

EU GPP Criteria for Imaging Equipment

Green Public Procurement (GPP) is a voluntary instrument. This document provides the EU GPP criteria developed for the imaging equipment product group. The accompanying Technical Background Report provides full details on the reasons for selecting these criteria and references for further information.

For each product/service group two sets of criteria are presented:

- The core criteria are those suitable for use by any contracting authority across the Member States and address the key environmental impacts. They are designed to be used with minimum additional verification effort or cost increases.
- The comprehensive criteria are for those who wish to purchase the best products available on the market. These may require additional verification effort or a slight increase in cost compared to other products with the same functionality.

1. Definition and Scope

This document covers procurement actions for the purchase and the leasing of **imaging equipment**.

For the purposes of these criteria, the product group of “Imaging equipment” shall comprise products which are marketed for office or domestic use, or both, and whose function is one or both of the following:

- a) to produce a printed image in the form of paper document or photo through a marking process either from a digital image, provided by a network/card interface or from a hardcopy through a scanning/copying process;
- b) to produce a digital image from a hard copy through a scanning/copying process.

This set of criteria also applies to products which are marketed as printers, copiers and multifunctional devices (MFD).

The criteria do not cover the following product types:

- fax machines, digital duplicators, mailing machines and scanners.
- large products which are not typically used in offices if they meet one of the following technical specifications:
 - standard black and white format products with maximum speed over 66 A4 images per minute;
 - standard colour format products with maximum speed over 51 A4 images per minute
 - products designed for A2 media and larger; or
 - products marketed as plotters.

(speed to be rounded to the nearest integer).

The definitions of the products in the scope of this product group are as follows:

"Printer" means 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 where the unit is capable of being powered from a wall outlet or from a data or network connection.

"Large format printing equipment" means printing equipment designed for printing on A2 media and larger, including those designed to accommodate continuous-form media above or equal to 406 mm wide"

"Copier" means a commercially available imaging product whose sole function is the production of hard copy duplicates from graphic hard copy originals where the unit is capable of being powered from a wall outlet or from a data or network connection.

"Multifunction device (MFD)" means 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 where the unit is capable of being powered from a wall outlet or from data or network connection and the copy functionality is distinct from single sheet convenience copying offered by fax machines.

The following definitions are used in order to distinguish the energy use in stand-by mode:

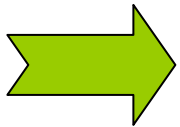
"Networked equipment" means equipment that can connect to a network and has one or more network ports;

"Network port" means a wired or wireless physical interface of the network connection located at the equipment through which the equipment is able to be remotely activated;

"Imaging equipment with high network availability functionality" (imaging equipment with HiNA functionality) means imaging equipment with the functionalities of a router, network switch, wireless network access point or combination thereof.

2. Key Environmental Impacts and related criteria areas

The key environmental impacts from imaging equipment are mainly associated with the consumption of paper. Further significant environmental impacts are associated with: a) energy consumption in the use phase, b) use of hazardous constituents and material selection in the product design, c) resource consumption in the product life cycle, including the use of toner and cartridges.

Key Environmental Impacts associated with the life cycle of an Imaging equipment and related Key Environmental Areas	Green Public Procurement Approach
<p>Key environmental impacts considered along the product life cycle:</p> <ul style="list-style-type: none"> • global warming, • acidification, • ecotoxicity, • human toxicity, • eutrophication, • resource depletion, • energy consumption. <p>Key environmental areas</p> <ul style="list-style-type: none"> • 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,) 	 <ul style="list-style-type: none"> • Purchase products with efficient paper management • Purchase energy efficient models • Purchase products which are designed to be resource efficient, to generate little waste and to facilitate reuse and recycling

The order of impacts does not necessarily reflect their importance.

Detailed information about the imaging equipment product group, including the information about related legislation and other sources, can be found in the Technical Background Report.

3. EU GPP Criteria for Imaging Equipment

Based on data and information in the Technical Background Report the following sets of EU GPP criteria have been developed to support the purchase of energy efficient imaging equipment with reduced environmental impacts:

3.1 EU GPP criteria for imaging equipment	
Core criteria	Comprehensive criteria
SUBJECT MATTER	SUBJECT MATTER
Purchase of energy efficient imaging equipment with reduced environmental impact	Purchase of energy efficient imaging equipment with reduced environmental impact
TECHNICAL SPECIFICATIONS	TECHNICAL SPECIFICATIONS
<p><i>(Applicable only for imaging equipment capable to reach and/or exceed monochrome printing/copying speed of 25 images per minute for A4 size paper)</i></p> <p>1. Double side printing</p> <p>Imaging equipment shall be equipped with an automatic double-side print/copy unit</p> <p>The duplex printing and/or copying function shall be set as default in the original software provided by the manufacturer.</p> <p>Verification</p> <p>Products holding a relevant Type 1 Eco-label fulfilling the listed requirements and products holding the Energy Star v.2.0 label (or if</p>	<p><i>(Applicable only for imaging equipment capable to reach and/or exceed monochrome printing/copying speed of 25 images per minute for A4 size paper)</i></p> <p>1. Double side printing</p> <p>Imaging equipment shall be equipped with an automatic double-side print/copy unit</p> <p>The duplex printing and/or copying function shall be set as default in the original software provided by the manufacturer.</p> <p>Verification</p> <p>Products holding a relevant Type 1 Eco-label fulfilling the listed requirements and products holding the Energy Star v.2.0 label (or if</p>

<p>applicable a more recent one) will be deemed to comply. A statement from the manufacturer demonstrating that these requirements have been met is also accepted.</p>	<p>applicable a more recent one) will be deemed to comply. A statement from the manufacturer demonstrating that these requirements have been met is also accepted.</p>
<p>2. Multiple images on single sheet of paper</p> <p>Imaging equipment shall offer as a standard feature the capability to print and/or copy 2 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).</p> <p>Verification</p> <p>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.</p>	<p>2. Multiple images on single sheet of paper</p> <p>Imaging equipment shall offer as a standard feature the capability to print and/or copy 2 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).</p> <p>Verification</p> <p>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.</p>
<p>3. Energy efficiency for use mode</p> <p>The energy consumption in the use mode of the product shall fulfil as a minimum the energy efficiency requirements of Energy Star v.2.0 criteria for imaging equipment.</p> <p>The energy consumption has to be measured according to the Test Method for Determining Imaging Equipment Energy Use Version 2.0¹ – Final May-2012 or equivalent.</p>	<p>3. Energy efficiency for the use mode</p> <p>The energy consumption in the use mode of the product shall fulfil as a minimum the energy efficiency requirements of Energy Star v.2.0 criteria for imaging equipment.</p> <p>The energy consumption has to be measured according to the Test Method for Determining Imaging Equipment Energy Use Version 2.0 – Final May-2012 or equivalent.</p>

¹ Found at <https://energystar.gov/products/specs/node/148>.

<p>Verification</p> <p>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.</p> <p>A technical dossier of the manufacturer or a test report demonstrating that these requirements have been met is also accepted.</p>	<p>Verification</p> <p>Products holding a relevant Type 1 Eco-label fulfilling the listed requirements and products holding the Energy Star v.2.0 label (or if applicable a more recent one) will be deemed to comply.</p> <p>A technical dossier of the manufacturer or a test report demonstrating that these requirements have been met is also accepted.</p>
<p>4. User instructions for green performance management</p> <p>A guide shall be provided with instructions on how to maximise the environmental performance of the particular imaging equipment (covering paper management functions, energy efficiency functions and of any consumables such as ink and/or toner cartridges) in written form as a specific part of the user manual and/or in digital form accessible via the manufacturers website.</p> <p>Verification</p> <p>Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply. Other appropriate means of proof will also be accepted, such as written evidence from the manufacturer that the above clause will be met.</p>	<p>4. User instructions for green performance management</p> <p>A guide shall be provided with instructions on how to maximise the environmental performance of the particular imaging equipment (covering paper management functions, energy efficiency functions and of any consumables such as ink and/or toner cartridges) in written form as a specific part of the user manual and/or in digital form accessible via the manufacturers website.</p> <p>Verification</p> <p>Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply. Other appropriate means of proof will also be accepted, such as written evidence from the manufacturer that the above clause will be met.</p>

<p>5. Product longevity and warranty <i>(not relevant for lease contracts including maintenance)</i></p> <p>Repair or replacement of the product shall be covered by the warranty terms for minimum five years. The tenderer shall further ensure that genuine or equivalent spare parts are available (direct or via other nominated agents) for at least five years from the date of purchase. This clause will not apply to unavoidable temporary situations beyond the manufacturer's control such as natural disasters.</p> <p>Verification:</p> <p>Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply.</p> <p>Other appropriate means of proof will also be accepted, such as a self- declaration from the manufacturer stating that the above clause is met.</p>	<p>5. Product longevity and warranty <i>(not relevant for lease contracts including maintenance)</i></p> <p>Repair or replacement of the product shall be covered by the warranty terms for minimum five years. The tenderer shall further ensure that genuine or equivalent spare parts are available (direct or via other nominated agents) for at least five years from the date of purchase. This clause will not apply to unavoidable temporary situations beyond the manufacturer's control such as natural disasters.</p> <p>Verification:</p> <p>Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply.</p> <p>Other appropriate means of proof will also be accepted, such as a self- declaration from the manufacturer stating that the above clause is met.</p>
<p><i>(Requirement not applicable for imaging equipment not using cartridges)</i></p> <p>6. Resource efficiency for cartridges: Design for reuse of toner and/or ink cartridges</p> <p>The products must accept remanufactured toner and/or ink cartridges.</p> <p>Devices and practices that would prevent reuse of toner and/or ink</p>	<p><i>(Requirement not applicable for imaging equipment not using cartridges)</i></p> <p>6. Resource efficiency for cartridges: Design for reuse of toner and/or ink cartridges</p> <p>The products must accept remanufactured toner and/or ink cartridges.</p> <p>Devices and practices that would prevent reuse of toner and/or ink</p>

<p>cartridge (i.e. anti-reutilisation devices/ practices) should not be present or applied.</p> <p>Verification</p> <p>Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply.</p> <p>A technical dossier of the manufacturer or a test report demonstrating that these requirements have been met is also accepted.</p>	<p>cartridge (i.e. anti-reutilisation devices/ practices) should not be present or applied.</p> <p>Verification</p> <p>Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply.</p> <p>A technical dossier of the manufacturer or a test report demonstrating that these requirements have been met is also accepted.</p>
<p>AWARD CRITERIA</p>	<p>AWARD CRITERIA</p>
<p>Points will be awarded for:</p>	<p>Points will be awarded for:</p>
<p>1. Higher Energy Efficiency in use mode</p> <p>Points will be awarded for every 5% of lower energy consumption than specified in the technical specifications for the use mode measured according to the <i>Test Method for Determining Imaging Equipment Energy Use Version 2.0 – Final May-2012</i> or equivalent.</p> <p>Verification</p> <p>A technical dossier of the manufacturer or a test report indicating the energy consumption in the use phase will be accepted.</p>	<p>1. Higher Energy Efficiency in use mode</p> <p>Points will be awarded for every 5% of lower energy consumption than specified in the technical specifications for the use mode measured according to the <i>Test Method for Determining Imaging Equipment Energy Use Version 2.0 – Final May-2012</i> or equivalent.</p> <p>Verification</p> <p>A technical dossier of the manufacturer or a test report indicating the energy consumption in the use phase will be accepted.</p>
	<p><i>(Applicable only for imaging equipment with a maximum monochrome printing/copying speed of less than 25 images per minute for A4 size paper)</i></p>

	<p>2. Double side printing</p> <p>Points will be awarded for imaging equipment devices equipped with an automatic double-side print/copy unit (a duplex-unit).</p> <p>The duplex printing and/or copying function shall be set as default in the original software provided by the manufacturer</p> <p>Verification</p> <p>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.</p>
<p>3. Energy efficiency in standby mode</p> <p>Points will be awarded according to the power consumption in a condition providing networked standby into which the equipment is switched by the power management function, or a similar function. The lower the power consumption, the more points will be awarded.</p> <p>The energy consumption has to be measured according to the Test Method for Determining Imaging Equipment Energy Use Version 2.0 – Final May-2012 or equivalent.</p> <p>Verification</p> <p>A technical dossier of the manufacturer or a test report demonstrating that these requirements have been met is also accepted.</p>	<p>3. Energy efficiency in standby mode</p> <p>Points will be awarded according to the power consumption in a condition providing networked standby into which the equipment is switched by the power management function, or a similar function. The lower the power consumption, the more points will be awarded.</p> <p>The energy consumption has to be measured according to the Test Method for Determining Imaging Equipment Energy Use Version 2.0 – Final May-2012 or equivalent.</p> <p>Verification</p> <p>A technical dossier of the manufacturer or a test report demonstrating that these requirements have been met is also accepted.</p>

Explanatory notes

In procuring imaging equipment, contracting authorities may let separate contracts (covering, for example, equipment supply, and installation) to different contractors. In such cases, different contractors may therefore be responsible for ensuring that different criteria are met.

Award Criteria: Contracting authorities will have to indicate in the contract notice and tender documents how many additional points will be awarded for each award criterion. Environmental award criteria should, altogether, account for at least 15% of the total points available.

If a user of a compliant printing system is using a different supply, refilled or remanufactured, the compliance statement by the initial supplier is not valid. To maintain the compliance statement, the user must contact the provider of the refilled/remanufactured print supplies and obtain a new compliance confirmation.

Life Cycle Costs

For the implementation of GPP, one of the most important aspects is a life-cycle cost analysis of the best environmentally-performing products with respect to average products on the market. Cost considerations are especially important in public procurement because of the need to justify public spending. Member States should be encouraged to make choices that are a good value in the long-term and compatible with wider policies.

Such an approach should include the initial cost of installation, its estimated lifetime (indicatively 5 years is considered the average lifetime of imaging equipment), and operational costs including costs of inks and/or toner consumables and electricity consumption. The operational costs rely mainly on the purchase of consumables (inks and toner cartridges) and on a second level on electricity consumed, and these are far higher than the initial purchase price of the imaging equipment.

As with any electricity-using product, purchasing energy efficient models is generally a win-win option – reducing running costs, and also reducing environmental impacts. Generally, the energy efficiency of the product has a relatively little influence on the purchase price, certainly if one is aiming for a model within the 25% most efficient on the market.

Below we are introducing some scenario calculating the paper saving due to duplex requirement for two different types of printers:

Table 1 Savings due to the duplex requirement for a year life span, data are taken for the year 2005. **Source:** EuP Preparatory Studies "Imaging Equipment" (Lot 4)

Printer type	Images per minute (lpm)	Pages per day	Days in year	Price per page (Euro) ²	Savings due to the duplex requirement (Euro)
EP(Electro-Photography)	15	101	260	0,012	157, 56
EP(Electro-Photography)	26	335	260	0.012	527, 28
EP(Electro-Photography)	30	450	260	0,012	702
IJ (Ink jet) working	15	16,6	260	0,012	25,9
IJ (Ink jet) personal	4	3,1	260	0,012	4,8

Potential annual cost saving thanks to duplex printing compared to one-sided printing for one EP printer 15 ipm (image per minute) in one year are calculated below:

Saving in year due to duplex printing = (101 pages per day * 260 days) / 2 * 0,012 Euro = 157, 56 Euro in year

The calculations above show that the saving delivered by always using duplex printing as oppose to single page printing is significant for EP-printers; and it is considerable for IJ working printers. The savings can be significantly higher if the option "Multiple images on single sheet of paper", see technical specification 2, is chosen.

It has been calculated³ that, compared to the current version of the Energy Star, Commercial Imaging Equipment models that meet the ENERGY STAR Version 2.0 requirements are on average 44 percent more energy efficient than conventional models. This will generate relevant reduction in the energy cost for operating such appliances compared to less efficient models.

² The price does not include ink and toner.

³ Calculation based on the data obtained from ENERGY STAR Final Version 2.0 Imaging Equipment Savings Analysis March 2013

Furthermore, it has also been estimated that in the United State of America (a similar size market to the European Union), if all Imaging Equipment sold in their market in a year met the new ENERGY STAR version 2.0 criteria, overall electricity costs will be reduced by \$1.7 billion while reducing annual greenhouse gas emissions equivalent to those of more than 240 thousand cars.

The EU Energy Star website has a useful tool for calculating the possible financial savings of buying a more efficient product: http://www.eu-energystar.org/en/en_007.shtml.