dealers for each electronic display 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 of electronic displays shall ensure that:

- (a) each electronic display, at the point of sale, bears the label provided by suppliers in accordance with point (a) of Article 3(1) displayed on the front of the appliance or hung on it or placed in such a way as to be clearly visible and unequivocally associated to the specific model; provided that the electronic display is kept in on-mode when visible to customers for sale, the electronic label in accordance with Article 3.1(h) displayed on the screen may replace the printed label;
- (b) where an electronic display model is displayed in a point of sale without any unit displayed out of the box, the label printed on the box or stuck on it shall be visible;
- (c) in the event of distance selling or telemarketing, the label and product information sheet are provided in accordance with Annexes VII and VIII;
- (d) any visual advertisement for a specific model of electronic display 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 electronic display, 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 efficiency classes available on the label, in accordance with Annex VII.

Article 5

Obligations of service provider on internet hosting platforms

Where a hosting service provider as referred to in Article 14 of Directive 2000/31/EC of the European Parliament and of the Council⁵⁶ allows the selling of electronic displays through its Internet website, 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 procedure laid down in Annex IX to this Regulation when performing the market surveillance checks referred to in Article 8(3) 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 review, including, if appropriate, a draft revision proposal, to the Consultation Forum no later than five years after its entry into force.

The review shall in particular assess the following:

- (a) the verification tolerances set out in Annex IX;
- (b) whether other electronic displays should be included in the scope;
- (c) whether it is feasible to develop appropriate notification methods for the energy consumption;
- (d) the possibility to introduce further requirements on durability or reparability.

In addition, the Commission shall review the label to rescale it when the requirements of Article 11 of Regulation (EU) 2017/1369 are met.

⁵⁶ Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (OJ L 178, 17.7.2000, p. 1).

Article 9

Repeal

Regulation (EU) No 1062/2010 is repealed with effect from *[OP please insert the date - the day of entry into force of this Regulation]*.

Article 10

Entry into force and application

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

It shall apply from 1 April 2021. However, point (a) of Article 3(a) shall apply from 1 January 2021.

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