

The European Commission's
science and knowledge service

Joint Research Centre

EU GPP criteria for IMAGING EQUIPMENT

1st Ad Hoc Working Group
Meeting

Seville – 16th and 17th October 2018



The European Commission's
science and knowledge service

Joint Research Centre

Political objectives of the EU GPP and process description

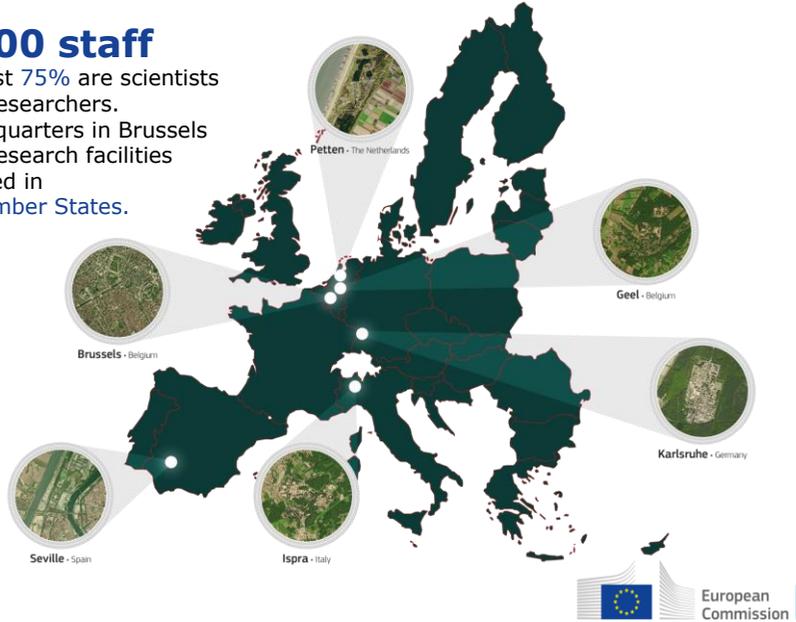
Seville - 16th October 2018



The Joint Research Centre at a glance

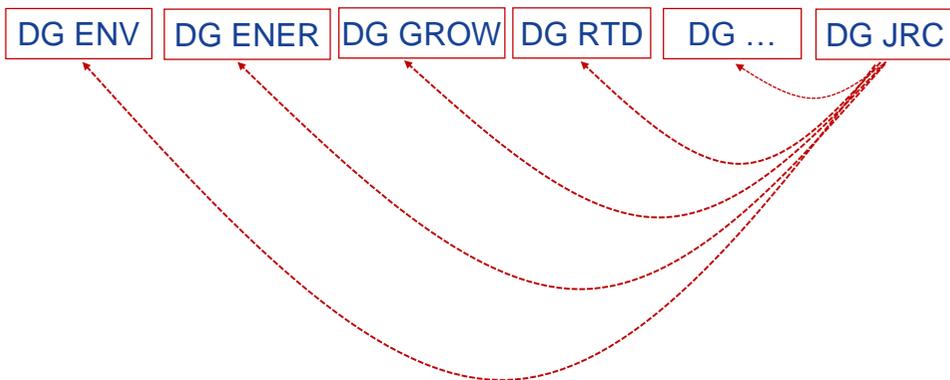
3000 staff

Almost 75% are scientists and researchers.
Headquarters in Brussels and research facilities located in 5 Member States.



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Joint Research Centre in the context of the European Commission:



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Activities in support of Product Policy

Dir.B supports the **development and implementation of Sustainable Product Policies**, among them the EU Ecolabel Regulation and the Green Public Procurement Communication.

Analysis of product groups with focus on techno-economic and environmental aspects

Develop criteria and implementing measures until the stage of voting in committee (resp. publication on GPP page)

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EU Green Public Procurement (GPP) Policy

European Commission
Environment Directorate-General
Enrico Degiorgis



EU Green Public Procurement Policy

What is GPP?

"...a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured."



EU Green Public Procurement Policy

GPP Benefits





EU Green Public Procurement Policy

GPP legal framework

- Directive 2014/24/EU on public procurement (repealing Directive 2004/18/EC)



EU Green Public Procurement Policy

Obstacles to GPP

- Green products are perceived to cost more
- Lack of knowledge on how to verify green criteria
- Lack of awareness of the benefits of green products
- Lack of professional workforce + time



Commission support



EU Green Public Procurement Policy

GPP support tools

GPP website of the European Commission:

- Full sets of EU GPP criteria and background reports in 20+ languages
- Buying Green Handbook
- Circular Procurement brochure **NEW!**
- More than 100 GPP Examples
- News and upcoming events

HELP DESK:

In EN, FR, DE gpp-helpdesk@iclei.org

Newsletter (please sign up!)



Green Public Procurement in Circular Economy Action Plan

- Key role for circular economy acknowledged
- Special emphasis on circular economy aspects in criteria-setting (durability, reparability)
- Support a greater uptake of GPP criteria by public authorities, e.g. by training
- Commission to lead by example - in its own procurement, and by reinforcing the use of GPP in EU funding



EU Green Public Procurement Policy

Two levels of criteria

Core criteria:

- Aim at addressing the key environmental impacts
- Require minimum additional verification effort or cost increases

Comprehensive criteria:

- Aim at purchasing the best environmental products available on the market
- possibly requiring additional verification efforts or a slight increase in cost compared to other products with the same functionality.



*GPP criteria are largely based on standard Type I ecolabels.
It is however not allowed to ask for products to have a specific label.*



EU Green Public Procurement Policy

Questions? Please contact:

enrico.degiorgis@ec.europa.eu

GPP webpage: <http://ec.europa.eu/environment/gpp>

Comments using the BATIS system

Written comments on the first criteria proposals are invited and should be posted on the BATIS system **at the latest by Friday 16th November 2018**



JRC-IPTS-PRODUCT-BUREAU@ec.europa.eu

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Next steps

1. Stakeholders can provide comments on technical report and criteria proposals for EU GPP (before 16th November).
2. Comments need to be transmitted in the BATIS system.
3. February 2019: Publication TR (second version) for written consultation.
4. March-May 2019: Final report preparation
5. August 2019: Inter Service Consultation
6. September 2019: Process finalisation

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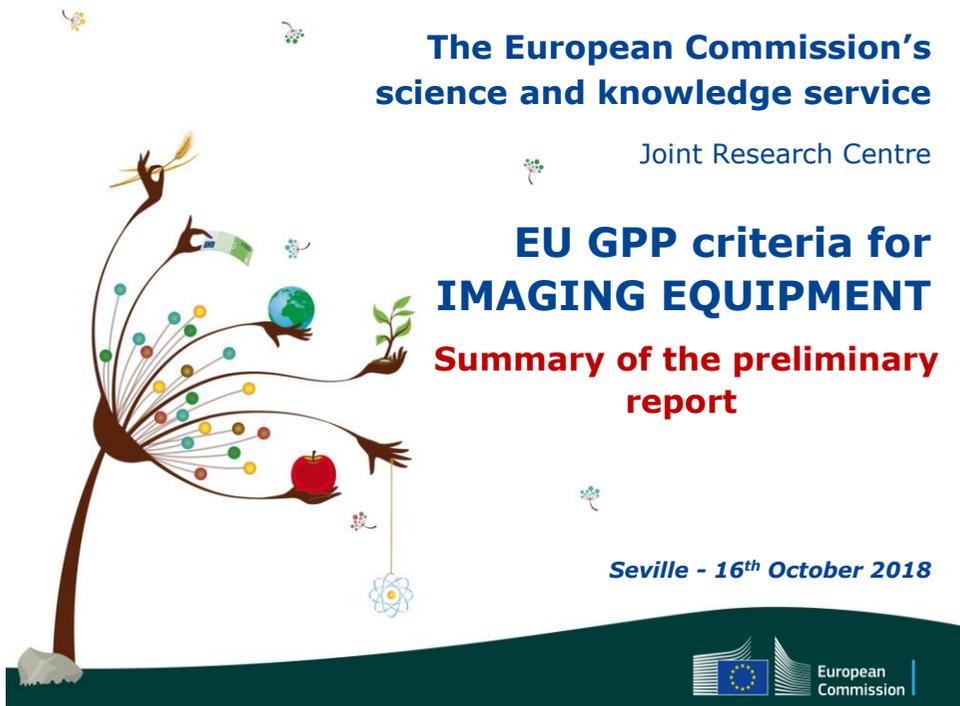
The European Commission's
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Joint Research Centre

EU GPP criteria for IMAGING EQUIPMENT

Summary of the preliminary
report

Seville - 16th October 2018



Task 1. Scope and definitions

Existing scope and definitions

*"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)."

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Existing scope and definitions

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).

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Existing scope and definitions

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.

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Assessment of existing scope and definitions

- Analysis of the product categorisation in **statistical sources** (PRODCOM, NACE, Common Procurement Vocabulary (CPV) and Common Nomenclature (CN)), **relevant legislation and standards** and analysis of **public tenders**.
- Detailed study of the scope, product categorisations and definitions used in **environmental initiatives** (Energy Star, EU Voluntary Agreement, the EPEAT scheme, Blue Angel, Nordic Swan and Korea Ecolabel).
- Feedback from **preliminary stakeholder survey** and assessment of **public tenders**.

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Assessment of existing scope and definitions

Summary of findings from product categorisation in **statistical sources:**

- None of the statistical sources assessed in the PR provides a perfect solution.
- Large degree of ambiguity.

Summary of findings from product categorisation in **environmental initiatives :**

- IE is covered by a large range of initiatives with much commonality in terms of scope and categorisation approaches.
- ENERGY STAR appears to have a strong influence on the scope and categorisation approaches used by other initiatives.
- The ENERGY STAR v3.0 specification for imaging equipment is expected to be completed sometime in 2018

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Assessment of existing scope and definitions

Summary of findings from product categorisation in **preliminary stakeholder survey:**

- Most respondents said **cartridges and consumables** should be included within the scope of this product group.
- **Speed restriction** is unnecessary.
- **Alignment** with other available environmental schemes.
- **Products designed for A2 media and larger** and plotters should be included.

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Revised proposal for scope and definitions

To extend the scope of the EU GPP criteria to include **consumables**:

- as the IE become more efficient, the importance of consumables is more evident (20-30% contribution to GWP and Primary Energy Demand in the LCA studies).
- other widely used environmental schemes (Blue Angel, EPEAT and the Nordic Swan) already consider consumables in their criteria.

To extend the scope to include also **printing services** → the use of printing service agreements where the price is linked to the quantity of printed pages is expected.

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Revised proposal for scope and definitions

1) Imaging Equipment products

Imaging Equipment products scope

Products that 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.

Excluded from the scope are:

- a) Digital Duplicators,
- b) Mailing machines,
- c) **Fax machines.**

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Revised proposal for scope and definitions

1) Imaging Equipment products

Imaging equipment product	Definition
Printer	A product whose primary function is to generate paper output from electronic input. A printer is capable of receiving information from single-user or networked computers, or other input devices (e.g., digital cameras). This definition is intended to cover products that are marketed as printers, and printers that can be field-upgraded to meet the definition of an MFD.
Copier	A product whose sole function is to produce paper duplicates from paper originals. This definition is intended to cover products that are marketed as copiers, and upgradeable digital copiers (UDCs).
Multifunctional device (MFD)	A product that performs two or more of the core functions of a Printer, Scanner, Copier, or Fax Machine. An MFD may have a physically integrated form factor, or it may consist of a combination of functionally integrated components. MFD copy functionality is considered to be distinct from single-sheet convenience copying functionality sometimes offered by fax machines. This definition includes products marketed as MFDs, and "multi-function products" (MFPs).
Scanner	A product whose primary function is to convert paper originals into electronic images that can be stored, edited, converted, or transmitted, primarily in a personal computing environment. This definition is intended to cover products that are marketed as scanners.

Revised proposal for scope and definitions

2) Imaging equipment consumables

Imaging Equipment consumables scope
<p>A replaceable product that is essential to the functioning of the imaging equipment product. It can be replaced or replenished by either the end user or service provider during the normal usage and life span of the imaging equipment product- Imaging equipment consumables covered under the scope of this EU GPP include:</p> <ul style="list-style-type: none"> a) Containers, b) Cartridges, c) Drum units, d) Fusers units, e) Transfer kits.

Revised proposal for scope and definitions

2) Imaging equipment consumables

Imaging equipment consumable	Definition
Container	An end-user replaceable product that holds toner or ink and that fits onto or into or is emptied into an imaging equipment product. Containers do not contain integrated components or moving parts integral to the imaging product's function.
Cartridge (Ink/toner)	An end-user replaceable product, which fits into or onto an imaging equipment product, with printing-related functionality that includes integrated components or moving parts integral to the imaging equipment's function beyond holding the ink or toner material.
Drum units	An end-user replaceable product, which fits into an imaging equipment product and which includes a photosensitive drum.
Fusers units	An end-user replaceable product, which fits into an imaging equipment product and which consists of a pair of heated rollers that fuse toner onto output media.
Transfer unit	An end-user replaceable product, which fits into an imaging equipment product, and which supports the transfer of toner onto output media ahead of a fusing process.

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Revised proposal for scope and definitions

3) Printing services

Print services	
Service agreements where the price is linked to the quantity of printed pages. These agreements can include the supply of IE products and /or consumables, maintenance, end of life activities and optimisation of organisation's document output.	
Other relevant definitions related to printing services	
Managed Print Services (MSP)	<p>The Managed Print Services Association (MPSA) defines MPS as "the active management and optimization of document output devices and related business processes".</p> <p>MPS covers the following service areas:</p> <ul style="list-style-type: none"> • Assessment: which involves a review of existing print environment of an organization and aims to provide recommendations for better device management, • Optimization: which entails consolidating and rationalizing devices and business processes to develop a comprehensive MPS strategy, • Management: which covers systematic reviews, monitoring of service level agreement (SLA) and remote management. It aims to improve ongoing process and workflows.

Revised proposal for scope and definitions

Questions to stakeholders

Do you agree with the proposed scope? Are there more elements, which should be included in the scope?

Do you agree with the definitions proposed for consumables and/or printing services?

Any further clarifications or direct proposals how to improve the scope and definition section are welcome.

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Task 2. Market analysis

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Technical state-of-play of imaging equipment

- Domestic and non-domestic.
- Non-domestic: products for office use as well as for larger scale professional use.
- The most common marking technologies used in imaging equipment are **Electro-photographic (EP) (Laser)** and **Ink Jet (IJ)**.
- There is a tendency by **business to perform their own professional printing**, supported by the reductions in the prices of laser based IE products.

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Procurement practices

- There is a **variety of purchasing and tendering approaches** among public organisations and typically, a larger tender in a public organisation **involves different type of experts**.
- **TED** (European Commission Tenders Electronic Daily) **database** in 2016 public institutions in the EU published 384 contract award notices for contracts which included printers and plotters.
- Examples of public procurement of imaging equipment (UK, IT,DK)
- The level of **environmental conditions** laid down in public procurement contracts varies significantly.
- Public tenders suggests that **most contracts are for purchasing products** and not leasing and services; however the trend is expected to be an **increased use of purchase service agreements** through managed service print services.

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Market volume (IE products)

The annual sales for all imaging equipment products (i.e. B2B and B2C) have been estimated based on several data sources.

Product type	Product sub-type	Data source
Printers	Inkjet printers	(2017) Interim Report Q3-Q4 2015: Survey of the Market Penetration of energy Efficient Office Equipment under the EU ENERGY STAR Programme Imaging equipment Impact Assessment and (2011) Imaging equipment Impact Assessment and (2011) Development of European Ecolabel and Green Public Procurement Criteria for Imaging Equipment: Economic and Market Analysis
	Laser printers	
Multifunctional devices (MFDs)	Inkjet MFDs	
	Laser MFDs	
Copiers		
Scanners		Online research

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Market volume (IE products)

- Ratio of images produced at work and at home as approximately 20 to 3 → basis for estimating the non-domestic (i.e. B2B) and domestic (i.e. B2C) market shares for scanners and copiers.
- The market shares of printers and MFDs are based on the partial sales data from one Member State combined with the total EU-28 market size, and projected up to 2030.

Estimated non-domestic B2B market share (as percentage of annual sales)

Product type	Product sub-type	2000	2005	2010	2015	2020	2025	2030
Printers	Inkjet	38%	38%	38%	38%	42%	46%	50%
	Laser	85%	85%	85%	86%	87%	87%	88%
Multi-functional devices (MFDs)	Inkjet	54%	54%	54%	53%	57%	61%	65%
	Laser	96%	96%	96%	98%	98%	98%	98%
Copiers		97%	93%	90%	87%	87%	87%	87%
Scanners		97%	93%	90%	87%	87%	87%	87%

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Market volume (IE products)

estimated annual sales for the non-domestic market, historical and forecasted (million units):

Product type	Product sub-type	2000	2005	2010	2015	2020	2025	2030
Printers	Inkjet	3.82	4.66	3.65	0.36	0.36	0.35	0.35
	Laser	3.41	3.77	3.94	3.28	2.30	1.62	1.13
(MFDs)	Inkjet	4.46	5.44	6.70	7.89	10.64	13.37	16.36
	Laser	1.01	2.01	3.02	4.09	5.21	6.65	8.49
Copiers		1.54	1.37	1.01	1.19	1.28	1.37	1.43
Scanners		0.04	0.12	0.21	0.40	0.77	1.47	1.47
TOTAL		14.3	17.4	18.5	17.2	20.6	24.8	29.2

- Printers will be relatively insignificant compared to multifunctional devices.
- Inkjet printers shows a sharp decrease.
- Copiers and scanners B2B market share will remain stable, total annual sales will still increase due to the digitalisation of documents and documentation in hard copy. But all in all the **MFDs will be dominant** in the non-domestic market.
- In 2015, the sales are close to zero for fax machines, digital duplicators and mailing machines.

Market volume (IE consumables & Printing services)

- Data on **sales of consumables** at EU level is **not publicly available**. Making assumptions on consumable volumes would provide very uncertain numbers.
- Publicly available data on the **amount of printing services used in public procurement is also not known**. The analysis of public tenders suggests that most public contracts are for purchasing products and not for leasing and services. TED database contracts awarded by public authorities at EU level over 135 000 EUR.
- **A trend is expected for an increased use of purchase service agreements** where the price is linked to the quantity of printed pages. It is expected that these services develop further into established services offered to non-domestic users.

Questions to stakeholders

Any further data that help to complete the analysis is welcome

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Task 3. Technical analysis

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Methodology

- 9 LCA studies were selected for the comprehensive review
- Assessment of **other environmental schemes**: Other environmental aspects : key performance indicators (KPIs) (Material choice, Hazardous substances, Durability and guarantee, End-of-life practices)
- Review of **Best Available Technologies (BAT) (Energy use and non-energy use aspects)**
- Outcomes from **stakeholder survey** in relation to criteria
- Identification **improvement options** based on environmental analysis

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Imaging equipment products

LCA studies review → hotspots for IE products:

- **Electricity for printers and MFDs**, particularly for those with less efficient printing technologies.
- **Electricity for scanners**, which can be reduced if consumer utilises low power modes for longer periods.
- Use of consumables, particularly **paper and cartridges** (for printers and MFDs).
- **Manufacturing of printers, MFDs and scanners**, particularly for the more efficient printing technologies (i.e. laser technologies).

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Imaging equipment products

Other KPIs used by other environmental schemes and initiatives are:

- Energy use
- Availability of low power modes and power management functions
- Use of cartridges
- Manufacturing impacts
- Recyclability
- Recycled content
- Product weight
- Product lifetime extension
- Content of hazardous substances

BAT review indicates that the best products on the market concerning energy and material efficiency aspects are:

- Energy efficient both for active state and low power modes
- Designed for recycling
- Accepting of remanufactured cartridges
- Limiting the content of hazardous substances

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Imaging equipment consumables

LCA review → hotspots for consumables:

- **Manufacturing of cartridges** (housing and print head). It can be greatly reduced if **cartridges can be refilled**.
- The **amount of paper the cartridge uses to deliver the printouts at the desired quality**; the higher the quality the more the reductions of environmental impacts by using less paper.
- The **consumer transport for refilled cartridges**; the more refills the higher the contribution of transport for the total environmental impacts. However, this is **subject to great variability** depending on the allocated fuel used per trip per refilling.

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Imaging equipment consumables

Other KPIs used by other environmental schemes and initiatives are:

- Paper use
- Manufacturing impacts
- Possibility to refill cartridges
- Indoor emissions

BAT review indicates that the products on the market incentivizing the reduction of energy and materials for their consumables are

- Promoting more common cartridges designs which promote the use of remanufactured cartridges
- Accepting refilled cartridges
- Reducing use of paper
- Limiting the indoor emissions from the use phase
- Limiting the content of hazardous substances

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Printing services

- No data giving an indication of the range of environmental benefits and costs savings from procuring printing services
- Preliminary assessment revealed that opportunities exist to **better control** some of the **major hotspots identified from the products and consumables**: energy consumption, manufacturing of imaging equipment products, use of paper and use of cartridges.
- At organization level, **managed printing services**:
 - encourage the use of remanufactured cartridges
 - can reduce the amount of paper used by optimizing document output,
 - can integrate other office service areas to optimize the use of energy
 - can improve employers environmental education.

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IE category	Key environmental aspects (Improvement options)
IE products	<ul style="list-style-type: none"> • Limiting the use of energy, both in active state and in low power modes • Promote the use of recycled materials in imaging equipment products • Promote modular designs which facilitate repair and recycling • Restrict the indoor use emissions, in particular of hazardous substances such as VOCs • Accepting of remanufactured cartridges • Limiting the content of hazardous substances • Measuring and reporting the impacts of manufacturing of imaging equipment products • Limiting the use of paper and promote the use of recycled paper and printing features in the printer such as automatic duplexing, N-up printing, certified use of recycled and low weighted paper, pull printing, and printing awareness tools • Encouraging the use of refilled cartridges, and of remanufactured cartridges rather than limiting to the use of OEM cartridges • Promoting more common cartridges designs which promote the use of remanufactured cartridges • Accepting refilled cartridges • Promote reusability and recyclability trough take back system • Provision of information for green performance
Consumables	<ul style="list-style-type: none"> • Promote efficient consumables (materials and printing efficiency) • Limiting the indoor emissions from the use phase • Limiting the content of hazardous substances • Promote reusability and recyclability trough take back system • Provision of information for green performance
Services	<ul style="list-style-type: none"> • Promote imaging equipment fleet optimization. • Promoting resource efficiency • Provision of information for green performance

Questions to stakeholders

Do you agree with the results of the technical analysis?

Any further data that help to complete the analysis is welcome

Criteria structure

Criteria area 1 – Imaging equipment

Subject matter: purchase, leasing of IE products

- Requirements on the consumable
- After-supply requirements

Criteria area 2 – Imaging Equipment consumables

Subject matter: purchase of product consumables

- Requirements on the consumable
- After-supply requirements

Criteria area 3 – Printing services

Subject matter: purchase of OUTPUT - number of printouts

- Requirements on the service

Horizontal Criteria (applicable to all criteria areas)

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Types of GPP Criteria

- **Selection criteria (SC)** assess the suitability of an economic operator to carry out a contract
- **Technical specifications (TS)**, the required characteristics of a product or a service including requirements relevant to the product at any stage of the life cycle of the supply or service and conformity assessment procedures;
- **Award criteria (AC)**, qualitative criteria with a weighted scoring which are chosen to determine the most economically advantageous tender
- **Contract performance clauses (CPC)**, special conditions laid down that relate to the performance of a contract and how it shall be carried out and monitored

Two ambition levels

The **Core criteria** are designed to allow for easy application of GPP, focussing on the key area(s) of environmental performance of a product and aimed at keeping administrative costs for companies to a minimum.

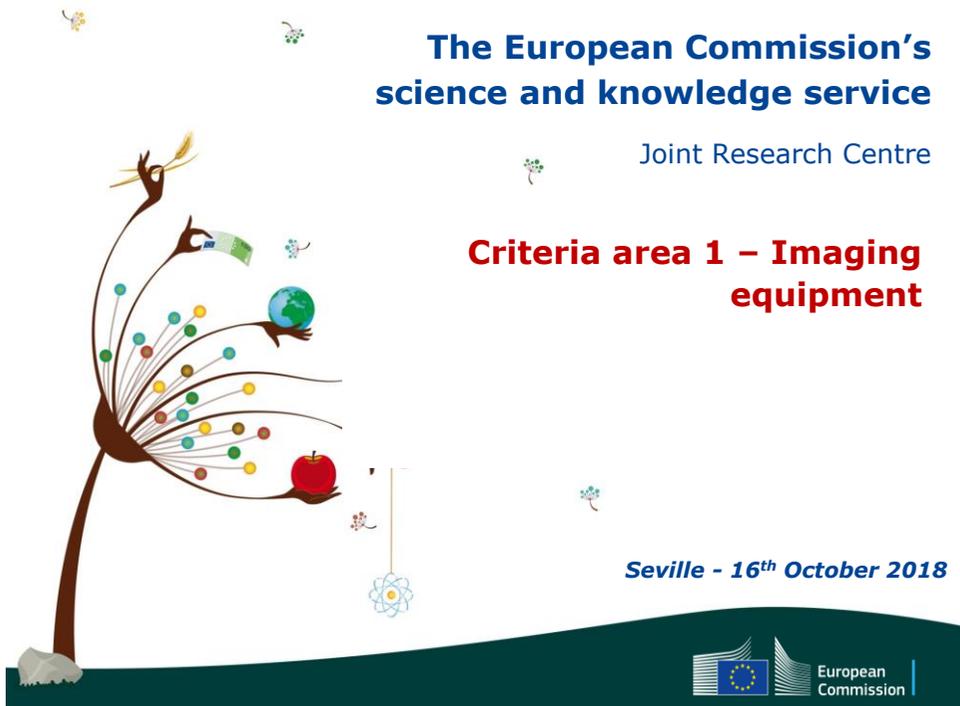
The **Comprehensive criteria** take into account more aspects or higher levels of environmental performance, for use by authorities that want to go further in supporting environmental and innovation goals.

The European Commission's science and knowledge service

Joint Research Centre

Criteria area 1 – Imaging equipment

Seville - 16th October 2018



Criteria area 1 – Imaging equipment

- Criteria in this section proposed to be used:
 - **when purchasing and/or leasing** imaging equipment products that are within scope of the EU GPP
 - **for provision** of imaging equipment products **under a printing service contract** (to be discussed later under printing service criteria sessions).

Preliminary assessment of existing fleet and procurement needs

- Better management of imaging equipment can encourage reductions in environmental impacts, for instance through:
 - **Identifying areas where fewer products could be used in case of assessment of existing resources**
 - **Better understanding of needs in case of planning the purchase additional/new equipment**
- No known criteria in any major environmental initiatives
- The assessment is proposed to be conducted by a **different provider** to the one who will supply new equipment.
- Still, the procuring authorities would need to work with potential suppliers on how the existing products would be classified (i.e. into the **Retain, Return, Reuse or Recycle categories**).

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Same core and comprehensive

Preliminary assessment of existing fleet and procurement needs

First criteria proposal	
Core criteria	Comprehensive criteria
CONTRACT PERFORMANCE CLAUSE	
CPC1 Preliminary assessment of existing fleet and procurement needs	
<p><i>(This contract should be considered as a standalone preliminary procedure, conducted by a different provider than the potential provider for procurement of imaging equipment. This preliminary assessment should apply only when the procuring authority identifies the need to optimise the use of existing fleet prior to procurement of new imaging equipment and when the procurer decides not to use in-house staff to carry out this assessment.)</i></p> <p>The service provider must conduct evaluation of any current fleet of imaging equipment that the procuring authority has on their site(s) and provide to the procuring authority the results of that evaluation. The evaluation must identify the following:</p> <ul style="list-style-type: none"> • Number of imaging equipment models on each site • Name, model number and type of each imaging equipment model • Approximate age of each imaging equipment model <p>Based on the main print needs communicated by the procurer and the above evaluation results, the service provider must classify each imaging equipment model into distinct categories which identify their future status. Example categories include:</p> <ul style="list-style-type: none"> ○ Retain: Product to be kept for continued use on procuring authority's estate ○ Return: Product to be returned to incumbent or past supplier ○ Reuse: Product to be sold for reuse outside of procuring authority's estate ○ Recycle: Product to be sent for end-of-life processing <p>Based on above elements service provider must produce a short report advising the procurer on the number and characteristics of the additional new products to be procured.</p>	

Preliminary assessment of existing fleet and procurement needs

Questions to stakeholders

- Are you aware of similar activities being already conducted in the frame of public procurement?

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Energy efficiency

- **Despite of big improvements in energy efficiency**, energy consumption during the use phase for all imaging equipment products in scope is **still one of the three major hotspots**.
- This applies not only to **active state consumption** but also **consumption at other low power modes**.
- **Existing EU GPP** criteria include an energy criterion requiring that products meet the **Energy Star 2.0 specification**
- **Main environmental schemes** like for instance Blue Angel also have criteria on energy efficiency.
- **It is proposed to keep the link between the EU GPP criteria and the requirements established in the latest version of ENERGY STAR**.
 - To ensure that the energy consumption levels are kept updated in relation to technological development

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Energy efficiency

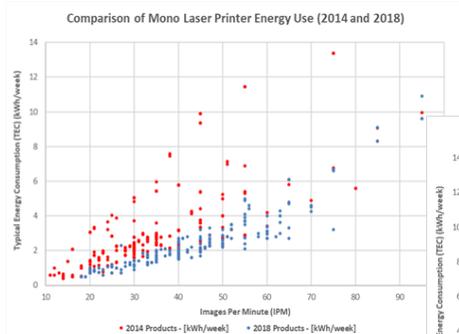


Figure: Comparison of energy use between standard sized mono laser printers in the ENERGY STAR database

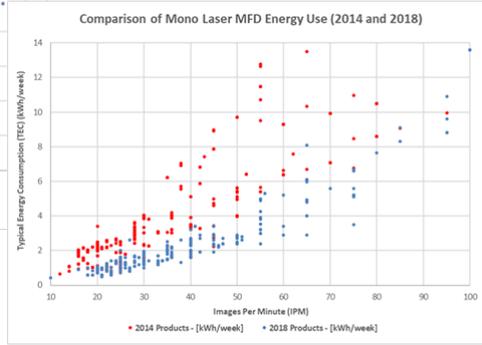


Figure: Comparison of energy use between standard sized mono laser MFDs in the ENERGY STAR database

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Same core and comprehensive

Energy efficiency – 1

First criteria proposal	
Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATIONS	
TS1 Imaging equipment minimum energy efficiency	
Imaging equipment must meet all the energy efficiency and power management requirements laid down in the most recently published ENERGY STAR specification. The ENERGY STAR version implemented at the time of publication is 2.0 and updates can be followed at the following link: https://www.energystar.gov/products/office_equipment/imaging_equipment	
Verification:	
<i>The tenderer must provide test reports carried out according to the test methods laid down in the latest version of the ENERGY STAR. These must be provided upon award of the contract or prior to that upon request. Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i>	

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Energy efficiency – 2

First criteria proposal	
Core criteria	Comprehensive criteria
AWARD CRITERIA	
AC1 Improvement in the imaging equipment energy efficiency beyond ENERGY STAR	
<p>Points will be awarded if the product is more energy efficient than the TEC_MAX value for imaging equipment covered under the ENERGY STAR TEC approach. Points must be calculated in comparison with the maximum typical electricity consumption (TEC_MAX) allowed under the most recently implemented ENERGY STAR (see Criterion TS1).</p> <p>A maximum of x points [to be specified] may be awarded. Points must be awarded in proportion to the improvement in energy efficiency in comparison to the TEC_MAX value:</p> <ul style="list-style-type: none"> <input type="checkbox"/> over 80% lower: x points <input type="checkbox"/> 60-79% lower: 0.8x points <input type="checkbox"/> 40-59% lower: 0.6x points <input type="checkbox"/> 20-39% lower: 0.4x points <input type="checkbox"/> 10-19% lower: 0.2x points <p>Alternatively, instead of using the TEC_MAX value a Life Cycle Costing calculation could be requested, whereby the offered improvement potential would lead to a relative decrease in the overall running costs of a product compared to a less energy efficient model.</p> <p>Verification:</p> <p><i>The tenderer must provide test reports carried out according to the test methods laid down in the latest implemented version of ENERGY STAR. The tenderer must detail the measured TEC value and the ENERGY STAR TEC_MAX value for each applicable product and a calculation of the improvement in energy efficiency. These must be provided upon award of the contract or prior to that upon request.</i></p>	

Energy efficiency – 2

Questions to stakeholders
<ul style="list-style-type: none"> • Do you agree with the proposed criterion and respective ambition levels of the core and comprehensive criteria?

Duplex imaging capability

- **Use of paper** is the most important **hotspot** throughout the life cycle of printers and MFDs
- Duplex functionality set as default is already in the **current EU GPP**
 - **Duplex imaging capability is required though only for imaging equipment with monochrome printing/copying speeds which exceeded 25 images per minute (A4 size paper).**
- Majority of known environmental initiatives include requirements on duplex printing

Environmental Impact Areas				Initiative				
Impact Area	Sub-Impact Area	ENERGY STAR v2.0	EU GPP Criteria	Ecodesign VA	Blue Angel	Nordic Swan	EPEAT/IEEE 1680.1	Korea Ecolabel
Paper Use	Automatic duplex	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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Duplex imaging capability

First criteria proposal	
Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATIONS	
<p>TS2 Duplex imaging capability</p> <p>Imaging equipment meets the automatic duplexing requirements laid down in the most recently implemented ENERGY STAR specification.</p> <p>Note: Applicable to imaging equipment covered by duplex imaging requirements in Energy Star.</p> <p>Verification:</p> <p><i>The tenderer must provide documentation proving that the requirement is met. Equipment registered in the ENERGY STAR database or holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p> <p><i>A statement from the manufacturer demonstrating that these requirements have been met is also accepted.</i></p>	<p>TS2 Duplex imaging capability</p> <p>Imaging equipment that utilises thermal marking technologies must provide automatic duplexing functionality and it must be set as default in the original software provided by the manufacturer.</p> <p>Verification:</p> <p><i>The tenderer must provide documentation proving that the requirement is met. Equipment registered in the ENERGY STAR database or holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p> <p><i>A statement from the manufacturer demonstrating that these requirements have been met is also accepted.</i></p>

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Duplex imaging capability

Table ENERGY STAR v2.0 Duplex Imaging Requirements

Product Type:	Monochrome Product Speed (s) as Calculated in the Test Method (ipm)	Automatic Duplexing Requirement	Automatic Duplexing Optional Requirements
Colour TEC Copiers, MFDs, and Printers	$s \leq 19$	None	Additional software-supported option for duplex printing and copying.
	$19 < s < 35$	Integral to the base product or optional accessory	Duplex printing must be set as default
	$s \geq 35$	Integral to the base product	
Monochrome TEC Copiers, MFDs, and Printers	$s \leq 24$	None	
	$24 < s < 37$	Integral to the base product or optional accessory	
	$s \geq 37$	Integral to the base product	

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Duplex imaging capability

First criteria proposal	Comprehensive criteria
Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATIONS	
<p>TS2 Duplex imaging capability</p> <p>Imaging equipment meets the automatic duplexing requirements laid down in the most recently implemented ENERGY STAR specification.</p> <p>Note: Applicable to imaging equipment covered by duplex imaging requirements in Energy Star.</p> <p>Verification:</p> <p><i>The tenderer must provide documentation proving that the requirement is met. Equipment registered in the ENERGY STAR database or holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p> <p><i>A statement from the manufacturer demonstrating that these requirements have been met is also accepted.</i></p>	<p>TS2 Duplex imaging capability</p> <p>Imaging equipment that utilises thermal marking technologies must provide automatic duplexing functionality and it must be set as default in the original software provided by the manufacturer.</p> <p>Verification:</p> <p><i>The tenderer must provide documentation proving that the requirement is met. Equipment registered in the ENERGY STAR database or holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p> <p><i>A statement from the manufacturer demonstrating that these requirements have been met is also accepted.</i></p>

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Duplex imaging capability

- The proposal for the **revised core criterion** is slightly more stringent than the existing EU GPP criterion for some products but more lenient for others.
- That is, the **current** EU GPP criterion requires that **all products** with an imaging speed of **at least 25 ipm** must have automatic duplexing functionality.
- The **revised** criterion requires that products with imaging speeds between 19 and 24 must offer automatic duplexing as an optional accessory.
- The proposal for **comprehensive criterion** includes a more ambitious requirement that **all imaging equipment which uses thermal marking technologies** needs to provide automatic duplexing functionality.
- Market availability of compliant products is considered high

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Duplex imaging capability

Questions to stakeholders

- Do you agree with the proposed criterion and respective ambition levels of the core and comprehensive criteria

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N-up printing

- N-up printing exists in the current EU GPP criterion
- It aims at reducing the paper usage
- Similar criterion is also found in other environmental initiatives like the Voluntary Agreement and in the Blue Angel

Environmental initiative	Criterion Text
EU Voluntary Agreement	All product models first placed on the EU market after 1 January 2012 must offer as a standard feature the capability to print several pages of a document on one sheet of paper, when the product is managed by original software provided by the manufacturer (printer driver). A model is considered Part II qualified when it meets all the requirements as detailed in section 5.
Blue Angel	Devices must offer as a standard feature the capability to print several pages of a document on one sheet of paper. The required information on the availability of N-up printing and software settings must be contained in the information and data sheet.

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Same core and comprehensive

N-up printing

First criteria proposal	
Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATIONS	
TS3 N-up printing	
Imaging equipment must offer as a standard feature the capability to print 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).	
Verification:	
<i>The tenderer must provide documentation stating that the requirement is met. Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply.</i>	

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N-up printing

- Even though it is understood that majority of products is already compliant, it is considered sensible to keep it as a **safety net**.
- **Retrofitting** requires an update of the printer software to include this feature.
- An alternative option is to install an **add-on 3rd party software**; however, this option may add complexity for the users.
- The **same level of ambition** is kept for core and comprehensive.

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N-up printing

Questions to stakeholders

- Are there any other paper management practices relevant, like printing on demand or print cancellation, which you consider important to be included in the revised criteria proposal?

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Capability to use recycled paper

- Existing criteria in force do not cover such a requirement
- **Recycled paper** can have substantially lower environmental impacts than **virgin paper** (e.g. 75% reductions of Global Warming Potential)
- Assuming recycled paper is used when printing internal notes or draft copies, these represent about one third to a half of the printouts
- Capability to use recycled paper is a requirement already found in the Blue Angel, the EU Voluntary Agreement and EPEAT

Environmental initiative	Criterion Text
Blue Angel	The devices must be capable of using recycled paper made of 100% post-consumer recycled paper that meets the requirements of EN 12281. The distributor is free to recommend certain types of recycled paper. The information and data sheet must include the following note: "This equipment is suitable for using recycled paper". A reference to EN 12281 can be included.
EPEAT	Allow use of general office paper with renewable content, recycled content, and that is chlorine free Product criterion: The product allows the use of general office paper with renewable content, and paper with pre/postconsumer recycled content, and paper that is chlorine free. Documentation that the product allows the use of these types of paper is readily available or has been provided to the purchaser. For example, documentation types may include the following: a) An owner's manual, set-up instructions, label or other information provided with the product, or b) Warranty and/or service contract provided with the product, or c) Information on the manufacturer's Website, such as included in product specification or as a policy statement, etc. The manufacturer may require that paper must meet standard paper quality requirements such as EN12281:2002.

Same core and comprehensive

Capability to use recycled paper

First criteria proposal
Core criteria
Comprehensive criteria
TECHNICAL SPECIFICATIONS
<p>TS4 Capability to use recycled paper</p> <p>Imaging equipment must be capable of processing recycled paper that meets the quality requirements of EN 12281.</p> <p>Verification:</p> <p><i>The tenderer must provide a declaration confirming or documentation proving that recycled paper meeting the requirements in EN 12281 can be used in the product. Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply.</i></p>

[EN 12281:Printing and business paper for dry toner imaging processes](#)

Capability to use recycled paper

Questions to stakeholders

- Do you agree with the proposed criterion?

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Capability to use remanufactured cartridges

- Such a requirement exists in the current EU GPP criteria
- The main aim is to:
 - **promote reuse and recycling** of consumables materials reducing in this way the amount of new resources which have to be used
 - to **give incentive to manufacturers** to design their products in the way that they can be easily reused/remanufactured
- **Questionnaire outcomes with regards to cartridge waste volumes and reuse rates in the previous revision** showed that:
 - 300-500 million ink cartridges and 10-20 million toner cartridges are annually sold in the EU-27
 - Approx. 20 % (at least) of these cartridges are reused
 - A few OEM producers are involved in remanufacturing activities whereas many are involved in recycling activities
 - Per year 40 -70 % end up in landfills and/or incinerators

Capability to use remanufactured cartridges

- **Questionnaire outcomes with regards to the cartridge reuse circles** suggest that:
 - Ink and toner cartridges can be **reused** at least once but on average 2-3 times, and printing quality remains sufficiently good
 - **Toner** cartridges can be **remanufactured** more easily than ink **cartridges** and there are examples of up to 25 reuse cycles;
 - Some parts break down easier and have to be changed in the remanufacturing process;
 - The number of reuse circles depends on the model and the condition of the collection of the cartridge.

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Capability to use remanufactured cartridges

- **Questionnaire outcomes with regards to parameters affecting the cartridge reuse cycles** suggest that:
 - This is a complex area - several parameters affect the reuse of the cartridge
 - For cartridge remanufacturing by third parties the identified technical parameters (which can limit/influence this process) are :
 - clever/killer/smart chips
 - design features that hamper remanufacturing i.e. welding, glue, blind screws or conjoined parts to fit cartridge-parts together
 - weaker print heads

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Capability to use remanufactured cartridges

- The **potential for achieving environmental savings** and resource conservation via reusing cartridges is considered high
- **Reuse** has either better or equal environmental benefits as recycling, thus it shall be prioritised as an option.
 - This is in line with the **waste management hierarchy**.
- Technical analysis from the previous revision has been updated and concluded that **use of remanufactured cartridges should be promoted**.
- A recent EC funded project bring as one of the results estimation that **increasing consumable remanufacturing rates to 75%** (from a current estimate of 25%) would result in an annual CO₂ impact reduction of around **4 kt per year**.

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Capability to use remanufactured cartridges

- Still it is important to mention that there are studies which provide evidence on **environmental preference of OEM cartridges**.
- The answer to **which is the most environmentally preferable option** is **dependent on a set of variables** such as:
 - Final disposal route and end-of-life practices
 - The number of times a single cartridge/container can be remanufactured
 - The number of cartridge/container parts that need to be changed during remanufacture
 - The quality of cartridges and related printouts
 - Other manufacturing and remanufacturing process impacts

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Capability to use remanufactured cartridges

- Existing requirement is proposed to be kept.
- Verification can take the form of a manufacturer's declaration or technical dossier from the manufacturer proving that that remanufactured cartridges can be used in their product.

First criteria proposal	
Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATIONS	
TSS5 Capability to use remanufactured cartridges	
The products must accept remanufactured toner and/or ink cartridges. Devices and practices that would prevent use of remanufactured cartridge should not be present or applied.	
Verification:	
<i>The tenderer must provide a declaration confirming or documentation proving that remanufactured cartridges can be used in the product. Products holding a relevant Type 1 Eco-label fulfilling the listed requirements will be deemed to comply.</i>	

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Capability to use remanufactured cartridges

Questions to stakeholders

- Do you agree with the proposed criterion?
- Do you see a possibility to formulate it more precisely, without potential hampering innovation?

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Reduced number of materials

- **Plastic parts** constitute an important share of the volume of imaging equipment products.
- **Increasing the share of recycling** would bring environmental benefits, especially for devices with large plastic parts and when reuse is not possible.
- When **more polymer blends** are used, it becomes **more difficult to recycle** - the purity/quality of recycled materials cannot be easily achieved.
- Generally, **the more 'pure'** the plastics are, **the easier is to recycle**, excluding those with flame retardants and other chemicals which hinder the recycling process.
- **Existing EU GPP criteria** in force do not address the number of materials used in imaging equipment.
- However requirements on reduced number of materials are found in **Blue Angel, EPEAT, the EU Voluntary Agreement, Nordic Swan and the Korean Ecolabel.**

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Reduced number of materials

Environmental initiative	Criterion Text
Blue Angel	<p>3.1.1.2 Requirements concerning a material selection for recyclability Is the variety of materials used for plastic components of similar function limited to one material? Applies to: Casing parts, chassis Mechanical parts ($\geq 25g$) The smaller the variety of materials, the more efficient the separation and recycling processes are. This requirement does not apply to parts that are demonstrably reused according to para. 3.1.1.4.</p>
EPEAT	<p>4.3.2.1 Required—Use of single recyclable plastic type per plastic part Each plastic part >100 g must consist of only one recyclable plastic type. Printed circuit boards, labels, cables, connectors, electronic components, optical components, ESD components, EMI components, and hoses/tubes for transporting fluid within the unit are excluded from this requirement.</p>
EU Voluntary Agreement	<p>5.3 Polymer composition For all new TEC product models first placed on the EU market after 1 January 2015: In order to limit the variety of materials used, plastic casing parts with a mass greater than 100 grams have to consist of one single polymer or a polymer blend. All plastic casing parts may only consist of up to four separable polymers or polymer blends. Large-sized casing parts must be designed in a way that the contained plastics can be used for the production of high-quality durable products by applying available recycling techniques. The use of coatings for special parts is to be reduced to a minimum, unless it can be demonstrated that it does not alter recyclability. Galvanic coatings on plastic parts are not permissible.</p>

Reduced number of materials

First criteria proposal	
Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATIONS	
	<p>TS6 Reduced number of materials</p> <p>Imaging equipment must be designed to reduce the number of materials through the following features:</p> <ul style="list-style-type: none"> - parts with a mass greater than 100 grams consist of one single polymer or a polymer blend. <p>all plastic casing parts only consist of up to four separable polymers or polymer blends.</p> <p>Verification: <i>The tenderer must provide a product schematic illustrating the applicable plastic parts and the type of polymer used.</i> <i>Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p>

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Reduced number of materials

Questions to stakeholders
<ul style="list-style-type: none"> • Are you aware of any examples of best practices regarding reduction of number of materials used to support design for recyclability, which could help shaping proposal for comprehensive criterion?

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Postconsumer recycled plastic

- **Manufacturing** is the fourth most important environmental hotspot in the life cycle of imaging equipment products.
- One of the **sources of impacts are the materials** used.
- Main material used are plastics (e.g. PS (HI-PS), ABS, PC) and metals (steel, copper, aluminium).
- With regards to **metals**, even though we know that they have their high embodied impacts, we also know that especially steel and aluminium are nowadays **recycled to high extent**.
- **This is not the case for plastics.**
- Therefore, it is considered important **incentivize the use of recycled plastics**.

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Postconsumer recycled plastic

- **Possible trade-offs with hazardous material content.**
 - where manufacturers face difficulties sourcing post-consumer plastics which do not meet hazardous content requirements.
- In the future this **trade-off is expected to be reduced/removed**.
- **Other environmental schemes** have also requirements regarding recycled plastics:
 - A **declaration of recycled plastics content** in imaging equipment products is a requirement found in Blue Angel, EPEAT, the EU Voluntary Agreement and the Nordic Swan.

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Postconsumer recycled plastic

Environ. initiative	Criterion Text
Voluntary agreement	<p>5.5 Recycled plastic content</p> <p>For all new product models first placed on the EU market after 1 January 2015 signatories must make information available to customers on the minimum percentage of postconsumer recycled plastic content*, calculated as a percentage of total plastic (by weight) in each product.</p> <p>* In increments of 0-5%, 5-10%, 10-15%, etc.</p> <p>The following may be excluded from the calculation of the percentage: printed circuit boards, labels, cables, connectors, electronic components, optical components, electrostatic discharge (ESD) components, electromagnetic interference (EMI) components, and biobased plastic material. Products that do not contain plastics can declare "Not applicable" for this criterion.</p>
Blue Angel	<p>3.1.1.2 Requirements concerning a material selection for recyclability (10) Is the share of post-consumer recycled plastics stated in the information and data sheet, calculated as percentage of total plastic (by weight) and indicated in intervals of 0-1%, 1-5%, 5-10%, 10-15%, 15-20%, and so on (in 5% intervals)?</p> <p>Explanation: The following parts may be excluded from the calculation of the recycle share: printed circuit boards, cables, connectors, electronic components, optical components, electrostatic discharge (ESD) components, electromagnetic interference (EMI) components, and biobased plastic material.</p>
EPEAT	<p>4.2.1.1 Required—Declaration of postconsumer recycled plastic content</p> <p>Product criterion: Manufacturer declares minimum percentage of postconsumer recycled plastic content, calculated as a percentage of total plastic (by weight) in each product.</p> <p>The following may be excluded from the calculation of percentage: printed circuit boards, labels, cables, connectors, electronic components, optical components, electrostatic discharge (ESD) components, electromagnetic interference (EMI) components, and bio based plastic material.</p>

Postconsumer recycled plastic

Compliance Rates to EPEAT Postconsumer Recycled Plastic Criteria

EPEAT Criterion	Products Compliant (No.)	Products Compliant (%)	Max Value	Min Value
4.2.1.1 - Declaration of postconsumer recycled plastic content	1832	100.0%	N/A	N/A
4.2.1.1 - Declaration of postconsumer recycled plastic content (%)	1832	100.0%	53.6%	0.0%
4.2.1.2 - Minimum content of postconsumer recycled plastic *	1798	98.1%	N/A	N/A
4.2.1.3 - Minimum 5% to 10% content of postconsumer recycled plastic	220	12.0%	N/A	N/A
4.2.1.4 - Minimum 25% content of postconsumer recycled plastic	26	1.4%	N/A	N/A

* Any product containing plastic parts whose combined weight exceeds 100 g must contain at least 5g of postconsumer recycled plastic.

Only comprehensive

Postconsumer recycled plastic

First criteria proposal	
Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATIONS	
	<p>TS7 Information on postconsumer recycled plastic used</p> <p>The percentage of postconsumer recycled plastic content, calculated as a percentage of total plastic (by weight) must be declared. The percentages must be provided in increments of $x \leq 5\%$, $5\% \leq x < 10\%$, $10\% \leq x < 15\%$, $x \geq 15\%$</p> <p>Verification: <i>The tenderer must provide documentation, which specifies the percentage of postconsumer plastic used within the imaging equipment model(s). Documentation may consist of a manufacturer declaration, proof of compliance to an appropriate environmental scheme which includes the same product design features or other alternative means of proof detailing postconsumer recycled plastic content</i></p> <p><i>Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p>

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Only comprehensive

Postconsumer recycled plastic

First criteria proposal	
Core criteria	Comprehensive criteria
AWARD CRITERIA	
	<p>AC2 Postconsumer recycled plastic minimum content</p> <p>Points will be awarded according to the content of postconsumer recycled plastic as a percentage of total plastic (by weight). A maximum of x points [to be specified] may be awarded. Points must be awarded in proportion to the postconsumer recycled plastic content:</p> <ul style="list-style-type: none"> <input type="checkbox"/> $\geq 25\%$: x points <input type="checkbox"/> <25 and $\geq 20\%$: $0.8x$ points <input type="checkbox"/> <20 and $\geq 15\%$: $0.6x$ points <input type="checkbox"/> <15 and $\geq 10\%$: $0.4x$ points <input type="checkbox"/> $<10\%$: $0.2x$ points <p>Verification: <i>The tenderer must provide documentation, which specifies the percentage of postconsumer plastic used within the imaging equipment model(s). Documentation may consist of a manufacturer declaration, proof of compliance to an appropriate environmental scheme which includes the same product design features or other alternative means of proof detailing postconsumer recycled plastic content. Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p>

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Postconsumer recycled plastic

Questions to stakeholders

- Could you provide input how to verify compliance with this criterion in most credible and still workable way?
- Are you aware of any examples of best practices regarding use of recycled plastics, which could be shared with the project team?

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Reparability and recyclability

- **Spare parts** mean components/parts that have the potential to fail during the normal useful life of the product.
- In addition, **design to access to spare parts** influences indirectly product durability as it incentivizes the repair rather than disposal.
- **Design** targeted at **easy disassembly/dismantling** is one of the crucial features which can enhance recycling of products at their end of life.
- However, **materials must also be easily identified** so that they can be sorted more easily according to the type to be recovered.
- If imaging equipment products and parts/materials are **sorted out properly**, more of their parts containing highly valued materials can be recovered and sent for **recycling**.
- This also avoids **the mixing with other materials** which can hinder recycling.

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Reparability and recyclability

Therefore

- spare parts availability
- design for easy access (spare parts accessibility in the product)
- design for disassembly and repair
- and design to facilitate recycling

are critical for **maintaining the product lifetime** and ensure **recovery and recycling** of products/materials at their end of life.

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Spare parts

- The availability of spare parts as a requirement/criterion is found in **Blue Angel, EPEAT, the EU Voluntary Agreement and Nordic Swan.**

Environ. initiative	Criterion Text
Blue Angel	<p>3.1.5.3 Repair options The distributor commits to ensure that the spare parts and exchange parts needed for repair of the devices and the according infrastructure are available for at least 5 years after ceasing production and that the user is informed about this availability of spare parts. Other parts the life span of which usually exceeds the typical life span of the product do not have to be held available as spare parts.</p> <p>The distributor commits to provide easily accessible repair options for the device to the users. Such repair options may consist in a delivery to the service centre of the manufacturer by means of licensed dealers or logistical solutions (package services) offered to the customer, or that dealers and repair centres independent from the manufacturer have access to spare parts and repair information.</p> <p>Spare parts are components or assemblies that can potentially fail within the service life of the products. This includes e.g. hinges of casing parts, paper trays etc. as well as cable connections and electronic components which might be damaged by overheating.</p>
EPEAT	<p>4.4.3.1 Required—Spare parts Manufacturer must declare if spare parts are available, and if available, the length of time that spare parts are available after the end of production. The following information must be provided to purchasers:</p> <p>a) If spare parts are available, and if available the length of time that they are planned to be available after the end of production.</p> <p>b) If spare parts are available, how to obtain spare parts (or, at the manufacturer’s option, compatible spare parts from a different supplier).</p> <p>Spare parts: A component of a product that is kept in reserve for possible use to replace a similar or identical component in the product.</p>

Spare parts availability

First criteria proposal	
Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATIONS	
<p>TS8 (a) Spare parts availability</p> <p>Spare parts listed below must be available for the imaging equipment for the minimum time periods after the end of product manufacturing:</p> <p>For Electrophotography, Solid Ink and High-Performance Inkjet models - 5 years, For Inkjet models - 3 years</p> <p><u>Spare parts:</u></p> <ul style="list-style-type: none"> • Storage devices • Scanning units • Print heads (where not considered a consumable) • Laser unit (where not considered a consumable) • Fuser units (where not considered a consumable) • Drum units (where not considered a consumable) • Transfer belts/kits (where not considered a consumable) • Maintenance kits (where not considered a consumable) • Paper feed components • Density sensors • Power and control circuit boards • Cartridge/container attachment components • External power supplies • Hinges <p>Verification:</p> <p><i>The tenderer must provide documentation, which clarifies that spare parts will be available for the durations listed in the criteria. Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p>	<p>TS8 (a) Spare parts availability</p> <p>Spare parts listed below must be available for the imaging equipment for the minimum time periods after the end of product manufacturing:</p> <p>For Electrophotography, Solid Ink and High-Performance Inkjet models - 5 years, For Inkjet models – 5 years</p> <p><u>Spare parts:</u></p> <ul style="list-style-type: none"> • Storage devices • Scanning units • Print heads (where not considered a consumable) • Laser unit (where not considered a consumable) • Fuser units (where not considered a consumable) • Drum units (where not considered a consumable) • Transfer belts/kits (where not considered a consumable) • Maintenance kits (where not considered a consumable) • Paper feed components • Density sensors • Power and control circuit boards • Cartridge/container attachment components • External power supplies • Hinges <p>Verification:</p> <p><i>The tenderer must provide documentation, which clarifies that spare parts will be available for the durations listed in the criteria. Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p>

Same core and comprehensive

Cost competitiveness of spare parts

Core criteria	Comprehensive criteria
AWARD CRITERIA	
<p>AC3 Cost competitiveness of spare parts</p> <p>The tenderer must provide a price list for, as a minimum, the following component parts: [the parts list to be provided here, with the TS7(a) list to be provided as a minimum] (Additional component parts, if considered important to the price comparison, should be added to the list provided).</p> <p>For the component parts listed above indicative labour costs for replacements carried out by the tenderer's authorised service providers must be provided.</p> <p>The tenderer should also identify the length of time for which given cost data is valid.</p> <p>Points must be awarded according to the most cost-competitive offers.</p> <p>Verification:</p> <p><i>The tenderer must provide a price list for original or compatible spare parts and indicative labour costs for their replacement, as well as indications about how long prices will remain valid.</i></p>	

Design for disassembly and repair

- **Access to spare parts** is important as some of those tend to fail and need replacement to prevent disposal of the device because of failure.
- **Design targeted at easy disassembly/dismantling** is crucial for **enhancing recycling** of products at their end of life.
- By making the **access of important parts** easily available by using **universally available tools**, materials can be better recovered.
- **Marking of plastic parts** can also be important to enhance the recycling of plastics so plastics are not mixed before treatment.
- Finally, availability of **high quality repair manual** is crucial for the support of successful repair operation.

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Design for disassembly and repair

- **Blue Angel, EPEAT, the EU Voluntary Agreement, Nordic Swan and the Korean Ecolabel** include criteria on design for disassembly.
- However, **only Blue Angel and EPEAT include extensive requirements** in this area.
- The Blue Angel specification includes a broad range of requirements in sections "**Design for disassembly requirements**" and "**Requirements concerning material selection for recyclability**".

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Blue Angel RAL 205-1701 v1.0 requirements on design for disassembly

Requirement	Applies to Assembly	Requirement
Are assemblies made of mutually incompatible materials separable or connected by separation aids?	Casing parts, chassis, electric/electronic assemblies, modules for colourants	Must
Are electric/electronic assemblies easy to find and to remove?	Entire unit, including lamps	Must
Are detachable connections easy to find?	Casing parts, chassis, modules for colourants	Should
Can disassembly be done exclusively with general-purpose tools?	Casing, chassis, electric/electronic assemblies	Must
Have the points of application and the work space required for disassembly tools been considered?	Casing parts, chassis, electric/electronic assemblies	Must
Are all connecting elements that have to be dismantled for recycling axially accessible?	Casing parts, chassis, electric/electronic assemblies	Should
Can screw connections for fastening assemblies be tightened with no more than three tools?	Casing parts, chassis, electric/electronic assemblies	Must
Are detachable connections of plastic components at least half click/snap-on connections?	Casing parts	Should
Can the disassembly be performed by one person?	Entire unit	Must
Can the supporting surface be maintained during the entire disassembly process?	Unit to be handled	Should
Are casing parts free of electronic assemblies?	Casing parts	Must
Has the manufacturer carried out a trial disassembly (e.g. in accordance with no.1-11) and recorded it with focus on weak spots?	Entire unit	Must

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Same core and comprehensive

Design for disassembly and repair

First criteria proposal	
Core criteria	Comprehensive criteria
<p>TS8 (b) Design for disassembly and repair</p> <ul style="list-style-type: none"> - Materials and components requiring special handling as defined under ANNEX VII of DIRECTIVE 2012/19/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on waste electrical and electronic equipment (WEEE) must be easy to find and remove using universally available tools (e.g. openly available screw heads, pliers or tweezers) - Plastic parts >100 g must be manually separable, where necessary allowing the use of universally available tools (e.g. openly available screw heads, pliers or tweezers), into recyclable plastic streams - Products must utilize commonly used fasteners for joining components, subassemblies, chassis and enclosures. - All listed spare parts in TS7 (a), if applicable, must be accessible and replaceable through the use of universally available tools (e.g. openly available screw head fittings, pliers or tweezers). - Product must be accompanied by a repair manual with good quality information to support repair operations. <p>Verification: <i>The tenderer must provide a manual, which must include an exploded diagram of the product illustrating the parts that can be accessed and replaced, the tools required and how the repair process should be conducted. It must also be confirmed which parts are covered by service agreements under the warranty. Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p>	

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Design for recycling

- Materials must also be **easily identified** so that they can be **sorted more easily** according to the type to be recovered.
- If imaging equipment products are sorted out properly, more of their parts containing highly valued materials can be **recovered and sent for recycling**.
- Other environmental initiatives, like **Blue Angel and EPEAT**, also include requirement in the area of **design for recyclability**.
- The **Blue Angel** includes restrictions on the **use of coating which are incompatible with recycling** and a **ban on the use of galvanic coatings**.
- EPEAT includes a broad range of criteria in this area under the section titled **"Design for end of life"**. EPEAT includes for instance **restrictions on coatings that negatively impact recyclability of materials**.

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Blue Angel RAL 205-1701 requirements on material selection for recyclability

Requirement	Applies to Assembly	Requirement
Is the variety of materials used for plastic components of similar function limited to one material?	Casing parts, chassis Mechanical parts (≥ 25g)	Must
Are components that are made of the same plastic dyed uniformly or compatibly?	Casing parts, modules for colourants	Should
Has the coating of plastic components been limited to a minimum? Have no galvanic coatings been used?	Casing parts, modules for colourants	Must
Are recyclable materials and material composites used?	Casing parts, chassis, modules for colourants	Must
Is the partial use of post-consumer recycled plastics permitted?	Casing parts, chassis, modules for colourants	Must
Does the share of post-consumer recycled plastics amount to at least 5% of the complete plastic material?	Casing parts, casings of modules for colourants	Should
Are assemblies and materials easy to dismantle according to Appendix 4 of the Electrical and Electronic Equipment Act (ElektroG)?	Entire unit	Must
Have materials been selected in accordance with no.1-5 and has this been documented in writing?	Casing parts, chassis, modules for colourants	Must
Are plastic parts >25 g with a flat surface of at least 200 mm ² marked in accordance with EN/ISO 11469 considering ISO 1043?	Entire unit (exempted are plastic parts contained in reused complex assemblies)	Must
Is the share of post-consumer recycled plastics stated in the information and data sheet, calculated as percentage of total plastic (by weight) and indicated in intervals of 0-1%, 1-5%, 5-10%, 10-15%, 15-20%, and so on (in 5% intervals)?	All assemblies	Must

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Design for recycling

First criteria proposal	
Core criteria	Comprehensive criteria
<p>TS8 (c) Design for recycling</p> <p>Imaging equipment must be designed to facilitate recycling through the following design features:</p> <ul style="list-style-type: none"> • Plastic components weighing more than 25 g must be provided with a permanent marking of the material in accordance with ISO 11469 or equivalent standard • The presence of paints and coatings must not significantly impact upon the resilience of plastic recycle produced from these components upon recycling and when tested according to ISO 180 or equivalent. <p>Galvanic coatings on plastic parts are not used.</p> <p>Verification: <i>The tenderer must provide documentation, which proves that each of the design for disassembly requirements have been met. This must include:</i></p> <ul style="list-style-type: none"> • <i>Identification of the plastic parts by their weight, their polymer composition, and their ISO 11469 markings. The dimension and position of the marking must be visually illustrated.</i> • <i>Valid mechanical/physical test reports carried out according to ISO 180 or equivalent. Third party test reports obtained from plastics recyclers, resin manufacturers or independent pilot tests must be accepted.</i> • <i>Manufacturer declaration or applicable test report proving that galvanic coating have not been used on plastic parts</i> <p><i>Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p>	

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.

Reparability and recyclability

Questions to stakeholders
<ul style="list-style-type: none"> • Do you agree with the proposed list of spare parts and the length of period for which they should be made available? • Are you aware of any examples of best practices regarding design for disassembly in relation to access to spare parts, which could help shaping proposal for comprehensive criterion? • Are you aware of any examples of best practices regarding design for recyclability, which could be shared with the project team?

Substance emissions

- The **existing EU GPP** does not include any requirements on substance emissions.
- **VOC, dust and other emissions, like for instance of styrene, xylenes and ozone** from imaging equipment are recognised as hazardous to humans when emitted indoors over certain thresholds.
- Restriction of chemical emissions is found in **Blue Angel, EPEAT, Nordic Swan and the Korean Ecolabel**.
- In Blue Angel strict requirements on air emissions of harmful substances. Requirements are set also for **fine and ultrafine particle release** during laser printer operation.
- There is a **standard for measuring** and reporting five chemical substances as emissions from the use of imaging equipment products, namely: **dust (electrophotographic IE only), styrene, benzene, TVOC and ozone (electrophotographic IE only)**.

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COMPREHENSIVE CRITERION

Substance emissions

Comprehensive criteria			
TECHNICAL SPECIFICATIONS			
TS9 Substance emissions			
Imaging equipment must meet the following substance emission rate requirements when measured according to the test procedure detailed in the Blue Angel specification RAL-UZ 205 (Edition January 2017 (Printers and Multifunction Devices)) or an equivalent test procedure:			
Permissible Test Values for Emission Rates as determined according to Appendix S-M for Electrophotographic Devices (All Values in mg/h, Except for Particle Emissions)			
		Monochrome Printing	Colour Printing
Pre-operating Phase	TVOC*	1 (Desktop Devices) 2 (Floor-mounted De-vices, Device Volume > 250 l)	1 (Desktop Devices) 2 (Floor-mounted De-vices, Device Volume >250 l)
Print Phase (= Pre-operating + Print Phase)	TVOC*	10.0	18.0
	Benzene	< 0.05	< 0.05
	Styrene	1.0	1.8
	Unidentified Single Substances		
	VOC	0.9	0.9
Print Phase	Ozone	1.5	3.0
	Dust	4.0	4.0
	PER10 PW [Particles/10 min]	3.5 * 1011	3.5 * 1011
Permissible Test Values for Emission Rates Determined According to Appendix S-M for Inkjet Devices (All Values in mg/h)			
		Monochrome Printing	Colour Printing
Pre-operating Phase	TVOC*	1 (Desktop Devices) 2 (Floor-mounted De-vices, Device Volume > 250 l)	1 (Desktop Devices) 2 (Floor-mounted De-vices, Device Volume >250 l)
Print Phase (= Pre-operating + Print Phase)	TVOC*	10	18
	Benzene	< 0.05	< 0.05
	Styrene	1	1.8
	Unidentified Single Substances		
	VOC	0.9	0.9

*The list of volatile organic compounds which must be considered when measuring emissions from imaging equipment with printing function must be determined as listed in the Blue Angel specification RAL-UZ 205 (edition January 2017) - (Appendix S-M - para. 4.5 VOCs).

Verification:
The tenderer must provide test results indicating emission rates during print phase for each of the named substances along with the details concerning the test procedure used to measure the emission rates. Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply

Substance emissions

Core criteria			
TECHNICAL SPECIFICATIONS			
TS9 Substance emissions			
Imaging equipment must meet the following substance emission rate requirements when measured according to the test procedure detailed in the Blue Angel specification RAL-UZ 205 (Edition January 2017 (Printers and Multifunction Devices)) or an equivalent test procedure:			
Permissible Test Values for Emission Rates as determined according to Appendix S-M for Electrophotographic Devices			
(All Values in mg/h, Except for Particle Emissions)		Monochrome Printing	Colour Printing
Pre-operating Phase	TVOC*	1 (Desktop Devices) 2 (Floor-mounted De-vices, Device Volume > 250 l)	1 (Desktop Devices) 2 (Floor-mounted De-vices, Device Volume >250 l)
Print Phase	TVOC*	10.0	18.0
	Benzene	< 0.05	< 0.05
	Styrene	1.0	1.8
	Ozone	1.5	3.0
	Dust	4.0	4.0

Verification:
 The tenderer must provide test results indicating emission rates during print phase for each of the named substances along with the details concerning the test procedure used to measure the emission rates.
 Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.

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Substance emissions

Questions to stakeholders

- Do you agree with the proposal and the ambition level of core and comprehensive criteria?

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Noise Emissions

- The **existing EU GPP** does not include any requirements on noise emissions from imaging equipment.
- **Noise pollution is not an environmental impact** and it is thus **not reflected in Life Cycle Assessments**.
- However it **has an impact to end-user**, in particular when confined to a closed area such as **public offices**.
- It is **considered relevant** for this product group, in particular as **larger products such as e.g. MFDs** may create irritating noise to end-users while in operation.

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Noise Emissions

- Some of the **short and long term effects** that can be avoided are:
 - **Annoyance** to the receptors due to sound level fluctuations
 - **Influence on physiological features** like breathing amplitude, blood pressure, heart-beat rate, pulse rate, blood cholesterol
 - Negative impact on **cognitive performance**, for instance on **attention and memory**
 - **Pain, ringing in the ears, feeling of tiredness**, thereby effecting the functioning of human system and performance
- Some voluntary tools, such as the **ECMA-370**, support measurement of this parameter
- **Nordic Ecolabel and Blue Angel** require certified products to comply with certain limit values

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Noise Emissions

First criteria proposal
Core criteria
TECHNICAL SPECIFICATIONS
<p>TS10 Noise emissions</p> <p>The declared A-weighted sound power level L_{WAd} must not exceed the following test values $L_{WAd,lim,mo}$ or $L_{WAd,lim,co}$ in the respective print mode:</p> <p>The maximum value ($L_{WAd,lim,mo}$) for monochrome printing is to be determined based on operating speed (S_{mo}) must be calculated using the following formula: $L_{WAd,lim,mo} = (59 + 0.35 * S_{mo})$ dB</p> <p>The maximum value ($L_{WAd,lim,co}$) for colour printing on parallel systems based on operating (S_{co}) must be calculated using the following formula: $L_{WAd,lim,co} = (61 + 0.30 * S_{co})$ dB</p> <p>This declared A-weighted sound power level L_{WAd} must be determined using ECMA-109(ISO 9296), and specified in decibels (dB) with one decimal place.</p> <p>Verification:</p> <p><i>The tenderer must provide documentation, such as a test report, which identifies noise emission rates during print phase when measured according to requirements in ECMA-109 (ISO 9296). The documentation should also identify if the A-weighted sound-power level in the criterion has been met. Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p>

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Noise Emissions

Comprehensive criteria
TECHNICAL SPECIFICATIONS
<p>TS10 Noise emissions</p> <p>The A-weighted sound power level L_{WA} must be determined according to ISO 7779. Devices capable of colour printing must be tested in both monochrome mode ($L_{WA,M}$) and colour mode ($L_{WA,F}$).</p> <ul style="list-style-type: none"> Noise measurements must be conducted without optional peripheral devices. A4 size paper of grammage 60 g/m² to 80 g/m² must be used for test operations. The 4-page Adobe Reader file from the Office Test Suite according to B.1 of ISO/IEC 24734 must serve as test pattern. Only one-sided printing must be measured. The noise measurement must only be conducted during repetitive printing operation cycles. The measurement time interval must include at least three complete outputs of the 4-page test pattern (12 pages). The interval must begin after the printing preparation. <p>At least three devices of one model have to be tested. The declared A-weighted sound power level L_{WAd} must be determined following the procedures of ISO 9296:1988. It must be declared in decibels (dB) with one decimal place. If the noise emission measurement can be performed with one device only the following formula may be used as a substitute to determine the declared A-weighted sound power level L_{WAd}.</p> <p>$L_{WAd} = L_{WA1} + 3,0$ dB</p> <p>(L_{WA1} = A-weighted sound power level of a single device, in dB with one decimal place)</p> <p>The declared A-weighted sound power level(s) of (both) monochrome mode $L_{WAd,mo}$ (and full colour mode $L_{WA,co}$, if applicable) must not exceed the limit. The limit $L_{WA,lim}$ must be determined depending on the page throughput of (both) mono-chrome mode s_M and colour mode s_F, if applicable, given to one decimal place and according to the following formula:</p> <p>$L_{WA,lim} = 47 + 15 * \lg (S_{M/F} + 10)$ dB</p> <p>The values of the declared A-weighted sound power level L_{WAd} in dB with one decimal place and page throughput $S_{M/F}$ in ipm must be indicated in the information and data sheet under "environment and health-related statements". For devices capable of colour printing the declared A-weighted sound power levels $L_{WAd,M}$ and $L_{WAd,F}$ and corresponding page throughput s_M and s_F, both of monochrome mode and col-our mode, must be indicated.</p> <p>Verification:</p> <p><i>The tenderer must provide documentation, such as a test report, which identifies noise emission rates during print phase when measured according to requirements in ECMA-109 (ISO 9296). The testing laboratory must be accredited according to both ISO/IEC 17025 and ISO 7779 for acoustical noise measurements or equivalent. The documentation should also identify if the A-weighted sound-power level in the criterion has been met. Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p>

Noise Emissions

Questions to stakeholders

- Do you think that the difference of ambition level between core and comprehensive is appropriate?

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Hazardous substances requirements

- The **existing EU GPP** does not include any requirements on hazardous substances content.
- Most electronics products contain at least **some hazardous ingredients**.
- Of particular concern are for instance **heavy metals** (e.g. mercury, cadmium, lead) and **flame retardants** in plastics.
- A number of other substances found on the **Candidate List of Substances of Very High Concern (SVHC)** and **REACH Annex XIV (List of Substances Subject to Authorization)** are also likely to be present in some imaging equipment products.
- Hazardous material content data for imaging equipment is addressed in a number of **environmental initiatives** including: **Blue Angel, Nordic Swan, ECMA 370 and EPEAT**

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Hazardous substances requirements

The **Blue Angel RAL-UZ-205** includes:

- **criteria which address substances on the REACH candidate list substances**
- **restrictions on additional hazardous substances limitations.**

Specifically, Blue Angel does not permit:

- use of **halogenated polymers and halogenated organic compounds** for their use as flame retardants (some exemptions apply)
- use of substances of the so-called **candidate list according to REACH Article 59**
- use of **PBBs (polybrominated biphenyls), PBDEs (polybrominated diphenyl ethers) or chlorinated paraffins** in support material of printed circuit boards

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Hazardous substances requirements

EPEAT Hazardous material content criteria

Criterion Number and Title	Criterion Text
4.1.3.1 Required— Reporting on amount of mercury content in light sources	Manufacturer must report the number of mercury containing light sources in the product and the mercury content per light source.
4.1.3.2 Optional—Use of non-mercury containing light sources	No intentionally added mercury in light sources. Light source employs a technology that is documented not to require the presence of mercury.
4.1.4.1 Optional— Reduction of substances on the EU REACH Candidate List of SVHCs	A product must not contain substances included in the Candidate List of Substances of Very High Concern (SVHC) and REACH Annex XIV (List of Substances Subject to Authorization) above the 0.1% weight by weight threshold as described by the current European Chemicals Agency "Guidance on Articles" document or the REACH regulation.
4.1.6.1 Required— Reducing BFR/CFR/PVC content of external plastic casings	External plastic casings greater than 25 g must contain no more than 0.1% weight (1000 ppm) bromine and 0.1% weight. (1000 ppm) chlorine attributable to brominated flame retardants (BFRs), chlorinated flame retardants (CFRs), and polyvinyl chloride (PVC) with the following exceptions: – Parts containing 25% or more postconsumer recycled content are permitted up to 0.3% weight (3000 ppm) bromine and 0.3% weight (3000 ppm) chlorine. – Uses of brominated or chlorinated substances that are not classified as BFRs, CFRs, or PVC are allowed, but their use must be documented if the bromine or chlorine content exceeds the applicable threshold. – External plastic casings for external power supplies.

Hazardous substances requirements

First criteria proposal
Comprehensive criteria
SELECTION CRITERIA
<p>SC1 Restricted Substance Controls</p> <p>The tenderer must demonstrate implementation of a framework for the operation of Restricted Substance Controls (RSCs) along the supply chain for the products to be supplied. Product evaluations according to the RSCs should, as a minimum, cover the following areas:</p> <ul style="list-style-type: none"> - Product planning/design; - Supplier conformity; - Analytical testing. <p>The RSCs must apply, as a minimum, to REACH Candidate List substances and RoHS restricted substances. The IEC 62474 material declaration database* must be used as the basis for identifying tracking and declaring specific information about the composition of the products to be supplied. The RSCs must be used to ensure that the tenderer is aware of the presence or non-presence of substances that are listed in the IEC 62474 database. Supplier declarations of conformity with the RSCs must be collected and maintained up-to-date for relevant materials, parts and sub-assemblies of the products to be supplied. These may be supported, where appropriate, by supplier audits and analytical testing. The RSCs procedures must ensure that product and supplier compliance is re-evaluated when:</p> <ul style="list-style-type: none"> - restricted substance requirements change; - supplied materials, parts and sub-assemblies change; - manufacturing and assembly operations change. <p>Implementation of the RSCs must be with reference to the guidance in IEC 62476 or equivalent and the IEC 62474 material declaration database</p> <p><small>*International Electrotechnical Commission (IEC), IEC 62474: Material declaration for products of and for the electrotechnical industry, http://std.iec.ch/iec62474</small></p> <p>Verification: <i>The tenderer must provide documentation, which describes the system, its procedures and proof of its implementation. Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p>

Hazardous substances requirements

Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATIONS	
<p>TS11 Substances of Very High Concern</p> <p>The presence of any REACH Candidate List substances at a concentration of greater than 0.1% (by weight) in the whole product and in each of the following sub-assemblies is not allowed:</p> <ul style="list-style-type: none"> - Circuit boards, - Display unit (including backlighting), - Scanning units (including backlighting), - Casings and bezels, - External control panel, - External AC and DC power cords (including adapters and power packs). <p>Verification: <i>The tenderer must provide a declaration of compliance with the criterion. Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p>	<p>TS12 Hazardous substances content</p> <p>Imaging equipment must meet all hazardous material requirements laid out in the latest published Blue Angel specification for imaging equipment. The Blue Angel version implemented at the time of publication is RAL-UZ 205 (Edition January 2017)</p> <p>Verification: <i>The tenderer must provide documentation, which proves that the requirement has been met. Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p>

Hazardous substances requirements

Questions to stakeholders

- Are stakeholders aware of any challenges relating to compliance with the selection and technical specification criteria, core or comprehensive level?

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Firmware Update Control

- **The existing GPP** does not tackle control of firmware updates
- The possibility to control firmware would give the end-users **control over any updates that interfered with the operation** of their imaging equipment.
- In the past some manufacturer firmware updates sent to imaging equipment in use have resulted e.g. in the **inability to use remanufactured consumables**
- A criterion on firmware control to ensure that public authorities **can maintain the option to use remanufactured consumables**
- Proposed as **comprehensive**
- None of the **other environmental schemes** includes such a criterion
- It is currently unclear how many imaging equipment manufacturers support the rolling back of firmware updates

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Firmware Update Control

First criteria proposal	
Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATIONS	
	<p>TS13 Firmware Update Control</p> <p>The imaging equipment includes functionality allowing any automatic firmware updates to be rolled back to previously installed firmware, where such an update impacts the usability of remanufactured consumables. This functionality may be provided through a network connected computer or within the Imaging Equipment itself. Instructions detailing how automatic firmware updates can be rolled back must be provided in the technical documentation.</p> <p>Verification: <i>The tenderer must provide documentation, which identifies that the requirement has been met. Documentation may consist of a manufacturer declaration or other alternative means of documentation that provide the necessary information.</i></p>

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Firmware Update Control

Questions to stakeholders
<ul style="list-style-type: none"> Please provide us with your comments regarding the proposed comprehensive criterion.

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Warranty and service agreements

- The **existing EU GPP** cover product longevity and warranty
 - **i.e. repair and replacement warranty for a period of five years including availability of spare parts.**
- **Repair and maintenance** are key aspects for assuring a product's longevity
- If the product lifetime is reduced due to premature fail, more impacts arise from manufacturing new products due to replacement
- **Warranty coverage** needs to be in place for accessing free repair and maintenance of products
- **Existing legal warranty scheme** in EU requires products to be covered for 2 years, including repair for **consumer products**
- No known EU wide legislation which requires a minimum guarantee period for **non-consumer products**
- **Other schemes** include also a similar criteria

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Warranty and service agreements

Environmental initiative	Criterion Text
EPEAT	4.4.1.1 Required—Early failure process Manufacturer must make available to the customer procedures as to how the manufacturer or its designee must troubleshoot, repair, or replace a product that fails prior to 3 years after date of sale for institutional products and 1 year after date of sale for consumer products. These procedures must be easily accessible to customers on the manufacturer's website or in the documentation that accompanies the product at the point of sale.
Blue Angel	3.1.5.1 Information regarding supposed service life The distributor informs in the information and data sheet about the typical service life span or use intensity (e.g. in printed pages), which the device is designed for in its default configuration assuming typical user behaviour. The manufacturer must define the assumed typical use conditions in the information and data sheet.

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Warranty and service agreements

Imaging Equipment Manufacturer	Standard Warranty Duration (years)	Enhanced Warranty Duration (max) (years)
Brother	1	3
Canon	unclear	1
EPSON	1	3
HP	unclear	3
Konica Minolta	1	5
KYOCERA	2	5
Lexmark	1	5
OKI	1	3
RICOH	1	Unclear
SHARP	unclear	Unclear
TOSHIBA	unclear	Unclear
Xerox	1	Lifetime of product (where consumables purchased from Xerox)

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Warranty and service agreements

First criteria proposal	
Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATIONS	
<p>TS14 Warranty and service agreements The tenderer must provide a minimum two-year warranty, effective from delivery of the product. This warranty must cover repair or replacement and include a service agreement with options for pick-up and return or on-site repairs. The warranty must guarantee that the products are in conformity with the contract specifications at no additional cost.</p> <p>Verification: <i>A copy of the warranty and service agreement must be provided by the tenderer. They must provide a declaration that they cover the conformity of the goods with the contract specifications.</i></p>	<p>TS14 Warranty and service agreements The tenderer must provide a minimum three-year warranty, free of additional costs, effective from delivery of the product. This warranty must cover repair or replacement and include a service agreement with options for pick-up and return or on-site repairs. The warranty must guarantee that the products are in conformity with the contract specifications at no additional cost. The warranty must not be invalidated as a result of non-OEM cartridges or containers being used in imaging equipment unless it is proven that any malfunction was directly caused by the use of a non-OEM cartridge or container.</p> <p>Verification: <i>A copy of the warranty and service agreement must be provided by the tenderer. They must provide a declaration that they cover the conformity of the goods with the contract specifications.</i></p>

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Warranty and service agreements

AWARD CRITERIA	
Core criteria	Comprehensive criteria
<p>Option 1</p> <p>AC4(a) Longer warranties and services agreements</p> <p>Additional points must be awarded to each additional year of warranty and service agreement offered that is more than the minimum technical specification. A maximum of x points [to be specified] may be awarded. Points must be awarded separately for the warranty and then service agreement periods. Where warranty and service agreement period differ across product types then an average value across all applicable products must be used.</p> <p>+4 years or more: x points</p> <p>+3 years: 0.75x points</p> <p>+2 years: 0.5x points</p> <p>+1 year: 0.25x points</p> <p>Verification:</p> <p><i>A copy of the warranty and service agreement must be provided by the tenderer. They must provide a declaration that they cover the conformity of the goods with the contract specifications.</i></p>	
<p>Option 2</p> <p>AC4(b) Longest warranty and service agreement</p> <p>Additional points must be awarded to the tenderer that provides the longest warranty and service agreement amongst all organisations that submitted a response to tender. The length of the warranty and service agreement should be an average value across all products to be supplied. A maximum of x points [to be specified] may be awarded to the tenderer that offers the longest warranty and service agreement.</p> <p>Verification:</p> <p><i>A copy of the warranty and service agreement must be provided by the tenderer. They must provide a declaration that they cover the conformity of the goods with the contract specifications.</i></p>	

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Warranty and service agreements

Questions to stakeholders
<ul style="list-style-type: none"> • Are you aware of best practices in the field of warranties offered in public procurement? • What is the typical length and which services are covered?

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Take-back system

- The existing GPP does not have a requirement the provision of a take back system for used imaging equipment
- Imaging equipment falls within the scope of the **Waste Electrical and Electronic Equipment (WEEE) 2012/19/EU Directive**.
- The WEEE-Directive **regulates the separate collection, treatment and recycling** and sets **collection, recycling and recovery targets**.
- The provision of a **take-back scheme** could contribute to improvement of environmental impacts associated with **manufacture of new equipment** due to **better channeling of used products for reuse of parts or entire equipment after repair or refurbishment, if necessary, or for remanufacturing**.
- A **comprehensive award** criterion is proposed in order to promote take-back practices

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Only comprehensive

Take-back system

Core criteria	Comprehensive criteria
AWARD CRITERIA	
	<p>AC5 Imaging equipment take-back system implementation</p> <p>Points must be awarded to a tenderer who offers a free take back system for used imaging equipment with the aim to channel such equipment for reuse of the equipment or its parts, or for material recycling with preference given to reuse. The supplier may fulfil these obligations themselves or via a suitable third-party organisation.</p> <p>Verification: <i>The tenderer must provide documentation, which states that a free take back system will be provided. Documentation may consist of a manufacturer declaration, proof of compliance to an appropriate environmental scheme which includes the same requirement or other alternative means of proof that provide the necessary information.</i></p>
CONTRACT PERFORMANCE CLAUSES	
Core criteria	Comprehensive criteria
	<p>CPC2 Reporting on reuse/recycle activities of imaging equipment</p> <p>The contractor must provide records regarding the free take back system for used imaging equipment aimed to channel such equipment for reuse of the equipment or its parts, or for material recycling with preference given to reuse.</p> <p>In particular the recording must detail:</p> <ul style="list-style-type: none"> - number of equipment taken back for free from the awarding authority, - number of equipment/parts, as appropriate, channelled for reuse, - number of equipment/parts, as appropriate, channelled for material recycling,

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Warranty and service agreements

Questions to stakeholders

Are you aware of such take-back systems being used in the public procurement currently?

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Supply of paper and IE consumables

- The goal of these criteria is to **promote the use of environmental preferable paper** and **imaging equipment consumables**, when those are supplied together with imaging equipment.

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Supply of paper and IE consumables

Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATION	
<p><i>(when copy and graphic paper supply is included in the imaging equipment supply contract)</i></p> <p>TS15 (a) Supply of copy and graphic paper meeting the EU GPP criteria</p> <p>Copy and graphic paper offered by the tenderer in the frame provision of imaging equipment must comply with Core Technical Specifications of the EU Green Public Procurement criteria for Copying and graphic paper¹.</p> <p>Verification: <i>The tenderer must provide supporting documentation that the products to be supplied meet the criteria specified above.</i></p>	<p><i>(when copy and graphic paper supply is included in the imaging equipment supply contract)</i></p> <p>TS15 (a) Supply of copy and graphic paper meeting the EU GPP criteria</p> <p>Copy and graphic paper offered by the tenderer in the frame provision of imaging equipment must comply with Comprehensive Technical Specifications of the EU Green Public Procurement criteria for Copying and graphic paper¹.</p> <p>Verification: <i>The tenderer must provide supporting documentation that the products to be supplied meet the criteria specified above.</i></p>
<p><i>(when cartridges supply is included in the imaging equipment supply contract)</i></p> <p>TS15 (b) Supply of cartridges meeting the EU GPP criteria</p> <p>Cartridges offered by the tenderer in the frame of provision of imaging equipment must comply with Core Technical Specifications included in EU GPP Criteria Area 2 Imaging equipment consumables.</p> <p>Verification: <i>The tenderer must provide supporting documentation that the products to be supplied meet the criteria specified above.</i></p>	<p><i>(when cartridges supply is included in the imaging equipment supply contract)</i></p> <p>TS15 (b) Supply of cartridges meeting the EU GPP criteria</p> <p>Cartridges offered by the tenderer in the frame of provision of imaging equipment must comply with Comprehensive Technical Specifications included in EU GPP Criteria Area 2 Imaging equipment consumables.</p> <p>Verification: <i>The tenderer must provide supporting documentation that the products to be supplied meet the criteria specified above.</i></p>

¹ Available at: http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm

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Supply of paper and IE consumables

AWARD CRITERIA	
Core criteria	Comprehensive criteria
<p><i>(when cartridges supply is included in the imaging equipment supply contract)</i></p> <p>AC6 Supply of reused/remanufactured cartridges</p> <p>Points must be awarded for the commitment to provide the highest percentage (share) of reused/remanufactured cartridges must comply with Core Technical Specifications included in EU GPP Criteria Area 2 Imaging equipment consumables.</p> <p>Verification: <i>The tenderer must provide supporting documentation that the products to be supplied meet the criteria specified above.</i></p>	<p><i>(when cartridges supply is included in the imaging equipment supply contract)</i></p> <p>AC6 Provision of reused/remanufactured cartridges</p> <p>Points must be awarded for the commitment to provide the highest percentage of reused/remanufactured cartridges must comply with Comprehensive Technical Specifications included in EU GPP Criteria Area 2 Imaging equipment consumables.</p> <p>Verification: <i>The tenderer must provide supporting documentation that the products to be supplied meet the criteria specified above.</i></p>
CONTRACT PERFORMANCE CLAUSES	
Core criteria	Comprehensive criteria
<p><i>(when cartridges or copy and graphic paper supply is included in the imaging equipment supply contract)</i></p> <p>CPC3 Reporting on supplied consumables</p> <p>The contractor must provide records regarding the provision of consumables specified in TS Supply of consumables, as appropriate, for:</p> <ul style="list-style-type: none"> - copy and graphic paper meeting the EU GPP criteria (TS14 (a)), - cartridges meeting the EU GPP criteria (TS14 (b)), - reused/remanufactured cartridges (AC5). 	<p><i>(when cartridges or copy and graphic paper supply is included in the imaging equipment supply contract)</i></p> <p>CPC3 Reporting on supplied consumables</p> <p>The contractor must provide records regarding the provision of consumables specified in TS Supply of consumables, as appropriate, for:</p> <ul style="list-style-type: none"> - copy and graphic paper meeting the EU GPP criteria (TS14 (a)), - cartridges meeting the EU GPP criteria (TS14(b)), - reused/remanufactured cartridges (AC5).

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Supply of paper and IE consumables

Questions to stakeholders

- Do you agree with the proposed formulation of this criterion?

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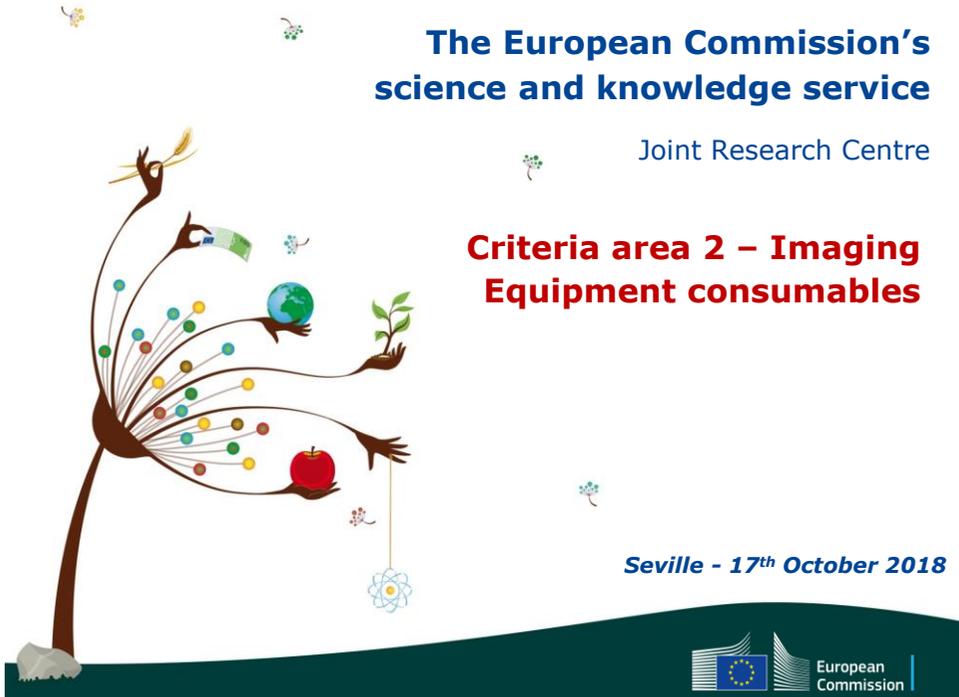


The European Commission's science and knowledge service

Joint Research Centre

Criteria area 2 – Imaging Equipment consumables

Seville - 17th October 2018



Revised proposal for scope and definitions

2) Imaging equipment consumables

Imaging Equipment consumables scope

A replaceable product that is essential to the functioning of the imaging equipment product. It can be replaced or replenished by either the end user or service provider during the normal usage and life span of the imaging equipment product.

Imaging equipment consumables covered under the scope of this EU GPP include:

- a) Containers,
- b) Cartridges,
- c) Drum units,
- d) Fusers units,
- e) Transfer kits.

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Cartridges/containers page yield

- **Use of cartridges** → Relative contribution to life cycle environmental impacts at least **as important as the energy consumption** during use.
- **Page yield reporting** → incentivise longer yields at **same printing quality** (very important for use of paper). **Impacts from new cartridge manufacturing** will be avoided.
- Page yield information is important for procuring authorities as it can help identify costs per printed page.

Voluntary agreement (Criterion 6.6.2)

Signatories must make information on inkjet and toner cartridge yield available to customers based on the measurement standards specified, for example, in ISO/IEC 24711:2006 (for ink), ISO/IEC 19752:2004 (for monochrome toner), ISO/IEC 19798:2006 (for colour toner), and through other company methods.

- Large OEMs communicate page yield data. ETIRA members test their cartridges using either the ISO or DIN standards.

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Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATIONS	
TS16 Cartridges/containers page yield declaration	
The expected page yield must be declared for all cartridges/containers that will be supplied for use in the relevant imaging equipment.	
Verification:	
<i>The tenderer must provide documentation, which identifies page yields and associated test procedures used to derive the values. Documentation may consist of a manufacturer declaration or other alternative means of documentation that provide the necessary information. Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i>	
AWARD CRITERIA	
<i>[For procurers with high need of printouts]</i>	
AC7 Extended page yield	
Additional points must be awarded for tenderers that provide cartridges/containers with higher page yields than other tenderers' consumables for the same model of imaging equipment. The page yield of each cartridge/container should be compared to the minimum page yield for an equivalent cartridge/container offered by an alternative prospective supplier. A maximum of x points [to be specified] may be awarded to each cartridge/container for each model of imaging equipment and calculated as:	
$\text{Award Points (x)} = \sum \left(\left(\frac{\text{Yield}_{EXT} - \text{Yield}_{MIN}}{\text{Yield}_{MIN}} \right) * \left(\frac{x_{MAX}}{n_{CAPACITY}} \right) \right)$	
Where:	
Yield _{EXT} = maximum available page yield	
Yield _{MIN} = minimum available page yield	
x _{Max} = maximum available award points	
n _{CAPACITY} = number of cartridges/containers designed to be installed in an individual model of imaging equipment to provide full functionality	
Verification:	
<i>The tenderer must provide documentation, which identifies all page yields, associated test procedures used to derive the values and the maximum number of cartridge/containers that may be installed in each model of imaging equipment. Documentation may consist of a manufacturer declaration or other alternative means of documentation that provide the necessary information.</i>	

Cartridges/containers page yield

- **ISO/IEC 24711:2006** - Method for the determination of ink cartridge yield for colour inkjet printers and multi-function devices that contain printer components
- **ISO/IEC 19752:2017** - Information technology -- Office equipment -- Method for the determination of toner cartridge yield for monochromatic electrophotographic printers and multi-function devices that contain printer components
- **ISO/IEC 19798:2017** - Information technology -- Office equipment -- Method for the determination of toner cartridge yield for colour printers and multi-function devices that contain printer components
- **DIN 33870-1** - Office machines - Requirements and tests for the preparation of refilled toner modules for electrophotographical printers, copiers and facsimile machines - Part 1: Monochrome
- **DIN 33870-2** - Office machines - Requirements and tests for the preparation of refilled toner modules for electrophotographical printer, copiers and facsimile machines- Part 2: 4-Colour-printers
- **DIN 33871-1** - Information technology - Office machines, inkjet print heads and inkjet tanks for inkjet printers - Part 1: Preparation of refilled inkjet print heads and inkjet tanks for inkjet printers
- **DIN 33871-2** - Information technology - Office machines, inkjet print heads and inkjet tanks for inkjet printers - Part 2: Requirements on compatible ink cartridges (4-colour system) and their characteristic features

Cartridges/containers page yield

Questions to stakeholders

- Do you agree with the proposed formulation of this criterion?

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Consumable material efficiency

- Lifecycle impacts will depend on the exact **material composition** of the consumable and on the **total volume** of materials used.
- **Significant variation in the amount of material used within consumables** that provide the **same or similar functionality**.
- Reduction in weight will **reduce the amount of plastics** used.

Nordic Swan Version 6.3 Images Per Minute (IPM)	Monochrome application (Kg/1000 pages according to ISO/IEC 19752)	Colour application (Kg/1000 pages according to ISO/IEC19798)
IPM > 19	≤ 0,65	≤ 2
IPM ≤ 19	≤ 1	≤ 3

- It was not possible to assess the level of ambition associated with the Nordic Swan criterion. Further investigations were made into consumable material efficiency based on a dataset with 571 products → **Page yield mass efficiency requirement** (page yield per gram of material)

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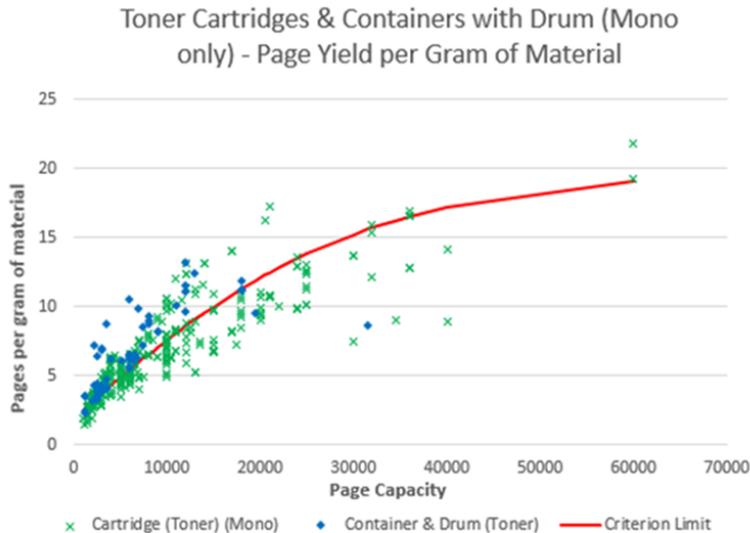
Core criteria	Comprehensive criteria						
TECHNICAL SPECIFICATIONS	<p>TS17 Consumable resource efficiency The consumable mass resource efficiency using the formula (1) below must not exceed the result indicated in table below: Imaging Equipment consumable resource efficiency</p> <table border="1"> <thead> <tr> <th>Consumable Type</th> <th>Minimum Images per Gram(g) of Consumable Material</th> </tr> </thead> <tbody> <tr> <td>Toner Cartridge or Container & Drum</td> <td>$(2 \times [10 \times \tanh(0,1+0,0003 \times (C_{Mass}-10))-0.5]+1)$</td> </tr> <tr> <td>Ink Cartridge or Container</td> <td>$(2 \times [15 \times \tanh(0,2+0,0004 \times (C_{Mass}-8))-1]+2)$</td> </tr> </tbody> </table> <p>A calculation of page yield mass efficiency, i.e. minimum page yield per gram of the total consumable material supplied (any cartridge or container plus drum units, as appropriate, used in imaging equipment product) must be provided. The page yield mass efficiency must be calculated as follows: $\text{Page Yield Mass Efficiency} = \frac{\text{Page Yield}}{C_{Mass}} \quad (1)$ Where:</p> <ul style="list-style-type: none"> • Page yield is the measured number of images that may be produced by the consumable • Cartridge or Container/Drum mass (C_{Mass}) is calculated as the mass (g) of each cartridge or container plus drum unit, as measured in their to be installed condition (i.e. full of ink or toner and any additional components not present whilst installed in the imaging equipment removed). <p>Verification: The tenderer must provide result of Page Yield Mass Efficiency calculation together with documentation, which identifies all page yields, associated test procedures used to derive the values, and the mass of all cartridges, containers and drum units designed for use in each imaging equipment model. Documentation may consist of a manufacturer declaration or other alternative means of documentation that provide the necessary information.</p>	Consumable Type	Minimum Images per Gram(g) of Consumable Material	Toner Cartridge or Container & Drum	$(2 \times [10 \times \tanh(0,1+0,0003 \times (C_{Mass}-10))-0.5]+1)$	Ink Cartridge or Container	$(2 \times [15 \times \tanh(0,2+0,0004 \times (C_{Mass}-8))-1]+2)$
Consumable Type	Minimum Images per Gram(g) of Consumable Material						
Toner Cartridge or Container & Drum	$(2 \times [10 \times \tanh(0,1+0,0003 \times (C_{Mass}-10))-0.5]+1)$						
Ink Cartridge or Container	$(2 \times [15 \times \tanh(0,2+0,0004 \times (C_{Mass}-8))-1]+2)$						

Only comprehensive

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Consumable material efficiency



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AWARD CRITERIA
<p>AC8 Electrophotographic consumables resource efficiency</p> <p>Points must be awarded for electrophotographic consumables (cartridges, containers and drum units) that minimise material use per yielded page. A maximum of x points [to be specified] may be awarded to the tenderer which offers the highest overall consumable resource efficiency value across all electrophotographic consumables for each model of imaging equipment. The resource efficiency should be calculated in accordance with the equation given in TS17. When different consumables are purchased, the value should be an average value across all products to be supplied.</p> <p>Verification:</p> <p><i>The tenderer must provide result of Page Yield Mass Efficiency calculation together with documentation, which identifies the following for all cartridges/container and any separate drum units used in relevant electrophotographic imaging equipment:</i></p> <ul style="list-style-type: none"> • <i>Page yields</i> • <i>Mass of full cartridges/containers</i> • <i>Mass of separate drum units</i> <p><i>Documentation may consist of a manufacturer declaration or other alternative means of proof that provide the necessary information.</i></p>

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Consumable material efficiency

- The detailed **composition** of consumables is not covered in any other major environmental initiative.
- **Reducing the number of material types** is likely to result in higher recoverable material content during end of life processing.
- Some manufacturers do choose to communicate cartridge/container material content data, especially where designs are shown to minimize material content.

	<p>AC9 Reduced number of materials of consumables</p> <p>Points must be awarded for cartridges/containers and drum units that include reduced numbers of material types. A maximum of x points [to be specified] may be awarded to the tenderer which offers consumables that are constructed with the lowest number of material types compared to all other tenderers. The number of material types should be an average value across all products to be supplied.</p> <p>Verification:</p> <p><i>The tenderer must provide documentation, which identifies the number and type of materials used in each consumable. Documentation may consist of a manufacturer declaration or other alternative means of documentation that provide the necessary information.</i></p>	<p style="color: #c00000;">Only comprehensive</p>
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Consumable material efficiency

Verification

Consumable resource efficiency (Page yield mass efficiency requirement)

The weight of a full cartridge/container/drum unit could be easily measured using a standard set of scales.

Page yield:

- DIN Technical Report No. 155:2007-09
- ISO/IEC 19752:2004 for monochrome cartridges
- ISO/IEC 19798:2007 for colour cartridges
- DIN 33870-1 for monochrome cartridges
- DIN 33870-2 for colour cartridges

Reduced number of materials

- There are no standards which dictate how cartridge/container material composition should be declared.

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Consumable material efficiency

Questions to stakeholders

- Do you agree with the proposal?
- Are you aware of similar initiative and best practices which could aid further development of this requirement?

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Consumable hazardous substances content

- Hazardous substances in cartridges usually not assessed in LCA. **Hazardous substances can be emitted**, in the form of dust, volatile organic chemicals (VOCs), ozone, benzene, particulate matter and semi-volatile organic compounds (SVOCs).
- Information on hazardous material content of cartridges/containers:
 - Material Safety Data Sheets
 - Nordic Swan and Blue Angel
 - Ecma 370
- The Ecma-370 declaration :
 - cadmium content of photo conductors and inks/toners
 - labelling of consumables and provision of Safety Data Sheet (SDS)

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Consumable hazardous substances content

Blue Angel exclusion of intentionally added substances in colourants

Hazard class	Hazard category	CLP-regulation (EC) No. 1272/2008
Carcinogenicity	Carc. 1A, 1B	H350 May cause cancer
Carcinogenicity	Carc. 1A, 1B	H350i May cause cancer if inhaled
Carcinogenicity	Carc. 2	H351 Suspected of causing cancer
Germ cell mutagenicity	Muta. 1A, 1B	H340 May cause genetic damage
Germ cell mutagenicity	Muta. 2	H341Suspected of causing genetic defects
Reproductive toxicity	Repr. 1A, 1B	H360 May damage fertility or the unborn child
Reproductive toxicity	Repr. 2	H361 Suspected of damaging fertility or the unborn child
Substances of the so-called candidate list according to REACH Article 59. The version of the candidate list at the point of application applies.		

Hazard class	Hazard category	CLP-regulation (EC) No. 1272/2008
Specific target organ toxicity Single exposure	STOT SE 1	H370 Causes damage to organs
Specific target organ toxicity Single exposure	STOT SE 2	H371 May cause damage to organs
Specific target organ toxicity Repeated exposure	STOT RE 1	H372 Causes damage to organs through prolonged or repeated exposure
Specific target organ toxicity Repeated exposure	STOT RE 2	H373 May cause damage to organs through prolonged or repeated exposure

Consumable hazardous substances content

- No substances which contain **mercury, cadmium, lead, nickel or chromium-VI-compounds** are to be added to toners and inks.
- Restrictions for **azo dyes** (dyes or pigments) in toners and inks that can release carcinogenic aromatic amines as listed in Regulation (EC) 1907/2006 (REACH Regulation), Annex XVII.
- **Biocides** which are not covered by an active substance dossier for preservatives for products during storage according to the Biocidal Product Regulation are also not permitted.
- Prohibits the inclusion of **selenium, lead, mercury or cadmium** (or any of their compounds) in photoconductor drums.

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Consumable hazardous substances content

Comprehensive criteria		Only comprehensive
TS18 Consumable hazardous substances content		
Colourants used in consumable products must not contain any intentionally added substances that meet the classifications in the table below.		
Hazard class	Hazard category	CLP-regulation (EC) No. 1272/2008
Carcinogenicity	Carc. 1A, 1B	H350 May cause cancer
Carcinogenicity	Carc. 1A, 1B	H350i May cause cancer if inhaled
Carcinogenicity	Carc. 2	H351 Suspected of causing cancer
Germ cell mutagenicity	Muta. 1A, 1B	H340 May cause genetic damage
Germ cell mutagenicity	Muta. 2	H341 Suspected of causing genetic defects
Reproductive toxicity	Repr. 1A, 1B	H360 May damage fertility or the unborn child
Reproductive toxicity	Repr. 2	H361 Suspected of damaging fertility or the unborn child
Specific target organ toxicity (Single exposure)	STOT SE 1	H370 Causes damage to organs
Specific target organ toxicity (Single exposure)	STOT SE 2	H371 May cause damage to organs
Specific target organ toxicity (Repeated exposure)	STOT RE 1	H372 Causes damage to organs through prolonged or repeated exposure
Specific target organ toxicity (Repeated exposure)	STOT RE 2	H373 May cause damage to organs through prolonged or repeated exposure
[...]		

Comprehensive criteria	Only comprehensive
<p>TS18 Consumable hazardous substances content [...]</p> <p>Consumables must also meet the following hazardous material requirements:</p> <ul style="list-style-type: none"> • Not contain any additional REACH Candidate List substances at a concentration of greater than 0.1% (by weight) • Toners and inks must not contain any intentionally added mercury, cadmium, lead, nickel or chromium-VI-compounds. High molecular weight complex nickel compounds used as colourants are exempted. • Toner and inks must not contain azo dyes (dyes or pigments) that can release carcinogenic aromatic amines listed in Regulation (EC) 1907/2006 (REACH Regulation), Annex XVII, Appendix 8. • No biocides must be added to toners or inks unless an active substance dossier as defined under the Biocidal Product Regulation (BPR, Regulation (EU) 528/2012) for preservatives for products during storage (product type 6) has been submitted. Substances must not be used where they have been rejected from inclusion in the list of approved substances for product type 6. • Photoconductor drums must not contain intentionally added selenium, lead, mercury or cadmium (or any of their compounds). <p>Verification: <i>The tenderer must provide documentation, which proves that the requirement has been met. Documentation should clearly prove that each aspect of the criterion has been met. Proof of compliance may consist of test reports from third parties or manufacturer own tests illustrating the lack of any of the excluded substances listed in the criterion. Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p>	

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Consumable hazardous substances content

Questions to stakeholders
<ul style="list-style-type: none"> • Do you agree with the proposed elements of the criterion? • Could you indicate other best practices regarding chemicals management, which could aid improving the proposal? • Are there any special frontrunners initiatives, which could be supported through an award criterion?

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Reusability and manufacturability

- Existing GPP on imaging equipment states that devices and **practices that would prevent reuse** of toner and/or ink cartridge (i.e. anti-reutilisation devices/ practices) should not be present or applied in the imaging equipment.
- Different challenges limiting the ability to remanufacture imaging equipment consumables (technical and non-technical barriers).
- Technical barriers (welded materials, non-reprogrammable chips...).
- Non-technical barriers (legal restrictions on remanufacturing).
- Real or perceived quality issues with remanufactured consumables and the lack of supporting criteria in public procurement contracts.
- A criterion which limits negative influences on the ability to reuse/remanufacture consumables → more EU based remanufacturing.

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Reusability and manufacturability

Environmental initiative	Criterion Text
EU Voluntary Agreement	<i>Any cartridge produced by or recommended by the OEM for use in the product must not be designed to prevent its reuse and recycling. The requirements must not be interpreted in such a way that would prevent or limit innovation, development or improvements in design or functionality of the products, cartridges, etc.</i>
EPEAT	<i>Documentation that the cartridge or container is not designed to prevent its reuse and recycling [...].</i>
Blue Angel	Reusability of components and assemblies <i>Can modules for colourants be refurbished? Reuse must not be precluded by constructive measures</i>

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Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATIONS	
<p>TS19 Design for reusing/remanufacturing</p> <p>Cartridges or containers must not be purposefully designed to limit the ability to reuse/remanufacture. Examples of features which are deemed to limit the ability to remanufacture include, but are not limited to:</p> <ul style="list-style-type: none"> • Cartridges or containers are not covered by patents or licence agreements which include statements that seek to limit remanufacturing. <p>Verification: <i>The tenderer must provide documentation, which explicitly states that cartridges or containers are not purposefully designed to limit the ability to reuse/remanufacture.</i></p> <p><i>Equipment holding a relevant Type I Eco-label fulfilling the specified requirements will be deemed to comply.</i></p>	
AWARD CRITERIA	
<p>Only comprehensive</p> <p>157</p>	<p>AC10 Advanced design for reusing/remanufacturing</p> <p>A maximum of x points [to be specified] may be awarded to the tenderer which meets the following advanced consumable design criteria and end of life consideration practices:</p> <ul style="list-style-type: none"> • Design of any consumable product facilitates its reuse/remanufacture through technical features which encourage remanufacturing and unrestricted remanufacturing practices. <p>The technical features may include the following among others:</p> <ul style="list-style-type: none"> • Lack of a chip in the consumable which controls imaging functionality • Any installed chip includes functionality allowing a full reset to be initiated via either the imaging equipment controls or a network connected computer without the need for additional products • Consumable can be easily manually dismantled, where necessary with the use of universally available tools (e.g. openly available screw heads, pliers or tweezers), in order to replace worn parts and be refilled with toner material or ink. <p>Verification:</p> <p><i>The tenderer must provide an annotated product schematic detailing which design features have been included to facilitate remanufacturing.</i></p>

Reusability and manufacturability

Core criteria	Comprehensive criteria
AWARD CRITERIA	
<p>Only comprehensive</p>	<p>AC11 Facilitating reuseability/remanufacturability</p> <p>A maximum of x points [to be specified] should be given where tenderers facilitate the reuse of consumables through the following actions:</p> <ul style="list-style-type: none"> • The ability for non-OEM organisations to purchase the rights, from an OEM, at a reasonable cost, to reprogramme a consumable chip in order that full imaging equipment functionality is supported • From the time a consumable is first placed on the EU market, replacement chips, which support full imaging equipment functionality, are available on the open market • Avoids placing any restrictions on the necessary remanufacturing steps needed to remanufacture any consumable <p>Verification:</p> <p><i>The tenderer must provide a declaration that each of the requirements in the criterion have been met.</i></p>

Reusability and manufacturability

Questions to stakeholders

- Do you agree with the proposal?
- Are you aware of best practices in the area of reuse/remanufacture which should be promoted through GPP award criteria?

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Consumable quality

- Poor quality → waste generation (disposal before end of life).

Nordic Swan

Production quality: The annual **average level of complaints** relating to Nordic Swan Ecolabelled products must not exceed 1%. Only complaints relating to Nordic Ecolabelling criteria must be included in this calculation.

[...]. If the level of complaints exceeds 1% for a month, a report must be submitted detailing the reasons and **remedial actions**. If the level of complaints exceeds 2%, contact Nordic Ecolabelling.
[...].

Print quality: All **toner cartridges must be tested** to and comply with one of the following standards/test methods: **DIN Technical Report No. 155:2007-09**, **ASTM F:2036** for monochrome printouts, **DIN 33870-1** for monochrome printouts, **DIN 33870-2** for colour printouts
[...].

Blue Angel

Remanufacturing- The **toner modules must be remanufactured in accordance with remanufacturing instructions** detailing the remanufacturing process. The functionality of the toner modules must be ensured by tests and documented in accordance with **DIN 33870-1 or DIN 33870-2**. [...]

Consumable quality

Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATIONS	
TS20 Consumable Quality	
Any cartridges or containers described as remanufactured products must meet all requirements behind at least one widely recognised remanufactured cartridge/container quality standard.	
Verification:	
<i>The tenderer must provide documentation, which proves that cartridges or containers meet requirements of at least one recognised quality standard. Documentation may consist of a manufacturer declaration, a quality standard certificate of compliance, proof of compliance to an appropriate environmental scheme which includes the same reporting requirements or other alternative means of proof that provide the necessary information.</i>	

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Consumable quality

Questions to stakeholders
<ul style="list-style-type: none">• Do you agree with the proposal of the criterion to be applicable for remanufactured cartridges only or do you consider that also OEM/new cartridges should be tested for quality?• If a requirement for OEM, what would be the suitable verification procedure?

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Consumables Take-back system

- The provision of a take-back scheme could contribute to improvement of environmental impacts → better channeling of used consumables for remanufacturing.
- Most OEMs provide a take-back system for end-of-life consumables. Larger remanufacturers also offer take back programmes either directly or via agreements with other organisations.
- Around 370 million inkjet cartridges are placed on the European market each year. Approx. 65 million inkjet cartridges are collected at end-of-life with 75% of these being remanufactured.
- Around 20% of toner cartridges are collected at end-of-life with 82% of these being remanufactured.
- The Blue Angel, EPEAT and EU Voluntary Agreement all include requirements on consumable take back.

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EPEAT

Provision of take-back and end-of-life management for cartridges and containers—Manufacturer provides a take-back service for toner and ink cartridges and containers [...]. In the case of containers, the manufacturer can advocate local recycling of toner and ink containers [...].

Landfill disposal and incineration are not used as part of the manufacturer take-back program for registered and formerly registered products. [...]. Manufacturers must report the following:

a) Total tonnage of cartridges and containers collected annually (in metric tons)

b) Total tonnage of materials sent to each of the following end-of-life management methods as a proportion of total collected weight of cartridges and containers

- Reuse of components
- Materials recycling
- Waste-to-energy
- Material in storage, pending processing
- Incineration (incineration cannot be used for registered or formerly registered products)
- Landfill (landfill cannot be used for registered or formerly registered products)

[...].

Manufacturer recycles or reuses toner material collected through its cartridge and container take-back program [...]manufacturer ensures that toner material collected through its cartridge and container take-back program [...] is reused or recycled and that none is disposed of through a landfill or incineration option. Disposal through waste to energy of up to 25% of the total weight of toner material collected through this program is allowed. More than 25% may be sent to waste to energy where applicable local, national, or regional regulations dictate that toner material, regardless of composition, must be sent to waste to energy. [...]

Manufacturer recycles or reuses plastics collected through its cartridge and container take-back program [...]manufacturer ensures that plastic collected through its cartridge and container take-back program [...] is reused or recycled and that none is disposed of through a landfill or incineration option. Disposal through waste to energy of up to 25% of the total weight of plastic collected through this program is allowed. More than 25% may be sent to waste to energy where applicable local, national, or regional regulations dictate that plastic, regardless of composition, must be sent to waste to energy. [...]

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Consumables Take-back system

Environmental initiatives	Criterion Text
Blue Angel	<p>Take-back of modules and containers for colourants</p> <p>The distributor commits to take back modules and containers for colourants which he supplied or recommended for use in the product documents in order to preferably channel such modules and containers to reuse or material recycling.</p> <p>This also applies to excess toner reservoirs. A third party (dealers or service agencies or companies engaged in the module reuse/recycling business) may be commissioned to perform this task. The formers are to be provided with instructions for proper handling of excess toners. Non-recyclable product parts must be properly disposed of.</p> <p>Modules and containers are to be taken back free of charge by the return facility named by the distributor to which products can be returned personally or by shipment (return facilities abroad are only permissible if the products can be sent there free of charge). The product documents and the information and data sheet must include detailed information on the return options.</p>
EU Voluntary Agreement	<p>Cartridge disposal and treatment For new product models first placed on the EU market after 1 January 2012, Signatories must provide end-users with information on suitable end-of-life management options for used cartridges. This information may be communicated via a company website.</p>

Core criteria	Comprehensive criteria
<p>TECHNICAL SPECIFICATION</p> <p>TS21 Consumables Take-back A free take back system is provided for any cartridge or containers. The tenderer must provide containers to Contracting Authorities which are suitable for the accumulation of used cartridges and containers. The supplier may fulfil these obligations themselves or via a suitable third-party organisation.</p> <p>Verification: <i>The tenderer must provide documentation, which states that a free take back system will be provided for cartridges and containers. Documentation may consist of a manufacturer declaration, proof of compliance to an appropriate environmental scheme which includes the same requirement or other alternative means of proof that provide the necessary information.</i></p>	<p>TS21 Consumables Take-back A free take back system is provided for any consumable used in the imaging equipment. The tenderer must provide containers to Contracting Authorities which are suitable for the accumulation of used consumables and redundant parts including but not limited to: spent toner bottles, cartridges, waste toner, developer liquids/powder, replaceable units such as a fuser or developer, broken parts and packaging. The supplier may fulfil these obligations themselves or via a suitable third-party organisation.</p> <p>Verification: <i>The tenderer must provide documentation, which states that a free take back system will be provided for all consumables (excluding paper). Documentation may consist of a manufacturer declaration, proof of compliance to an appropriate environmental scheme which includes the same requirement or other alternative means of proof that provide the necessary information.</i></p>
	<p>CPC4 Reporting on reuse/recycle activities of consumables The contractor must provide records regarding the free take back system for used consumables aimed to channel such equipment for reuse of the equipment or its parts, or for material recycling with preference given to reuse.</p> <p>In particular the recording must detail:</p> <ul style="list-style-type: none"> - number of consumables taken back for free from the awarding authority, - number and type of parts, as appropriate, channelled for reuse, - number and type of parts, as appropriate, channelled for material recycling.

Consumables Take-back system

Questions to stakeholders

- Do you agree with the proposal of the criterion?

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Criteria area 3 – Printing services

Seville - 17th October 2018



Printing services

- The **scope of the revised EU GPP** is proposed to be **extended to criteria** which can be used in the **procurement of printing services**
- Under printing services we understand services **where the price is linked to the quantity of printed pages**
- These agreements can include:
 - **supply of IE products and /or consumables,**
 - **maintenance,**
 - **end of life activities**
 - **and optimisation of organisation's document output**

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Commitment to reuse and repair imaging equipment products

- The **reuse of imaging equipment** means that most lifecycle impacts are being shared over a greater period of time, thereby impacts per unit of service are reduced
- However, **energy use** may become a larger factor where **less efficient imaging equipment** is used for longer periods of time
- This issue will become less important as the **efficiency gap between old and new products reduces over time** (i.e. as efficiency improvements reduce over time)
- There are **no specific criteria in major environmental initiatives** which encourage purchasing or retention of used equipment
- **Some public bodies** have begun to include these stipulations in contracts

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Commitment to reuse and repair imaging equipment products

- It is proposed that the EU GPP specification includes a criterion which **commits new suppliers to retain fully functional imaging equipment already on the procuring authority's estate rather than install new products**
- The criterion **also** asks that **suppliers utilise the available spare parts** for imaging equipment and **repair products where feasible**
- This **requirement therefore serves to extend the lifetime of existing equipment** on government estates and **reduce the number of new products needed to provide government services**
- Encouraging the reuse of existing imaging equipment may also provide **financial savings** for procuring authorities as has been achieved with reuse of computers

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Same core and comprehensive

Commitment to reuse and repair imaging equipment products

Core criteria	Comprehensive criteria
CONTRACT PERFORMANCE CLAUSE	
TS22(a) Commitment to reuse of imaging equipment	
Tenderers agree that fully functional imaging equipment owned by the purchasing authority and present at the procurer's premises must be retained for continued use rather than be replaced with new products. This requirement does apply if fewer overall imaging equipment models should be installed.	
Verification: <i>Tenderer must provide a declaration of compliance with this requirement.</i>	
TS22(b) Commitment to repair of imaging equipment	
Suppliers agree that imaging equipment that ceases to function during the contract will be brought back into full service using spare parts. This requirement does not extend to:	
<ul style="list-style-type: none"> • Imaging equipment that is no longer able to provide the necessary levels of functionality stipulated by the procuring authority, • Imaging equipment that cannot be feasible brought back into full service through the substitution of non-functioning spare parts either due to lack of available spare parts or due to excessive costs, • Situation where the procuring authority wishes to reduce the total number of imaging equipment models in service. 	
Verification: <i>Tenderer must provide a declaration of compliance with this requirement.</i>	

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Commitment to reuse and repair imaging equipment products

Questions to stakeholders

- Do you agree with the proposal of the criterion?

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Supply of imaging equipment, paper and imaging equipment consumables

- The goal of the two following criteria is to promote the use of environmentally preferable
 - **imaging equipment**
 - **paper**
 - **ink and toner cartridges**

TS23 Supply of imaging equipment meeting the EU GPP criteria
TS24(a) Supply of copy and graphic paper meeting the EU GPP criteria
TS24(b) Supply of cartridges meeting the EU GPP criteria
AC12 Supply of reused/remanufactured cartridges
CPC5 Reporting on supplied consumables

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Supply of imaging equipment

Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATION (when supply of imaging equipment is included in the printing service contract) TS23 Supply of imaging equipment meeting the EU GPP criteria Imaging equipment offered by the tenderer in the frame of provision of printing services must comply with Core Technical Specifications included in the EU GPP Criteria Area 1 Imaging equipment. Verification: The tenderer must provide supporting documentation that the products to be supplied meet the criteria specified above.	TECHNICAL SPECIFICATION (when supply of imaging equipment is included in the printing service contract) TS23 Supply of imaging equipment meeting the EU GPP criteria Imaging equipment offered by the tenderer in the frame of provision of printing services must comply with Comprehensive Technical Specifications included in the EU GPP Criteria Area 1 Imaging equipment. Verification: The tenderer must provide supporting documentation that the products to be supplied meet the criteria specified above.

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Supply of IE consumables

Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATION (when copy and graphic paper supply is included in the printing service) TS24(a) Supply of copy and graphic paper meeting the EU GPP criteria Copy and graphic paper offered by the tenderer in the frame of provision of the printing service must comply with Core Technical Specifications of the EU Green Public Procurement criteria for Copying and graphic paper. Verification: The tenderer must provide supporting documentation that the products to be supplied meet the criteria specified above.	TECHNICAL SPECIFICATION (when copy and graphic paper supply is included in the printing service) TS24(a) Supply of copy and graphic paper meeting the EU GPP criteria Copy and graphic paper offered by the tenderer in the frame of provision of the printing service must comply with Comprehensive Technical Specifications of the EU Green Public Procurement criteria for Copying and graphic paper ⁶⁵ . Verification: The tenderer must provide supporting documentation that the products to be supplied meet the criteria specified above.
TECHNICAL SPECIFICATION (when cartridges supply is included in the printing service) TS24(b) Supply of cartridges meeting the EU GPP criteria Cartridges offered by the tenderer in the frame of provision of the printing service must comply with Core Technical Specifications included in EU GPP Criteria Area 2 Imaging equipment consumables. Verification: The tenderer must provide supporting documentation that the products to be supplied meet the criteria specified above.	TECHNICAL SPECIFICATION (when cartridges supply is included in the printing service) TS24(b) Supply of cartridges meeting the EU GPP criteria Cartridges offered by the tenderer in the frame of provision of the printing service must comply with Comprehensive Technical Specifications included in EU GPP Criteria Area 2 Imaging equipment consumables. Verification: The tenderer must provide supporting documentation that the products to be supplied meet the criteria specified above.

⁶⁵ Available at: http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm

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Supply of paper and IE consumables

AWARD CRITERIA	
Core criteria	Comprehensive criteria
<p><i>(when cartridges supply is included in the printing service)</i></p> <p>AC12 Supply of reused/remanufactured cartridges</p> <p>Points must be awarded for the commitment to provide the highest percentage (share) of reused/remanufactured cartridges must comply with Core Technical Specifications included in EU GPP Criteria Area 2 Imaging equipment consumables.</p> <p>Verification: <i>The tenderer must provide supporting documentation that the products to be supplied meet the criteria specified above.</i></p>	<p><i>(when cartridges supply is included in the printing service)</i></p> <p>AC12 Provision of reused/remanufactured cartridges</p> <p>Points must be awarded for the commitment to provide the highest percentage of reused/remanufactured cartridges must comply with Comprehensive Technical Specifications included in EU GPP Criteria Area 2 Imaging equipment consumables.</p> <p>Verification: <i>The tenderer must provide supporting documentation that the products to be supplied meet the criteria specified above.</i></p>
CONTRACT PERFORMANCE CLAUSES	
Core criteria	Comprehensive criteria
<p><i>(when cartridges or copy and graphic paper supply is included in the printing service)</i></p> <p>CPC5 Reporting on supplied consumables</p> <p>The contractor must provide records regarding the provision of consumables specified in TS Supply of consumables, as appropriate, for:</p> <ul style="list-style-type: none"> - copy and graphic paper meeting the EU GPP criteria (TS14 (a)), - cartridges meeting the EU GPP criteria (TS14 (b)), - reused/remanufactured cartridges (AC5). 	<p><i>(when cartridges or copy and graphic paper supply is included in the printing service)</i></p> <p>CPC5 Reporting on supplied consumables</p> <p>The contractor must provide records regarding the provision of consumables specified in TS Supply of consumables, as appropriate, for:</p> <ul style="list-style-type: none"> - copy and graphic paper meeting the EU GPP criteria (TS14 (a)), - cartridges meeting the EU GPP criteria (TS14(b)), - reused/remanufactured cartridges (AC5).

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Supply of imaging equipment and imaging equipment consumables

Questions to stakeholders

- Do you agree with the proposal of the criteria?

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Provision of consumable use information

- The **information provided on consumables use** may help to reduce the environmental impacts of imaging equipment consumables **through improved management practices**
- More public bodies require that the **use of consumables within their organizations is monitored by suppliers**
- The **ability to understand consumable usage patterns** over an estate can contribute to certain savings opportunities for procuring authorities
- There are **no specific criteria** in **major environmental initiatives** covering this area for printing services
- Imaging equipment **service providers** can provide **detailed consumable usage information** to customers as it is frequently needed for billing purposes

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Same core and comprehensive

Provision of consumable use information

Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATION	
CPC6 Provision of consumable use information	
<p>The printing service provision must include dissemination of detailed consumable usage statistics to the procuring authority, on a regular basis, or when requested to do so by the procuring authority, during the life of the contract. Consumable usage information must include, as appropriate, among the below listed:</p> <ul style="list-style-type: none"> • Paper usage per each imaging equipment model within the fleet to include: <ul style="list-style-type: none"> – Number of sheets/rolls of paper, including size (i.e. A4, A3, etc.), – Identification of paper type (i.e. recycled, virgin, grammage, etc.) • Number of cartridges or containers used within each imaging equipment model within the fleet, • Yield per cartridge/container/drum unit per imaging equipment model in fleet, • Amount of other consumables used within each imaging equipment model within the fleet. <p>Verification: <i>The tenderer must provide documentation which contains the listed information.</i></p>	

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Provision of consumable use information

Questions to stakeholders

- Do you agree with the proposal of the criteria?

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Provision of environmental information during service contract

- The **provision of environmental information about impacts** associated with a contract is considered important
- Procuring authorities may **seek to set targets for reduction of impacts from certain activities** (e.g. in the end of life of products)
- Some public bodies **require that suppliers monitor and report on environmental impacts or activities throughout the duration of an imaging equipment service provision**
- There are no specific criteria in **major environmental initiatives** covering this area for printing services

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Provision of environmental information during service contract

Core criteria	Comprehensive criteria
CONTRACT PERFORMANCE CLAUSE	<p>CPC7 Provision of environmental information during service contract</p> <p>The service provision must include, on request by the contracting authority, supply of the following information during the life of the contract: Details concerning the management of the imaging equipment and associated components at end of life. This must include:</p> <ul style="list-style-type: none"> • Initial destination of products at end of life • Confirmation that the end of life service providers are certified on an ongoing basis to a recycling standard by independent certification bodies • Number of products sent for: <ul style="list-style-type: none"> • Reuse • Remanufacture then reuse • Recycling • Other end of life options <p>Verification: <i>The tenderer must provide documentation, which confirms that the required environmental information will be supplied, on request by the contracting authority, throughout the duration of the contract.</i></p>

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Provision of environmental information during service contract

Questions to stakeholders

- Do you agree with the proposal of the criteria?

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Horizontal criteria

Seville - 17th October 2018



Tenderer Environmental Management activities

- Ensuring that tenderers effectively **identify, measure, evaluate** and then reduce impacts stemming from their activities **help to reduce overall environmental impacts** associated with imaging equipment.
- There are no known environmental initiatives for imaging equipment which cover such environmental management activities.
- Requirements regarding tenderers' abilities to manage their environmental impacts exist in **other EU GPP criteria**.

Tenderer Environmental Management activities

Core criteria	Comprehensive criteria
SELECTION CRITERIA	
<p>SC2 Tenderer environmental management activities</p> <p>The tenderer must prove its commitment to reduce the environmental impact associated to their activities.</p> <p>Verification:</p> <p><i>The tenderer must provide the document/reports of the following operational procedures which constitute the basis of an Environmental Management System:</i></p> <ul style="list-style-type: none"> • <i>identification of the most relevant environmental aspects relevant to their activities;</i> • <i>a precise action programme establishing targets on environmental performance regarding the identified environmental aspects</i> • <i>an internal evaluation process allowing verifying at least yearly organisation performances with regard to the targets defined in the action program and setting correction actions if needed.</i> <p><i>Tenderer registered under EMAS or certified according to ISO 14001 must be deemed to comply. In this case, ISO 14001 certificate or EMAS registration must be provided as a means of proof.</i></p>	

Tenderer Environmental Management activities

Questions to stakeholders
<ul style="list-style-type: none"> • Is this requirement relevant for all types of tenderers (suppliers, manufacturers, service providers)?

Guaranteed provision of consumables and spare parts during contract

- The **guaranteed provision of consumables and spare parts** → **duration of a contract**. Not addressed in the major environmental initiatives.
- Ability to secure them for the life of a contract would facilitate **continued use of existing IE**
- Guaranteeing the provision of consumables and spare parts for imaging equipment during the life of a contract may result in some additional costs for service/product providers, while procuring authorities are likely to see savings from the ability to continue to use existing imaging equipment through the life of a contract.

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Same core and comprehensive

Guaranteed provision of consumables and spare parts during contract

Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATION	
<i>(applicable for tenders where procurement of consumables is included)</i>	
TS25(a) Guaranteed provision of consumables during contract	
The tendered must ensure the provision of consumables for any imaging equipment that is retained for use for the duration of the contract.	
Verification:	
<i>The tenderer must provide a declaration of compliance with this criterion.</i>	
<i>(applicable for tenders where procurement of repair service is included)</i>	
TS25(b) Guaranteed provision of spare parts during contract	
The service must include the provision of spare parts for any existing installed imaging equipment that is retained for use for the duration of the contract.	
Verification:	
<i>The tenderer must provide documentation, which confirms that spare parts for any existing installed imaging equipment that is retained for use will be provided for the duration of the contract.</i>	

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Guaranteed provision of consumables and spare parts during contract

A **supplier/tenderer declaration** that they will guarantee the provision of consumables during a contract will be required for verification purposes.

Questions to stakeholders

- It is unclear how at present any supplier/service providers guarantee the provision of consumables and spare parts for imaging equipment present at procurers premises.

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User instructions for green performance management

- Information for the user → raise the **user environmental awareness** and subsequent behaviour.
- Product has functions which could reduce significantly the overall environmental impacts of the device during its use; the user however is not always aware of the "green" features.

Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATION	
TS26 User instructions for green performance management	
<p>A guide must be provided with instructions on how to maximise the environmental performance of the particular imaging equipment and the use of related consumables in written form as a specific part of the user manual and/or in digital form accessible via the manufacturers website. It should include at least the following elements: paper management functions, energy efficiency functions, more efficient use and better end-of-life management for consumables.</p> <p>Verification: 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>	

User instructions for green performance management

Questions to stakeholders

- Do you consider that a face-to-face training for green use of imaging equipment could be proposed as a requirement?

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Thank you for your attention

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