Joint Research Centre (JRC)

Imaging Equipment

Green Public Procurement criteria
Definition and Scope

**Definition**
For the purposes of these criteria, the product group of “Imaging equipment” shall comprise products which are used in the office and their function is:

i) to produce a printed image (paper or photo document) through a marking process either from a digital image (provided by a network/card interface) or from a hardcopy through a scanning/copying process or/and

ii) to produce a digital image from a hard copy through a scanning/copying process.

**Scope**
The revised GPP criteria for Imaging equipment covers procurement actions for the **purchase and the leasing** of products which are marketed as printers, copiers and multifunctional devices (MFD).
Definition and Scope

**Product definition:**

A "**printer**" is a commercially available imaging product that serves as a hard copy output device, and is capable of receiving information from single-user or networked computers, or other input devices (e.g., digital cameras). The unit must be capable of being powered from a wall outlet or from a data or network connection. This definition is intended to cover products that are marketed as printers, including printers that can be upgraded into MFDs in the field.

A "**copier**" is a commercially available imaging product whose sole function is the production of hard copy duplicates from graphic hard copy originals. The unit must be capable of being powered from a wall outlet or from a data or network connection. This definition is intended to cover products that are marketed as copiers or upgradeable digital copiers.

A "**multifunction device (MFD)**" is a commercially available imaging product, which is a physically integrated device or a combination of functionally integrated components that performs two or more of the core functions of copying, printing, scanning, or faxing. The copy functionality as addressed in this definition is considered to be distinct from single sheet convenience copying offered by fax machines. The unit must be capable of being powered from a wall outlet or from a data or network connection. This definition is intended to cover products that are marketed as MFDs or multifunction products (MFPs).
# Key Environmental Impacts

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<th>Key Environmental Impacts associated with the life cycle of an Imaging equipment and related Key Environmental Areas</th>
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| Key environmental impacts considered along the product life cycle:  
- global warming,  
- acidification,  
- ecotoxicity,  
- human toxicity,  
- eutrophication,  
- resource depletion,  
- energy consumption. |  
- Purchase products with efficient paper management  
- Purchase energy efficient models  
- Purchase products with a limited amount of hazardous components  
- Purchase products which are designed to be resource efficient, to generate little waste and to facilitate reuse and recycling  
- Purchase products with low indoor emissions and acoustic noise |
| Key environmental areas  
- Paper consumption (relevant for impacts to all environmental categories)  
- Energy consumption in the use phase of imaging equipment (relevant for impacts to all environmental categories)  
- Use of hazardous substances and their environmental consequences (relevant for impacts to human toxicity, ecotoxicity, eutrophication, )  
- Indoor air emissions and acoustic noise (relevant for impacts to human health) |
# GPP Criteria Overview

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## GPP Criteria Overview

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GPP criteria related to paper management
- Double side printing
- Multiple page printing in one paper sheet

Core and comprehensive criteria in Technical Specifications

Double side printing

Core

Comprehensive

Different Threshold

25 ipm

19 ipm

Addresses approximately top 25% of the products in 2013
As Core criterion formulation:

1. **Double side printing**
   Imaging equipment devices with a maximum operating speed for monochrome printing/copying of 25 ipm (images per minute) or more for A4 size paper shall be equipped with an automatic double-side print/copy unit (a duplex-unit).

   The duplex printing and/or copying function shall be set as default in the original software provided by the manufacturer.

**Verification**
Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply. A statement from the manufacturer demonstrating that these requirements have been met is also accepted.
2. Multiple page printing and/or copying in one paper sheet

Core same as Comprehensive criterion

Formulation

Imaging equipment devices shall offer as a standard feature the capability to print and/or copy two or more pages of a document on one sheet of paper when the product is managed by original software provided by the manufacturer (printer driver).

Verification

Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply. A statement from the manufacturer demonstrating that these requirements have been met is also accepted.
GPP criteria related to energy efficiency
- Energy efficiency - Energy Star requirements
- Energy efficiency in Networked standby mode

Energy efficiency – Energy Star requirements

Criterion in Technical Specification. Core same as comprehensive
Energy efficiency – Energy Star requirements

Criterion in Technical Specification. Core same as comprehensive

Formulation
All products shall meet the requirements of the latest ENERGY STAR specifications for imaging equipment available at: www.eu-energystar.org

Verification
Products holding a relevant Type 1 Eco-label fulfilling the listed requirements and products awarded the Energy Star v.2.0 label (or if applicable a more recent one) will be deemed to comply.
A technical dossier from the manufacturer demonstrating that these requirements have been met is also accepted.
Energy efficiency in Networked standby mode

Different Thresholds

- **Core**
  - 2,00 W for LoNA products
  - 3,75 W for HiNA products

- **Comprehensive**
  - 1,50 W for LoNA products
  - 3,00 W for HiNA products

Award criterion
Only in core part

Award additional points to products achieving the thresholds set in the comprehensive criterion

Comprehensive criterion

Addresses approximately top 20-25% of the market
Energy efficiency in standby mode as core criterion in technical specifications

Formulation
Imaging equipment device shall fulfil the requirement: "the power consumption of the networked product with
a) low network availability (PSOR* < 400 Watt) in the modes with networked standby which the product is switched into by the power management function does not exceed 2,00 W
b) high network availability (PSOR* ≥ 400 Watt) in the modes with networked standby which the product is switched into by the power management function does not exceed 3,75 W"

Verification
Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply.
A technical dossier from the manufacturer demonstrating that these requirements have been met is also accepted.

*PSOR = Power Supply Output Rating (PSOR) which refers to the typical power level during full operation
GPP criteria related to “User instructions for green performance management”

In Technical Specifications Core criterion is same as Comprehensive one

**Formulation**
A guide shall be provided with instructions on how to maximise the environmental performance of the particular imaging equipment device (covering paper management functions, energy efficiency functions, waste management of the product and of consumables ink and/or toner cartridges) in written form as a specific part of the user manual and in digital form accessible via the manufacturer’s website.

**Verification**
A copy of the instruction manual shall be supplied to the authority. This manual shall be available for access on the manufacturer’s website. A statement from the manufacturer demonstrating that these requirements have been met shall be also provided.
GPP criteria related to Resource Efficiency

- Resource efficiency for cartridges: Design for reuse of toner and/or ink cartridges
- Resource efficiency: Minimum content of recycled and reused materials

Only as Comprehensive Criterion in Technical Specification
Resource efficiency for cartridges: Design for reuse of toner and/or ink cartridges

**Formulation**
The products shall not be designed to prevent the use of reused (remanufactured) toner and/or ink cartridge
Any cartridge provided or recommended for use in the product shall be designed for reuse with no technical barriers such as chips, compatibility of cartridge and printer software which hamper reusing the cartridge.

**Verification**
Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply.
A technical dossier from the manufacturer demonstrating that these requirements have been met is also accepted.
Resource efficiency: Minimum content of recycled and reused materials

Formulation
The external product plastic casing parts together with the recommended for use OEM ink or toner cartridge or bottle shall have in total a post-consumer recycled and/or reused content of not less than 10 % by mass. Small plastic parts weighting less than 25 g are exempted.

Verification
Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply. A technical dossier from the manufacturer demonstrating that these requirements have been met is also accepted.
GPP criteria related to acoustic noise

Different Type of criterion but same requirement

Core  ➔  Award Criterion

Comprehensive  ➔  Technical Specification
Acoustic noise

Formulation
For devices with a printing function:
The ‘Declared A-weighted Sound Level’ (LWAd) according to the methods specified in ISO 7779 3rd edition (2010) shall not exceed the limit set by the following formula:

\[ L_{\text{WAd,lim}} = 38 + 20 \log(S + 8) \text{ dB} \]

Where
S = images per minute for a) monochrome images when printing in monochrome mode and b) colour images when printing in colour
\( L_{\text{WAd,lim}} \) = A-weighted sound power level limit given in dB
For products capable to print in colour both monochrome and colour printing shall fulfil the above limit.

Verification
Products holding a relevant Type 1 Eco-label and fulfilling the listed requirements will be deemed to comply.
A technical dossier from the manufacturer demonstrating that these requirements have been met will be also accepted.
GPP criteria related to Design for recycling, end-of-life management and disassembly

Award Criterion  Core is as same as comprehensive

Design for recycling, end-of-life management and disassembly

Formulation
A. The external product plastic casings and the recommended for use by the manufacturer (OEM) cartridges of weight 25g or more of the imaging equipment offered does not contain brominated aromatic substances in concentration over 0.01%.
B. The imaging device offered is easy to dismantle by professionally trained personnel using the tools usually available to them, for the purpose of repairs and replacements of worn-out parts, upgrading older or obsolete parts, and separating parts and materials, ultimately for recycling or reuse.
Design for recycling, end-of-life management and disassembly

(continue)

**Verification**
Regarding point A. Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply. A declaration from the manufacturer that the requirements have been met is also accepted. The applicant shall declare the substances used as flame retardants.
Regarding point B. A technical report from the manufacturer showing the dismantling of the imaging equipment with an exploded diagram of the imaging equipment labelling the main components as well as identifying any hazardous substances in these components as specified in WEEE Directive 2002/96/EC Annex 2. This diagram shall be available in the manufacturer website. Information regarding hazardous substances shall be provided to the authority in the form of a list of materials identifying material type, quantity used and position on the imaging equipment. Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply.
GPP criteria related to health impacts in the use phase
- Hazardous substances
- Indoor air quality

Award Criterion only in comprehensive criteria

Substances in plastic parts hazardous to health

Formulation
Plastic parts heavier than 25g do not contain substances or preparations (including additives used as flame retardants) that are assigned any of the following risk phrases as defined in Council Directive No. 1272/2008:
• R45 (may cause cancer).
• R46 (may cause heritable genetic damage).
• R60 (may impair fertility).
• R61 (may cause harm to the unborn child).

Verification
Products holding a relevant Type 1 Ecolabel fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.
## Indoor emissions

**Formulation**

In the use phase the product shall not emit the pollutants listed below in amounts higher than the maximum emission rates given in the following table:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Emission rate Print phase (mg/h)</th>
<th>Emission rate Ready phase (mg/h).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Colour Printing</td>
<td>Monochrome printing</td>
</tr>
<tr>
<td></td>
<td>Total in ready + print phase</td>
<td>Total in ready + print phase</td>
</tr>
<tr>
<td>TVOC (total volatile organic compounds)</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>Benzene</td>
<td>&lt;0.05</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Styrene</td>
<td>1.8</td>
<td>1.0</td>
</tr>
<tr>
<td>Non identifiable VOC</td>
<td>0.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Ozone</td>
<td>3.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Dust</td>
<td>4.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

*applies only for Electrophotography (laser) printing technology*
Indoor emissions

Formulation (cont.)
All the above emission rates must be measured in accordance with the requirements described in ECMA-328 5th edition (based on Annex C9. Model for RAL-UZ 122 Option) or Blue Angel: RAL-UZ 122 Version June 2006 or equivalent.

Verification
Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply.
A technical dossier from the manufacturer demonstrating that these requirements have been met is also accepted.
Indoor emissions

Formulation (cont.)
All the above emission rates must be measured in accordance with the requirements described in ECMA-328 5th edition (based on Annex C9. Model for RAL-UZ 122 Option) or Blue Angel: RAL-UZ 122 Version June 2006 or equivalent.

Verification
Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply.
A technical dossier from the manufacturer demonstrating that these requirements have been met is also accepted.
GPP criteria related to mercury in lighting sources

Award Criterion only in comprehensive criteria

**Formulation**
Imaging equipment devices in which mercury or its compounds is not intentionally added to the lighting sources used.

**Verification**
Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply.
A technical dossier or a declaration from the manufacturer demonstrating that these requirements have been met is also accepted.
GPP criteria for Imaging equipment

Contract performance clause
- guarantee for spare parts
- guarantee for repair and

Formulation
1. The contractor shall guarantee the availability of spare parts for at least 5 years from the time that production ceases.

2. Guarantee for repair or replacement of minimum 5 years shall be given.

Verification
Products holding a relevant Type 1 Ecolabel fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.
Thank you!