

## ANNEX

### **EU Ecolabel criteria for awarding the EU Ecolabel to electronic displays FRAMEWORK**

#### **Aims of the criteria**

The EU Ecolabel criteria target the best electronic displays on the market, in terms of environmental performance. The criteria focus on the main environmental impacts associated with the life cycle of these products and promote circular economy aspects.

In particular, the criteria aim to promote products that are energy efficient, repairable, easy to dismantle (in order to facilitate the recovery of resources from recycling at the end of their useful life), have a minimum recycled content and which may only contain a limited amount of hazardous substances.

To this end, the criteria:

- set requirements on energy consumption demanding best available energy efficient classes and set limits on the maximum on mode energy consumption;
- set power management requirements;
- recognise and reward the products with restricted use of hazardous substances;
- set requirements to ensure a minimum content of post-consumer recycled plastics;
- set requirements to ensure reparability through proper design of the product, and availability of repair manual, of repair information and of spare parts;
- set requirements to ensure a proper end-of-life management requesting provision information to improve recyclability, limiting the material selection and promoting an easy to dismantle design;
- set requirements on corporate social responsibility, addressing labour conditions during manufacturing and the sourcing of tin, tantalum, tungsten and gold from conflict-affected and high-risk areas.

The importance of correct use and disposal of electronic displays on life cycle impacts is also addressed by setting requirements on user instructions and consumer information.

The criteria for awarding the EU Ecolabel to ‘electronic displays’ are as follows:

1. Energy consumption
  - 1.1 Energy savings
  - 1.2 Power management
2. Restricted substances
  - 2.1 Excluded or limited substances
  - 2.2 Activities to reduce supply chain fluorinated greenhouse gas (GHG) emissions
3. Reparability and commercial guarantee
4. End-of-life management
  - 4.1 Material selection and information to improve recyclability
  - 4.2 Design for dismantling and recycling
5. Corporate social responsibility

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- 5.1 Labour conditions during manufacture
- 5.2 Sourcing of ‘conflict-free minerals’
- 6. Information criteria
  - 6.1 User information
  - 6.2 Information appearing on the Ecolabel

**Assessment and verification:** *The specific assessment and verification requirements are indicated within each criterion.*

*Where the applicant is required to provide declarations, documentation, analyses, test reports, or other evidence to show compliance with the criteria, these may originate from the applicant and/or his/her supplier(s) and/or their supplier(s), etc. as appropriate.*

*Competent bodies shall preferentially recognise attestations which are issued by bodies accredited in accordance with the relevant harmonised standard for testing and calibration laboratories and verifications by bodies that are accredited in accordance with the relevant harmonised standard for bodies certifying products, processes and services.*

*Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.*

*Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications or site inspections to check compliance with these criteria.*

*Changes in suppliers and production sites pertaining to products to which the EU Ecolabel has been granted shall be notified to Competent Bodies, together with supporting information to enable verification of continued compliance with the criteria.*

*As a prerequisite the electronic display shall meet all applicable legal requirements of the country or countries in which the product is placed on the market. The applicant shall declare the product's compliance with this requirement.*

The following definitions shall apply:

- (1) ‘Automatic Brightness Control’ (‘ABC’) means the automatic mechanism that, when enabled, controls the brightness of an electronic display as a function of the ambient light level illuminating the front of the display;
- (2) ‘default’ referring to a specific setting, means the value of a specific feature as set at the factory and available when the customer uses the product for the first time and after performing a ‘reset to factory settings’ action, if allowed by the product;
- (3) ‘dismantling step’ means an operation that finishes with the removal of a part or with a change of tool;
- (4) ‘fast start’ or ‘quick start’ means an enhanced reactivation function capable of completing the transition into ‘on mode’ in a shorter time than that of the normal reactivation function;
- (5) ‘High Dynamic Range (HDR)’ means a method to increase the contrast ratio of the image of an electronic display by using metadata generated during the creation of the video material and that the display management circuitry interprets to produce a contrast ratio and colour rendering perceived by the human eye as more realistic than that achieved by non HDR-compatible displays;

- (6) 'LCD' means a liquid crystal display;
- (7) 'luminance' means the photometric measure of the luminous intensity per unit area of light travelling in a given direction, expressed in units of candelas per square metre ( $\text{cd/m}^2$ ). The term brightness is often used to subjectively qualify the luminance of a display;
- (8) 'normal configuration' or 'home configuration', 'standard mode', or, for televisions, 'home mode' means a display screen setting which is recommended to the end user by the manufacturer from the initial set-up menu or the factory setting that the electronic display has for the intended product use. It must deliver the optimal quality for the end user in a typical domestic or office environment. The normal configuration is the condition in which the declared values for off, standby, networked standby and on mode are measured;
- (9) 'on mode' or 'active mode' means a condition in which the electronic display is connected to a power source, has been activated, and is providing one or more of its display functions;
- (10) 'proprietary tools' are tools that are not available for purchase by the general public or for which any applicable patents are not available to licence under fair, reasonable, and non-discriminatory terms;
- (11) 'recyclability' means an ability of a product to be recycled at its end-of-life, based on current practices;
- (12) 'spare parts' are all components or assemblies that can potentially fail and/or that are expected to need replacement within the service life of the product. Other parts which have a lifetime usually exceeding the typical life span of the product are not spare parts;
- (13) 'UHD' means an electronic display able to receive a UHD signal as defined in International Telecommunications Union Recommendation (ITU-R) BT.2020, and to display it on the screen at resolutions of  $3840 \times 2160$  (UHD-4K) and  $7680 \times 4320$  (UHD-8K).

## **EU ECOLABEL CRITERIA**

### **Criterion 1 – Energy consumption**

#### **1.1 Energy savings**

- (a) Electronic displays shall meet the specifications of the Energy Efficiency Index set out in Annex II to Delegated Regulation (EU) 2019/2013 for the energy efficiency classes specified as follows or, alternatively for a more energy efficient class.

Until 31 March 2021:

- (i) Energy efficiency class E (F for UHD resolutions and above) for televisions;
- (ii) Energy efficiency class D (F for UHD resolutions and above) for monitors;
- (iii) Energy efficiency class F for digital signage displays.

After 31 March 2021:

One of the top 2 energy classes which have registered models<sup>(1)</sup> under the product database<sup>(2)</sup> as from Article 12 of Regulation (EU) 2017/1369<sup>(3)</sup> for a specific resolution

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and type of display (televisions, monitor or signage displays) on the submission date of the EU Ecolabel application.

*Note* : once awarded, the applicant shall prove compliance with one of the top 2 energy classes which have registered models <sup>(1)</sup> at least every 2 years throughout the validity period of its licence.

- (b) The maximum on mode power demand in normal configuration shall be  $\leq 64$  W (125 W for digital signage displays, for UHD resolutions and above).

**Assessment and verification:** For requirement (a), the applicant shall submit a test report for the electronic display carried out according to the measurement methods indicated in Annex IV to Delegated Regulation (EU) 2019/2013. In addition, evidence of the top classes on EPREL database (with available models for the resolution and type of display model to be awarded) on the date of application and at least every 2 years throughout the validity period of its licence, shall be provided. For requirement (b), the applicant shall submit a test report for the electronic display carried out according to the measurement methods and conditions indicated under points 1 and 2 of Annex III to Regulation (EU) 2019/2021.

*Note* : For displays presenting the HDR feature, measurement of the on mode power consumption to meet requirements (a) and (b) shall be done in the normal configuration, in standard dynamic range (SDR).

## 1.2 Power management

- (a) Manual Brightness Control: the electronic display shall allow the user to manually adjust the backlight intensity;
- (b) Automatic Brightness Control (ABC): electronic displays with automatic brightness control (ABC) shall meet the requirements to qualify for a 10 % reduction in  $P_{\text{measured}}$  described in Annex II of the Regulation (EU) 2019/2021 (Section B, point 1);
- (c) Quick start functionality: after enabling the quick start functionality (if the appliance supports the feature), the appliance shall automatically switch back to standby or off mode as a default setting 2 hours after the last user activity at the latest.

**Assessment and verification:** The applicant shall provide a declaration to certify that the appliance has been shipped with the power management settings stated above.

For requirement (b) the applicant shall submit a test report for the electronic display showing that the conditions described are met. The relevant measurements shall be carried out according to Annex III to Regulation (EU) 2019/2021.

For requirement (c) the applicant shall submit the relevant pages of the product documentation.

## Criterion 2 – Restricted substances

### 2.1 Excluded or limited substances

The presence in the product, or defined sub-assemblies and component parts, of substances that are identified according to Article 59 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council<sup>(4)</sup> or substances and mixtures that meet the criteria for classification according to Regulation (EC) No 1272/2008 of the European Parliament and of the Council<sup>(5)</sup> for the hazard classes, categories and associated hazard statement codes listed in Table 1 shall be restricted in accordance with sub-criterion 2.1(a) and (c). For the purpose of this criterion, Candidate List Substances of Very High Concern (SVHCs) and hazard classes,

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categories and associated hazard statement codes are grouped in Table 1. Sub criterion 2.1(b) limits the presence of specific substances.

*TABLE 1*

**Grouping of candidate list SVHCs and hazard classes, categories and associated hazard statement codes**

<b>Group 1 hazards</b>	
—	Substances that appear on the Candidate List for Substances of Very High Concern (SVHCs)
—	Carcinogenic, Mutagenic and/or Toxic for Reproduction (CMR) Category 1A or 1B CMR: H340, H350, H350i, H360, H360F, H360D, H360FD, H360Fd, H360Df
<b>Group 2 hazards</b>	
—	Category 2 CMR: H341, H351, H361f, H361d, H361fd, H362
—	Category 1 aquatic toxicity: H400, H410
—	Category 1 and 2 acute toxicity: H300, H310, H330
—	Category 1 aspiration toxicity: H304
—	Category 1 Specific Target Organ Toxicity (STOT): H370, H372
<b>Group 3 hazards</b>	
—	Category 2, 3 and 4 aquatic toxicity: H411, H412, H413
—	Category 3 acute toxicity: H301, H311, H331, EUH070
—	Category 2 STOT: H371, H373

**2.1(a) Restrictions on Substances of Very High Concern (SVHCs)**

Substances meeting the criteria referred to in Article 57 of Regulation (EC) No 1907/2006 that have been identified according to the procedure described in Article 59 of that Regulation and included in the candidate list of substances of very high concern for authorisation shall not be intentionally added to the product at concentrations greater than 0,10 % (weight by weight). The same restriction shall apply to the sub-assemblies forming part of the product that are listed in Table 2. No derogation from this requirement shall be granted.

*TABLE 2*

**Sub-assemblies and component parts to which criterion 2.1(a) shall apply**

**Printed Circuit Boards** (Printed Wiring Boards, populated motherboards, power boards (power supply units) and module boards) >10 cm<sup>2</sup>

**Electrical wiring/cables** (aggregated)

**External cables** (Power cable (AC and DC power cords), modem cable and LAN cable if applicable, HDMI cable and RCA cable)

**External housing** (Back cover, front cover (bezel decoration) and stands)

**External housing of remote control**

**LED backlights** (LED arrays)

In communicating this requirement to suppliers of the listed sub-assemblies/component parts, applicants may pre-screen the REACH Candidate List using the IEC 62474 declarable substance

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list<sup>(6)</sup>. The screening shall be based on identification of the potential for presence of substances in the product.

**Assessment and verification:** *The applicant shall compile declarations of the non-presence of SVHCs at or above the specified concentration limit for the product and the sub-assemblies identified in Table 2. Declarations shall be with reference to the latest version of the candidate list published by ECHA<sup>(7)</sup> on the submission date of the EU Ecolabel application. Where declarations are made based on a pre-screening of the candidate list using IEC 62474, the screened list given to sub-assembly suppliers shall also be provided by the applicant. The version of the IEC 62474 declarable substance list used shall reflect the latest version of the candidate list.*

*The declarations can also be provided directly to competent bodies by any supplier in the applicant's supply chain.*

#### 2.1(b) Restrictions on the presence of specific substances

The hazardous substances specified in Table 3 shall not be intentionally added to or formed in the specified sub-assemblies and component parts at or above the stipulated concentration limits.

TABLE 3

#### Substance restrictions that shall apply to sub-assemblies and component parts

Substance group	Scope of restriction (substances and sub-assemblies/component parts)	Concentration limits (where applicable)
(i) Metal solder and contacts	Exemption 8b in accordance with Directive 2011/65/EU of the European Parliament and of the Council <sup>a</sup> relating to the use of <i>cadmium in electrical contacts</i> shall not be permitted.	0,01 % w/w <i>Test method:</i> IEC 62321-5
(ii) Polymer stabilisers, colourants and contaminants	The following organotin stabiliser compounds classified with Group 1 and 2 hazards shall not be present in <i>external cables</i> : Dibutyltin oxide Dibutyltin diacetate Dibutyltin dilaurate Dibutyltin maleate Diocetyl tin oxide Diocetyl tin dilaurate	n/a
	<i>External housing of the display</i> shall not contain the following colourants: Azo dyes that may cleave to the carcinogenic aryl	n/a

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

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<p>amines listed in Appendix 8 of the Regulation (EC) No 1907/2006, and/or Colourant compounds included in the IEC 62474 declarable substances list.</p>	
<p>Polycyclic Aromatic Hydrocarbons (PAHs) classified with Group 1 and 2 hazards shall not be present at concentrations greater than or equal to individual and sum total concentration limits in any external plastic or man-made rubber surfaces of:</p> <p><i>External cables</i> <i>External housing of the remote control</i> <i>Rubber parts of the remote control</i></p> <p>The presence and concentration of the following PAHs shall be verified:</p> <p><i>PAHs restricted by the Regulation (EC) No 1907/2006:</i></p> <ul style="list-style-type: none"> <li>Benzo[a]pyrene</li> <li>Benzo[e]pyrene</li> <li>Benzo[a]anthracene</li> <li>Chrysen</li> <li>Benzo[b]fluoranthene</li> <li>Benzo[j]fluoranthene</li> <li>Benzo[k]fluoranthene</li> <li>Dibenzo[a,h]anthracene</li> </ul> <p>Additional PAHs subject to restriction:</p> <ul style="list-style-type: none"> <li>Acenaphthene</li> <li>Acenaphthylene</li> <li>Anthracene</li> <li>Benzo[ghi]perylene</li> <li>Fluoranthene</li> <li>Fluorene</li> <li>Indeno[1,2,3-cd]pyrene</li> <li>Naphthalene</li> <li>Phenanthrene</li> <li>Pyrene</li> </ul>	<p>The individual concentration limits for PAHs restricted under Regulation (EC) No 1907/2006 shall be 1 mg/kg</p> <p>The sum total concentration limit for the 18 listed PAHs shall not be greater than 10 mg/kg</p> <p><i>Test method: AfPS GS 2014:01 PAK.</i></p>

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

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(iii)	Biocidal products	Biocidal products intended to provide an anti-bacterial function shall not be incorporated into <i>External housing and rubber parts of the remote control</i> .	n/a
(iv)	Mercury in backlights	Exemption 3 in accordance with Directive 2011/65/EU relating to the use of mercury in <i>cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL)</i> shall not be permitted.	n/a
(v)	Glass fining agents	Arsenic and its compounds shall not be used in the manufacturing of LCD display unit glass and screen cover glass.	0,0050 % w/w
(vi)	Chlorine-based plastics	Plastic parts >25 g must not contain chlorinated polymers. <i>Note:</i> For this specific sub-requirement, plastic cable housing is not considered as a 'plastic part'.	n/a
(vii)	Phthalates	Diisononyl phthalate (DINP), Diisodecyl phthalate (DIDP) shall not be used in external power cables.	n/a

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

**Assessment and verification:** *The applicant shall provide declarations of compliance and test reports according to the requirements in Table 3. Test reports, where required, shall be valid at the time of application for the relevant production model and all associated suppliers. Where sub-assemblies or component parts with the same technical specifications originate from a number of different suppliers, tests where applicable shall be carried out on parts from each supplier. The declarations/test reports can also be provided directly to competent bodies by any supplier in the applicant's supply chain.*

#### 2.1(c) Restrictions on substances classified under Regulation (EC) No 1272/2008

Flame retardants and plasticisers that are assigned any of the hazard classes, categories and associated hazard statement codes listed in Table 1, in accordance with Regulation (EC) No 1272/2008 shall not be intentionally added to sub-assemblies and component parts defined in Table 4 at or above a concentration limit of 0,10 % (weight by weight).

TABLE 4

#### Sub-assemblies and component parts to which criterion 2.1(c) shall apply

Parts containing flame retardants



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- 
- Printed Circuit Boards
  - External cables
  - External housing of the display
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Parts containing plasticisers

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- External cables
  - Internal electrical wiring
  - External housing of the display
- 

*Derogations for the use of hazardous flame retardants and plasticisers*

The use of flame retardants and plasticisers meeting the criteria for classification with any of the hazard classes, categories and associated hazard statement codes listed in Table 1 is derogated from the requirements of criterion 2.1(c) provided that they meet the conditions specified in Table 5.

TABLE 5

**Derogations to restrictions on substances classified under Regulation (EC) No 1272/2008 and applicable conditions**

Substance /mixture type	Applicability	Derogated hazard class, category and hazard statement code and derogation conditions
Flame retardants	Printed Circuit Boards	Flame retardants classified with Group 3 hazards and TBBPA (classified with Group 2) are derogated for use.
	External cables	Flame retardant and its synergist classified with Group 3 hazard and Antimony trioxide (Sb <sub>2</sub> O <sub>3</sub> ) classified with Group 2 hazards are derogated for use.
	External housing of the display	Flame retardants and their synergists classified with Group 2 and 3 hazards are derogated for use.
Plasticisers	External cables, internal electrical wiring and external housing of the display	Plasticisers classified with Group 3 hazards are derogated for use.

**Assessment and verification:** The applicant shall provide a declaration of compliance with criterion 2.1(c). The declaration shall be supported by the list of flame retardants, plasticisers and metal additives and coatings used in the sub-assemblies and component parts listed in Table 4 together with SDS supporting their hazard classification or non-classification.

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*For the derogated substances and mixtures listed in Tables 5, the applicant shall provide proof that all the derogation conditions are met. Where test reports are required, they shall be valid at the time of application for a production model.*

*The declarations/test reports can also be provided directly to competent bodies by any supplier in the applicant's supply chain.*

## 2.2 Activities to reduce supply chain fluorinated greenhouse gas (GHG) emissions

The applicant shall gather the following information from their LCD display suppliers by which they shall demonstrate their activities to reduce GHG emissions from the production process, including the performance of abatement systems they have installed:

- (a) Specification of which of the F-GHGs are used and which are being reduced;
- (b) Annual F-GHG emissions intensity (in kg CO<sub>2</sub>eq per m<sup>2</sup> of flat panel displays (array glass) produced) across manufacturing sites for the most recent year;
- (c) Indication of the destruction or removal efficiencies (DREs) of installed abatement systems for each of the F-GHGs used.

***Assessment and verification:** The applicant shall provide the supporting documentation containing the information above from their display suppliers to the competent body. The documentation can also be provided directly to competent bodies by any supplier in the applicant's supply chain.*

### Criterion 3 – Reparability and commercial guarantee

- (a) Design for repair:
  - (i) the following spare parts of electronic displays shall be accessible and exchangeable by the use of commercially available tools (i.e. all tools except proprietary tools, e.g. screwdriver, spatula, pliers, or tweezers):
    - screen assembly and LED backlight,
    - stands, and
    - power and control circuit boards;
  - (ii) adhesives which need to be removed with heat or chemicals shall not be used to fix the back cover of the electronic display;
  - (iii) casing parts are free of electronic assemblies which cannot be removed with use of commercially available tools.
- (b) Repair manual: the applicant shall provide clear disassembly and repair instructions (e.g. hard or soft copy, video) and make them publicly available at no additional cost, to enable a non-destructive disassembly of products for the purpose of replacing key components or parts for upgrades or repairs;
- (c) Repair Service / Information: information should be included in the user instructions or the manufacturer's website to let the user know where to go to obtain professional repairs and servicing of the electronic display, including contact details as appropriate and the recommended manufacturer price of spare parts. During the guarantee period referred to in (e) this may be limited to the applicant's Authorized Service Providers;
- (d) Availability of spare parts: the applicant shall ensure that original or backwardly compatible spare parts (those mentioned in (a)(i) and those included under Annex II (D. Material efficiency requirements. Point 5. (A) Availability of spare parts) of

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Regulation (EU) 2019/2021, as a minimum) are publicly available for at least 8 years following the end of the model production;

- (e) Commercial guarantee: without prejudice to the legal obligations of the seller under national law on legal and commercial guarantees, the applicant shall provide at no additional cost a minimum of a 3-year commercial guarantee during which time they shall ensure the goods are in conformity with the contract of sale. This guarantee shall include a service agreement with pick-up and return for cases where repair is not done on-site;
- (f) Information on repair, spare parts and commercial guarantee shall be provided in accessible formats for persons with disabilities upon request, in accordance with the accessibility requirements in Directive (EU) 2019/882.

**Assessment and verification:** The applicant shall declare the compliance of the product with these requirements to the competent body. Additionally, the applicant shall provide:

- (a) An exploded diagram showing how casing parts, chassis and electric/electronic assemblies are assembled in the product;
- (b) A copy of the commercial guarantee;
- (c) A copy of the repair manual;
- (d) A copy of the user instructions;
- (e) A public list of authorised dealers of spare parts.

#### **Criterion 4 – End of life management**

##### **4.1 Material selection and information to improve recyclability**

- (a) *Recyclability of plastics:*
  - (i) Parts with a weight greater than 25 grams shall consist of a single polymer or a polymer blend or alloy that are recyclable;
  - (ii) The presence of paints and coatings shall not significantly impact upon the resilience of plastic recycle produced from these components upon recycling and when tested according to ISO 180 [1] or equivalent;
  - (iii) Plastic enclosures shall not contain moulded-in or glue-on metal unless the metal inserts can be removed with commercially available tools;
  - (iv) Casings, enclosures and bezels incorporating flame retardants shall be recyclable.

*Note* [1] : For the purposes of this criterion a significant impact is defined as a > 25 % reduction in the notched izod impact of a recycled resin as measured using ISO 180.

- (b) *Information to facilitate recycling:*
  - 1. Plastic parts with a mass greater than 25 grams shall be marked in accordance with ISO 11469 and ISO 1043, Sections 1 and 4. For plastic parts > 100 grams, the markings should be large enough and located in a visible position in order to be easily identified.

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Exemptions specified in in Annex II of the Commission Regulation (EU) 2019/2021 (Section D, point 2) apply for this requirement.

2. Applicant shall make available to professional operators of the waste sector, in a website and free of charge, information relevant for dismantling and recovery. This should include at least: (a) a diagram of the product showing the location of the plastic components containing flame retardants; (b) the location of components containing the toxic or ecotoxic substances.

(c) *Recycled content:*

The product shall contain on average a minimum 10 % post-consumer recycled plastic, measured as a percentage of total plastic (by weight) in the product excluding Printed Wiring Boards. Where the recycled content is greater than 25 % a declaration may be made in the text box accompanying the Ecolabel (see Criterion 6.2). Products with a metal casing are exempt from this sub-criterion.

**Assessment and verification:** *The applicant shall provide an exploded diagram of the electronic display in written or audio-visual format. This shall identify the plastic parts greater than 25 grams by their weight, their polymer composition, and their ISO 11469 and 1043 markings. The dimensions and positions of the marking shall be illustrated and, where exemptions apply, technical justifications provided.*

*Applicant shall provide the available information relevant for dismantling and recovery for professional operators and the website where is located.*

*The applicant shall demonstrate recyclability by providing evidence that the plastics either individually or combined do not impact the technical properties of the resulting recycled plastics in such a way that they cannot be used again in electronic products. This could include:*

- *A declaration from an experienced plastics recycler or permitted treatment operator in accordance with Article 23 of Directive 2008/98/EC of the European Parliament and of the Council<sup>(8)</sup>;*
- *Test results from an independent laboratory or an experienced plastics recycler;*
- *Peer and industry reviewed technical literature applicable to EU.*

*The applicant shall provide third party verification and traceability for post-consumer recycled content. Certificate of recyclers pursuant to the EuCertPlast certification scheme or equivalent could be used to support verification.*

#### 4.2 Design for dismantling and recycling

- (a) For the following target parts, as relevant to the product, a manual dismantling shall be carried out by one person (i.e. not more than one snap-on connection has to be loosened at the same time) using widely used commercially available tools (i.e. pliers, screw-drivers, cutters and hammers as defined by ISO 5742, ISO 1174, ISO 15601):

- (i) Printed Wiring Boards > 10 cm<sup>2</sup>;
- (ii) Thin Film Transistor (TFT) unit > 100 cm<sup>2</sup> and film conductors;
- (iii) Polymethyl Methacrylate (PMMA) board light guide.

- (b) At least *one* of the following optional components (if applicable) shall also be possible to manually disassemble using common commercially available tools:

- (i) LED backlight units;

- (ii) Speaker unit magnets (for display sizes greater than or equal to 25 inches);
- (iii) HDD drive (if applicable in the case of smart devices).

**Assessment and verification:** *The applicant shall provide:*

*A test report detailing the dismantling sequence, including a detailed description of the specific dismantling steps, tools and procedures, for the components listed in (a) and the optional component(s) selected from (b).*

### **Criterion 5 – Corporate social responsibility**

#### **5.1 Labour conditions during manufacture**

Having regard to the International Labour Organisation's (ILO) Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy, the UN Global Compact (Pillar 2), the UN Guiding Principles on Business and Human Rights and the OECD Guidelines for Multi-National Enterprises, the applicant shall obtain third party verification supported by site audits that the applicable principles included in the ILO fundamental conventions and the supplementary provisions below identified have been respected at the final assembly plant(s) for the product.

Fundamental conventions of the ILO:

- (a) Child Labour:
  - (i) Minimum Age Convention, 1973 (No 138);
  - (ii) Worst Forms of Child Labour Convention, 1999 (No 182);
- (b) Forced and Compulsory Labour:
  - (i) Forced Labour Convention, 1930 (No 29) and 2014 Protocol to the Forced Labour Convention;
  - (ii) Abolition of Forced Labour Convention, 1957 (No 105);
- (c) Freedom of Association and Right to Collective Bargaining:
  - (i) Freedom of Association and Protection of the Right to Organise Convention, 1948 (No 87);
  - (ii) Right to Organise and Collective Bargaining Convention, 1949 (No 98);
- (d) Discrimination:
  - (i) Equal Remuneration Convention, 1951 (No 100);
  - (ii) Discrimination (Employment and Occupation) Convention (No 111).

Supplementary provisions:

- (a) Working Hours:
  - (i) ILO Hours of Work (Industry) Convention, 1919 (No 1);
- (b) Remuneration:
  - (i) ILO Minimum Wage Fixing Convention, 1970 (No 131)

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- (ii) Living wage: The applicant shall ensure that wages (excluding any taxes, bonuses, allowances, or overtime wages) paid for a normal work week (not exceeding 48 hours) shall be sufficient to afford basic needs (housing, energy, nutrition, clothing, health care, education, potable water, childcare, and transportation) of worker and of a family of four people, and to provide some discretionary income. Implementation should be audited with reference to SA8000<sup>(9)</sup> guidance on ‘Remuneration’;
- (c) Health & Safety:
  - (i) ILO Safety in the use of chemicals at work Convention, 1990 (No 170);
  - (ii) ILO Occupational Safety and Health Convention, 1981 (No 155).

In locations where the right to freedom of association and collective bargaining are restricted under law, the company will not restrict workers from developing alternative mechanisms to express their grievances and protect their rights regarding working conditions and terms of employment, and shall recognise legitimate employee associations with whom it can enter into dialogue about workplace issues.

The audit process shall include consultation with external industry independent organisation stakeholders in local areas around sites, including trade unions, community organisations, NGOs and labour experts. Meaningful consultations shall take place with at least two stakeholders from two different subgroups.

During the validity period of the EU Ecolabel, the applicant shall publish aggregated results and key findings from the audits (including details on (a) how many and how serious violations of each labour rights and OHS standard; (b) strategy for remediation – where remediation includes prevention per UNGP concept; (c) assessment of root causes of persistent violations resulting from the stakeholder consultation – who was consulted, what issues were raised, how did this influence the corrective action plan), online in order to provide evidence of their performance to interested consumers.

**Assessment and verification:** *the applicant shows compliance with these requirements by providing copies of the most recent version of their code of conduct which must be consistent with the provisions specified above and by providing supporting audit reports for each final product assembly plant for the model(s) to be ecolabelled, together with a web link to where online publication of the results and findings can be found.*

*Third party site audits shall be carried out by auditors qualified to assess the compliance of the industry manufacturing sites with social standards or codes of conduct or, in countries where ILO Labour Inspection Convention, 1947 (No 81) has been ratified and ILO supervision indicates that the national labour inspection system is effective and the scope of the inspection system covers the areas listed above<sup>(10)</sup>, by labour inspector(s) appointed by a public authority.*

*Valid certifications from third party schemes or inspection processes that, together or in part, audit compliance with the applicable principles of the listed fundamental ILO Conventions and the supplementary provisions on working hours, remuneration and health & safety and consultation with external stakeholders, shall be accepted. These certifications shall be not more than 12 months old.*

## 5.2 Sourcing of ‘conflict-free minerals’

The applicant shall support the responsible sourcing of tin, tantalum, tungsten and their ores and gold from conflict-affected and high-risk areas by:

- (i) conducting due diligence in line with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas; and
- (ii) promoting responsible mineral production and trade within conflict-affected and high-risk areas for the identified minerals used in components of the product in accordance with OECD.

**Assessment and verification:** *The applicant shall declare the compliance with these requirements together with the following supporting information:*

- *a report describing their due diligence activities along the supply chain for the four minerals identified. Supporting documents such as certifications of conformity issued by the European Union's scheme shall also be accepted.*
- *Identification of component(s) which contain the identified minerals, and their supplier(s), as well as the supply chain system or project used for responsible sourcing.*

## **Criterion 6 – Information criteria**

### **6.1 User information**

The product shall be sold with relevant user information, which provides advice on the product's proper environmental use and disposal.

The product packaging and/or documentation accompanying the product shall provide contact details (telephone and/or email) and a reference to online information for consumers that have enquiries or need specific advice regarding use or disposal of the electronic display. The information shall include, as a minimum, the following information (when applicable):

- (a) Energy consumption: Energy Efficiency Class according to Delegated Regulation (EU) 2019/2013. The maximum power demand in each operating mode. In addition, instructions shall be provided on how to use the device's energy saving mode and Information that energy efficiency cuts energy consumption and thus saves money by reducing electricity bills;
- (b) The following indications on how to reduce power consumption:
  - (i) Turning the product off at its mains supply or using the hard off-switch (where one is fitted) will cut energy use to (near) zero;
  - (ii) Putting the product into standby mode will reduce energy consumption, but will still draw some power;
  - (iii) Note that screen savers (computer monitors) can stop displays from powering down into a lower power mode when not in use. Ensuring that screen savers are not activated on displays can therefore reduce energy use;
  - (iv) Note that a Quick Start Function might cause increased power consumption;
  - (v) Note that integrated functions, such as a receiver for digital signals (e.g. DVB-T) or hard disk recorders may help reducing power consumption if, as a result, an external device becomes redundant.
- (c) Network connectivity: Information on how to deactivate networking functions;
- (d) The position of the hard off-switch;
- (e) Information that extension of the product's lifetime reduces the overall environmental impacts;

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- (f) The following indications on how to prolong the lifetime of the product:
  - (i) Clear disassembly and repair to enable a non-destructive disassembly of products for the purpose of replacing key components or parts for repair;
  - (ii) Information to let the user know where to go to obtain professional repairs and servicing of the product, including contact details as appropriate;
- (g) End-of-life instructions for the proper disposal of the product at civic amenity sites or through retailer take-back schemes as applicable, which shall comply with Directive 2012/19/EU of the European Parliament and of the Council;
- (h) Information that the product has been awarded the EU Ecolabel with a brief explanation as to what this means together with an indication that more information on the Ecolabel can be found at the website address <http://www.ecolabel.eu>;
- (i) Any print-versions of instruction/repair manual(s) should contain recycled content and should not contain chlorine bleached paper. To save resources, online versions should be preferred.

**Assessment and verification:** *The applicants shall declare the compliance of the product with these requirements to the competent body and shall provide a link to the online-version or a copy of the user instructions / repair manual to the Competent Body.*

## 6.2 Information appearing on the EU Ecolabel

If the optional label with text box is used, it shall contain three of the following texts:

- (a) high energy efficiency;
- (b) restriction of hazardous substances;
- (c) designed to be easy to repair and recycle;
- (d) contains xy % post-consumer recycled plastic (only when greater than 25 % as a percentage of the total plastic).

The applicant shall follow the instructions on how to properly use the EU Ecolabel logo provided in the EU Ecolabel Logo Guidelines:

[http://ec.europa.eu/environment/ecolabel/documents/logo\\_guidelines.pdf](http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf)

**Assessment and verification:** *The applicant shall provide a declaration of compliance with this criterion, supported by a high resolution image/artwork of the product packaging that clearly shows the label, the registration/licence number and, where relevant, the statements that can be displayed together with the label.*



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- (1) The top 2 energy classes must sum at least 25 registered models to be considered for a specific resolution and type of display (televisions, monitor or signage displays). In the case that 25 registered models minimum is not reached for a certain resolution and type of display, the top 2 energy classes which have registered models (independently on number of registered models) apply for this specific resolution and type of display.
- (2) [https://ec.europa.eu/info/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/energy-label-and-ecodesign/product-database\\_en](https://ec.europa.eu/info/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/energy-label-and-ecodesign/product-database_en)
- (3) 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)
- (4) Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (OJ L 396, 30.12.2006, p. 1).
- (5) Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (OJ L 353, 31.12.2008, p. 1).
- (6) International Electrotechnical Commission (IEC), IEC 62474: Material declaration for products of and for the electrotechnical industry, <http://std.iec.ch/iec62474>
- (7) ECHA, Candidate List of substances of very high concern for Authorisation, <http://www.echa.europa.eu/candidate-list-table>
- (8) Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (OJ L 312, 22.11.2008, p. 3).
- (9) Social Accountability International, *Social Accountability 8000 International Standard*, <http://www.sa-intl.org>
- (10) See ILO NORMLEX (<http://www.ilo.org/dyn/normlex/en>) and supporting guidance in the User Manual.

**Changes to legislation:**

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