

Guidelines for Topten Public Procurers

Printers

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Why follow Topten criteria?

- Topten.eu/pro (www.topten.eu/pro) is a European web portal helping buyers, professionals, public procurers and large buyers to find the most energy efficient products available in Europe. The products are selected and updated continuously, according to their high energy and environmental performances, independently from the manufacturers.
- The Topten criteria below can be inserted directly into tendering documents.
- All printers and multifunctionals displayed on www.topten.eu meet the criteria contained in these guidelines. Procurers can therefore use the website to check the availability and assortment of products currently on the market, which meet the [Topten selection criteria for Printers](#).
- Topten.eu/pro links to national partners Topten Pro websites and was developed under the Topten Act project, supported by the European Union through Horizon 2020 programme.

How much can you save?

The category *Printers* includes laser and inkjet printers and multifunctionals able to print colour and monochrome, on standard paper size (A4 and A3). Multifunctional devices (MFD) are able to print, scan, copy.

Considering the models listed on www.topten.eu and the following assumptions, it is possible to achieve the savings indicated in the next two tables.

- Assumptions
- Lifetime expectation: 5 years
 - Daily use in offices: 24h in sleep-mode
 - Electricity cost: 0,20 €/kWh

	Topten model	Inefficient model
Printing Technology	Inkjet	Inkjet
Type	Printer, A4, colour	Printer, A4, colour
Power in sleep mode	0.7 W	2.1 W
Electricity consumption	6 kWh/year	18 kWh/year
Use cost (electricity in 5 yrs)	6 €	18 €
Savings in 5 years	67% energy / unit ⇒ 12 € / unit	

- Assumptions
- Lifetime expectation: 5 years
 - Energy consumption according to Energy Star's typical energy consumption (TEC)
 - Electricity cost: 0,20 €/kWh

	Topten model	Inefficient model
Printing Technology	Laser	Laser
Type of device	MFD, A4, colour	MFD, A4, colour
TEC (kWh per week)	0.1	0.6
Electricity consumption	5.2 kWh/year	31.2 kWh/year
Use cost (electricity in 5 yrs)	5 €	31 €
Savings in 5 years	83% energy / unit ⇒ 26 € / unit	

An efficient Topten model can save 67% (inkjet) or up to 83% (laser) of energy compared to an inefficient model. Across the lifetime of 5 years, the efficient device can save roughly 12 € or 26€ resp. per unit.

The power consumption is determined by the power usage during sleep mode, as the device is constantly turned on waiting for incoming printing tasks. The power consumption during the actual printing process is negligible, unless the printer is frequently activated by the computer prompting for status updates on cartridges and paper. This happens oftentimes in the background of the computer without the user's knowledge initiated by the printer driver.

Procurement criteria

The following criteria can be inserted directly into tendering documents. The Topten selection criteria and the product lists are updated regularly. The newest versions are always available at www.topten.eu/pro.

SUBJECT: HIGHLY ENERGY-EFFICIENT PRINTERS

TECHNICAL SPECIFICATIONS

- **Inkjet printers** are required to have an automatic duplex printing mode. The largest part of energy consumption is embodied in paper production.
- **Laser printers** are required to have the "Blue Angel" certification that guarantees that the products respect the highest criteria for resource and energy efficiency.

Verification

Inkjet: Bidders must provide the offered product's data sheet stating and highlighting the availability of automatic duplex capability.

Laser: Products bearing the Blue Angel certification will be deemed to comply.

FURTHER REMARKS

Energy and cost savings can be achieved by choosing an energy efficient printer. However, the higher part of the impacts and the costs over the lifetime of the product result from the use of paper and toner/ink cartridges.

- Paper manufacturing consumes a lot of energy. Therefore, reducing paper consumption by using two-sided printing with a duplex function contributes to global energy savings.
- Recycled paper has a lower environmental impact than white paper and it is also cheaper. Printers that do not allow the use of recycled paper force users to purchase only white paper.
- The cost of a printer over its lifetime depends also of the cost of the toner or ink cartridges. These are expensive and in some cases are bundled so that when one colour is empty, the user is forced to replace all cartridges at the same time even if they still contain ink.

To increase savings and reduce environmental impact, procurers should evaluate life cycle costs when tendering for printers and multifunctionals. Thus, it is advisable to include in the tender a costing exercise - even if simple - for the product life cycle costs.

Table 1: Example of a breakdown costs table, to be filled in by bidders

	Information details	Different unit costs in € (excluding tax)	Total cost in € (excluding tax)
Delivery			
Installation			
Use*	Indicate sleep-mode power, in W, x 24h x 365 days x 5 years x n° units	Electricity cost**: 0,20 €/kWh	
Maintenance			
Recycling and disposal			

* Example of how use costs can be determined. The variables for the costs calculation during the product lifetime can be stated by the procurer (according to the equipment replacement rate, the number of days the equipment is in use, etc.).

** This figure is just an example. The procurer can use the average electricity price paid during the last 2 or 3 years, and also include subscription fee and taxes.

Advice and support

If you would like further assistance in using the information presented here in your own procurement actions or more information on [Topten Pro](#) contact your national Topten team (find it on [Topten.eu](#)).

The European Commission's [Green Public Procurement](#) website contains valuable legal and practical guidance together with procurement criteria for a range of commonly procured products and services.



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