

EU GPP Criteria for Office IT Equipment

Green Public Procurement (GPP) is a voluntary instrument. There is however an EU wide agreement for central government departments to procure office IT equipment that meets Energy Star efficiency requirements. This document provides the EU GPP criteria developed for the Office IT equipment product group. The accompanying Technical Background Report (TBR) provides full details on the reasons for selecting these criteria and references for further information.

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

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

1. Definition and Scope

Office IT equipment as dealt with in this document covers two sets of products:

- Computers - covering both PCs and notebooks
- Monitors

For the purpose of defining these green public procurement criteria (guidelines), this product group includes six categories:

- Personal computer (Desktop Computer, Integrated Desktop Computer, Thin Client)
- Computer display (where supplied with a computer)
- Keyboard (where supplied with a computer)
- External power supply (where supplied with a computer)
- Notebook computers (includes tablet personal computers)
- Discrete graphics processing unit (where supplied with a computer)

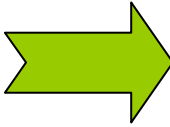
Criteria for PCs, notebooks and monitors are grouped together.

The core criteria for PCs, notebooks and monitors focus on the inclusion of technical specifications regarding energy consumption, as this has been identified as the aspect having the most significant environmental impact. In addition, the core criteria include some simple, easy to understand (and verify) criteria addressing the lifetime of products. These lifetime criteria have been selected on the basis of the EU Ecolabel, Blue Angel and Nordic Swan.

In the comprehensive criteria, a number of further aspects are included in the specifications and award stage:

- Energy management functions on the hardware itself
- Noise emissions
- The use of mercury in LCD monitor backlighting
- The disassembly of equipment
- Recycled content and recyclability
- The use of flame retardants with certain risk-phrases (carcinogenic, mutagenic or harmful to reproduction) in plastic parts

2. Key Environmental Impacts

Key Environmental Impacts	GPP Approach
<ul style="list-style-type: none"> • Energy consumption and resulting Carbon Dioxide (CO₂) emissions • Air, soil and water pollution, ozone formation (smog), bioaccumulation or food chain exposure and effects on aquatic organisms due to hazardous constituents e.g. mercury content of LCD displays and flame retardants • Negative impact on the health of employees due to noise, causing stress for those sensitive to such sounds • Use of energy, finite resources and harmful emissions related to the production of IT products (raw material acquiring, manufacture of components) • Generation of waste material including packaging and final disposal 	 <ul style="list-style-type: none"> • Purchase energy efficient models • Purchase products with a restricted amount of hazardous constituents and promote take back options • Purchase products with a restricted noise level • Design for recycling, longer life and promote take back options • Ensure the recyclability of the packaging used • Increase the use of recycled packaging • Safe disposal (recycling, re-using) of final products

Please note that the order of impacts does not necessarily translate to the order of their importance.

Detailed information about the office IT equipment product group can be found in the Technical Background Report.

3. EU GPP Criteria for Office IT equipment

Core criteria	Comprehensive criteria
3.1 EU GPP criteria for PC's, Notebooks and Monitors	
SUBJECT MATTER	SUBJECT MATTER
Purchase of [PCs/notebooks/monitors] with low environmental impacts throughout the lifecycle.	Purchase of [PCs/notebooks/monitors] with low environmental impacts throughout the lifecycle.
TECHNICAL SPECIFICATIONS	TECHNICAL SPECIFICATIONS
<p>1. All products shall meet the latest ENERGY STAR standards for energy performance, available at www.eu-energystar.org.</p> <p>Verification: Products holding a relevant Type 1 ecolabel fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted, such as a technical dossier of the manufacturer or a test report from a recognised body (e.g. body accredited to issue test reports according to standard ISO 17025) demonstrating that the criteria are met.</p>	<p>1. All products shall meet the latest ENERGY STAR standards for energy performance, available at www.eu-energystar.org.</p> <p>Verification: Products holding a relevant Type 1 ecolabel fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted, such as a technical dossier of the manufacturer or a test report from a recognised body (e.g. body accredited to issue test reports according to standard ISO 17025) demonstrating that the criteria are met.</p>
<p>2. PCs shall be designed so that:</p> <ul style="list-style-type: none"> • The memory is readily accessible and can be changed or upgraded. • The hard disk (or parts that perform functions of hard disk), and if available the CD drive and/or DVD drive, can be changed. <p>Verification: Products holding a relevant Type 1 ecolabel fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.</p>	<p>2. PCs shall be designed so that:</p> <ul style="list-style-type: none"> • The memory is readily accessible and can be changed or upgraded. • The hard disk (or parts that perform functions of hard disk), and if available the CD drive and/or DVD drive, can be changed. <p>Verification: Products holding a relevant Type 1 ecolabel fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.</p>

<p>3. Notebooks shall be designed so that the memory is easily accessible and can be changed or upgraded.</p> <p>Verification: Products holding a relevant Type 1 ecolabel fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.</p>	<p>3. Notebooks shall be designed so that the memory is easily accessible and can be changed or upgraded.</p> <p>Verification: Products holding a relevant Type 1 ecolabel fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.</p>
<p>4. The background lighting of LCD monitors shall not contain more than 3.5 mg of mercury on average per lamp.</p> <p>Verification: All products carrying the EU Ecolabel will be deemed to comply. Other type I Ecolabels fulfilling the above criteria can also be accepted. Other appropriate means of proof will also be accepted. Note that after 31st December 2011 this issue will be regulated through Regulation 2011/65/EU (3.a)</p>	<p>4. The background lighting of LCD monitors shall not contain mercury.</p> <p>Verification: All products carrying the EU Ecolabel will be deemed to comply. Other type I Ecolabels fulfilling the above criteria can also be accepted. Other appropriate means of proof will also be accepted.</p>
<p>5. The ‘Declared A-weighted Sound Power Level’ (re 1 pW) of PCs or notebooks, according to paragraph 3.2.5 of ISO 9296, measured in accordance with ISO 7779 (or equivalent standards), shall not exceed:</p> <p>For PCs:</p> <ul style="list-style-type: none"> • 4.0 B (A) in the idle operating mode (equivalent to 40 dB (A)). • 4.5 B (A) when accessing a hard-disk drive (equivalent to 45 dB (A)). <p>Verification: All products carrying the EU Ecolabel will be deemed to comply. Other type I Ecolabels fulfilling the above criteria can also be accepted. Other appropriate means of proof will also be accepted.</p> <p>For notebooks:</p> <ul style="list-style-type: none"> • 3.5 B(A) in the idle operating mode (equivalent to 35 dB(A)). • 4.0 B(A) when accessing a hard-disk drive (equivalent to 40 dB(A)). <p>Verification: Products holding a relevant Type 1 ecolabel fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof</p>	<p>5. The ‘Declared A-weighted Sound Power Level’ (re 1 pW) of PCs or notebooks, according to paragraph 3.2.5 of ISO 9296, measured in accordance with ISO 7779 (or equivalent standards), shall not exceed:</p> <p>For PCs:</p> <ul style="list-style-type: none"> • 4.0 B (A) in the idle operating mode (equivalent to 40 dB (A)). • 4.5 B (A) when accessing a hard-disk drive (equivalent to 45 dB (A)). <p>Verification: All products carrying the EU Ecolabel will be deemed to comply. Other type I Ecolabels fulfilling the above criteria can also be accepted. Other appropriate means of proof will also be accepted.</p> <p>For notebooks:</p> <ul style="list-style-type: none"> • 3.5 B(A) in the idle operating mode (equivalent to 35 dB(A)). • 4.0 B(A) when accessing a hard-disk drive (equivalent to 40 dB(A)). <p>Verification: Products holding a relevant Type 1 ecolabel fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof</p>

<p>will also be accepted.</p> <p>This could be a report, certifying that the levels of noise emissions have been measured in accordance with ISO 7779 and declared in accordance with ISO 9296 or equivalent standards. The report shall state the measured levels of noise emissions in both the idle operating mode and when accessing a disk drive, which shall be declared in accordance with paragraph 3.2.5 of ISO 9296 or equivalent standard.</p>	<p>will also be accepted.</p> <p>This could be a report, certifying that the levels of noise emissions have been measured in accordance with ISO 7779 and declared in accordance with ISO 9296 or equivalent standards. The report shall state the measured levels of noise emissions in both the idle operating mode and when accessing a disk drive, which shall be declared in accordance with paragraph 3.2.5 of ISO 9296 or equivalent standard.</p>
<p>6. User instructions and/or training courses for IT support on green management of IT products shall be supplied.</p> <p>Verification: A copy of the instruction manual shall be supplied to the authority. These User Instructions shall then be pre-loaded onto the computer (or in the case of a monitor, supplied with the driver software) for the user to read; plus this manual shall be available for access on the manufacturer's website. Issues covered could include, for example, use of the energy-saving functions. Alternatively, a simple training course (interactive, in line with the nature of equipment), information toolbox shall be provided.</p>	<p>6. User instructions and/or training courses for IT support on green management of IT products shall be supplied.</p> <p>Verification: A copy of the instruction manual shall be supplied to the authority. These User Instructions shall then be pre-loaded onto the computer (or in the case of a monitor, supplied with the driver software) for the user to read; plus this manual shall be available for access on the manufacturer's website. Issues covered could include, for example, use of the energy-saving functions. Alternatively, a simple training course (interactive, in line with the nature of equipment), information toolbox shall be provided.</p>
<p>7. Packaging</p> <p>Where cardboard boxes are used, they shall be made of at least 50% recycled material. Where plastic bags or sheets are used for the final packaging, they shall be made of at least 50% recycled material or they shall be biodegradable or compostable, in agreement with the definitions provided by the EN 13432.</p> <p>Assessment and verification: Products holding a relevant type I ecolabel fulfilling the listed criteria will be deemed to comply. Alternatively, a declaration of compliance with this criterion for the product packaging should be supplied. Only primary packaging, as defined in Directive 94/62/EC, is subject to the criterion.</p>	<p>7. Packaging</p> <p>Where cardboard boxes are used, they shall be made of at least 80% recycled material. Where plastic bags or sheets are used for the final packaging, they shall be made of at least 75% recycled material or they shall be biodegradable or compostable, in agreement with the definitions provided by the EN 13432.</p> <p>Assessment and verification: Products holding a relevant type I ecolabel fulfilling the listed criteria will be deemed to comply. Alternatively, a declaration of compliance with this criterion for the product packaging should be supplied. Only primary packaging, as defined in Directive 94/62/EC, is subject to the criterion.</p>

<p>8. Energy management functions shall be present on the hardware itself (for all products)</p> <p>Verification: Products shall be accompanied by a clear description of the existence, placement and operation requirements of energy management function on hardware.</p>	<p>8. Energy management functions shall be present on the hardware itself (for all products)</p> <p>Verification: Products shall be accompanied by a clear description of the existence, placement and operation requirements of energy management function on hardware.</p>
<p>9. The tenderer shall guarantee the availability of spare parts for at least 3 years from the time that production ceases.</p> <p>Verification: Products holding a relevant Type 1 ecolabel fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.</p>	<p>9. The tenderer shall guarantee the availability of spare parts for at least 5 years from the time that production ceases.</p> <p>Verification: Products holding a relevant Type 1 ecolabel fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.</p>
	<p>10. Substances in plastic parts hazardous to health</p> <p>Plastic parts heavier than 25g do not contain flame retardant substances or preparations that are assigned any of the following risk phrases as defined in Council Directive No. 1272/2008:</p> <ul style="list-style-type: none"> • R45 (may cause cancer). • R46 (may cause heritable genetic damage). • R60 (may impair fertility). • R61 (may cause harm to the unborn child). <p>Verification: Products holding a relevant Type 1 ecolabel fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.</p>
AWARD CRITERIA	AWARD CRITERIA
<p>1. Additional points will be awarded for ease of disassembly and ease of recycling plastic parts:</p> <ul style="list-style-type: none"> • Connections shall be easy to find, accessible with commonly available tools, and as standardised as possible. • Plastic parts heavier than 25g shall have a permanent marking 	<p>1. Additional points will be awarded for ease of disassembly and ease of recycling plastic parts:</p> <ul style="list-style-type: none"> • Connections shall be easy to find, accessible with commonly available tools, and as standardised as possible. • Plastic parts heavier than 25g shall have a permanent marking

<p>identifying the material, in conformity with ISO 11469: 2000 or equivalent standard. Excluded from this criterion are extruded plastic materials and the light-guide of flat panel displays. Plastic parts shall be of one polymer or compatible polymers, except for the cover, which shall consist of no more than two types of polymer, which are separable.</p> <p>Verification: A test report shall be submitted with the application detailing the dismantling of the personal computer. It shall include an exploded diagram of the personal computer labelling the main components as well as identifying any hazardous substances in components. It can be in written or audiovisual format. Information regarding hazardous substances shall be provided to the authority in the form of a list of materials identifying material type, quantity used and location.</p>	<p>identifying the material, in conformity with ISO 11469: 2000 or equivalent standard. Excluded from this criterion are extruded plastic materials and the light-guide of flat panel displays.</p> <ul style="list-style-type: none"> • Plastic parts shall be of one polymer or compatible polymers, except for the cover, which shall consist of no more than two types of polymer, which are separable. <p>Verification: A test report shall be submitted with the application detailing the dismantling of the personal computer. It shall include an exploded diagram of the personal computer labelling the main components as well as identifying any hazardous substances in components. It can be in written or audiovisual format. Information regarding hazardous substances shall be provided to the authority in the form of a list of materials identifying material type, quantity used and location.</p>
	<p>2. Recycled content and recyclability (for PCs, notebooks and monitors)</p> <p>Additional points will be awarded if the external plastic case of the system unit, monitor and keyboard has a post consumer recycled content of not less than 10% by mass.</p> <p>Verification: A declaration by the manufacturer stating the percentage post consumer recycled content.</p>

Explanatory notes

Upgrading or replacing products: The above criteria will ensure that spare parts will be available. The decision about whether to upgrade or replace products will need to be taken on a case-by-case basis however, considering in particular whether the potential energy efficiency gains achievable through buying a new product would outweigh the impacts of early disposal.

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

Type I or ISO 14024 ecolabels: The Type I or ISO 14024 ecolabels are those where the underlying criteria are set by an independent body and which are monitored by a certification and auditing process. As such they are a highly transparent, reliable and an independent source of information. These labels have to meet the following conditions:

- The requirements for the label are based on scientific evidence
- The ecolabels are adopted with the participation of all stakeholders, such as government bodies, consumers, manufacturers, distributors and environmental organisations
- They are accessible to all interested parties.

In public procurement, procurers may require that the criteria underpinning a certain ecolabel must be met, and that the ecolabel may be used as one form of proof of compliance. They are however not allowed to request that a product carries an ecolabel. Moreover, procurers may only use ecolabel criteria which refer to characteristics of the product or service itself or production processes, not those relating to the general management of the company.

Proof of compliances: Where the verification for the criteria states that other appropriate means of proof can be used, this could include a technical dossier from the manufacturer, a test report from a recognised body, or other relevant evidence. The contracting authority will have to satisfy itself on a case by case basis, from a technical/legal perspective, whether the submitted proof can be considered appropriate.

Cost considerations

It is recommended to apply a "total cost of ownership methodology" when awarding the contract. This means that instead of considering just the purchase price of the product when assessing the one offering best value for money, the contracting authority will consider the life cycle cost (LCC) over the estimated period of ownership of the device. This would cover the purchase price, the cost of maintenance and other services, the cost of energy consumption and other consumables (such as paper and ink) for a device, and any disposal costs. This will allow the authority to take into account environmental aspects in both the quality assessment (through environmental technical specifications and/or award criteria) and the price (through inclusion of the Life cycle cost).

As with any electricity-using product, purchasing energy efficient models is generally a win-win option – reducing running costs, and also reducing environmental impacts. The EU Energy Star website has a useful tool for calculating the possible financial savings of buying a more efficient product: <http://www.eu-energystar.org/calculator.htm>.

The picture is more complicated with regards to the replacement of PCs. In purely commercial terms, a report by the UK National Audit Office¹ indicates that it may be financially more prudent to replace office IT equipment every 3 years, rather than the 5 years typical within the public sector. This is because the equipment will have residual value and can be resold at 3 years and operating costs are kept low.

¹ http://www.nao.org.uk/publications/nao_reports/06-07/0607531es.pdf

A Commission study on the Costs & Benefits of GPP in 2007² examined the cost implications of purchasing green (ecolabelled) IT devices – computers, monitors and imaging equipment products:

Computers

For computers the differences between the green and the non-green version are calculated to amount to between 3% higher to 7% lower costs for the green version. However, there are a number of uncertainties that might have significant influence on the results: Usage behaviour, costs for repair, influence of the on-site service for the overall product lifetime, and rapid changes in the market (e.g. due to prices and variability of components) lead to rapidly changing product composition and product prices.

Notebooks

For notebooks the differences between the green and the non-green version are calculated to amount to between 6% and 24%, with the green version being more expensive than the non-green version. The energy savings of the green version have no major influence on the overall costs, with a typical saving of €8 over 4 years.

Monitors

The calculated differences between the green and the non-green version amount to between 10% to 22%, with the green version being less expensive than the non-green version.

² *Study on costs/benefits of Green public procurement in Europe*, Öko-Institut & ICLEI 2007, available at: http://ec.europa.eu/environment/gpp/index_en.htm