

Guidelines for Frontrunner Public Procurers

Laser printers

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Courtesy of silicon.com

Why follow Topten criteria?

- Topten.eu Pro (www.topten.eu/professional) 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.
- All laser printers 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**.
- Topten.eu Pro links to national partners Topten Pro websites and is developed under the Topten Act project, supported by the European Union through the Horizon 2020 programme.

How much can you save?

The category includes laser printers able to print colour and monochrome, on standard paper size (A4 and A3). Considering the models listed on www.topten.eu and the following assumptions, it is possible to achieve the savings indicated in the next table.

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

	Topten model	Inefficient model	Topten model	Inefficient model
Type of device	A4, 55 ipm, monochrome	A3, 51 ipm, monochrome	A3, 45 ipm, colour	A3, 45 ipm, colour
Electricity consumption	104 kWh/year	380 kWh/year	93 kWh/year	322 kWh/year
Use cost (electricity in 5 years)	104 €	380 €	93 €	322 €
Savings in 5 years	73% energy / unit 276 € / unit		71% energy / unit 229 € / unit	

Note: ipm = images per minute, used to express print speed

Comparing models with equal print speed, the Topten models allow electricity savings, in 5 years, of 276 €/unit for monochrome printers, and 229 €/unit for colour printers. Best models on www.topten.eu consume only 21 kWh/year.

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 LASER PRINTERS

TECHNICAL SPECIFICATIONS

1. Energy star certification

Products must observe the criteria of Energy Star Programme Requirements for Imaging Equipment Version 2.0.

Verification

Products bearing Energy Star - Requirements for Imaging Equipment Version 2.0 will be deemed to comply. Alternatively, bidders may demonstrate compliance with the above requirements by another objective third-party means or by supplying test results in respect of their product demonstrating that the criteria are met. Test results for all modes should be provided using the Energy Star test method.

2. TEC (Typical Energy Consumption)

The Typical Energy Consumption (TEC), measured according to Energy Star – “Requirements for Imaging Equipment Version 2.0”, must not exceed the values listed in the table below. These values correspond to 60% of the Energy Star TEC limit for colour laser printers, and 70% of Energy Star TEC limit for monochrome laser printers.

Verification

Bidders must supply test results demonstrating the requirement is met according to the methodology set out by Energy Star “Requirements for Imaging Equipment Version 2.0”; Procurers can compare these test results with those of the table below.

Speed (ipm)	TEC Max (kWh/week)		Speed (ipm)	TEC Max (kWh/week)		Speed (ipm)	TEC Max (kWh/week)	
	Mono	Colour		Mono	Colour		Mono	Colour
4 a 11	0,3	0,8	35	1,4	2,9	59	3,9	5,7
12	0,4	0,8	36	1,5	3	60	4	5,9
13	0,4	0,8	37	1,5	3,1	61	4,1	6
14	0,4	0,9	38	1,6	3,2	62	4,2	6,1
15	0,4	0,9	39	1,7	3,3	63	4,3	6,2
16	0,5	1	40	1,8	3,5	64	4,5	6,3
17	0,5	1,1	41	1,9	3,6	65	4,6	6,5
18	0,5	1,2	42	2	3,7	66	4,7	6,6

19	0,6	1,3	43	2,1	3,8	67	4,9	6,7
20	0,6	1,4	44	2,2	3,9	68	5	6,8
21	0,6	1,5	45	2,3	4,1	69	5,1	6,9
22	0,7	1,5	46	2,4	4,2	70	5,3	7,1
23	0,7	1,6	47	2,6	4,3	71	5,4	7,2
24	0,7	1,7	48	2,7	4,4	72	5,6	7,3
25	0,8	1,8	49	2,8	4,5	73	5,7	7,4
26	0,8	1,9	50	2,9	4,7	74	5,8	7,5
27	0,9	2	51	3	4,8	75	6	7,7
28	0,9	2,1	52	3,1	4,9	76	6,1	8,1
29	1	2,2	53	3,2	5	77	6,3	8,5
30	1	2,3	54	3,3	5,1	78	6,4	8,9
31	1,1	2,4	55	3,5	5,3	79	6,5	9,3
32	1,2	2,5	56	3,6	5,4	80	6,7	9,8
33	1,2	2,6	57	3,7	5,5			
34	1,3	2,7	58	3,8	5,6			

3. Printing on recycled paper

Printers must be able to print on recycled paper.

Verification

Bidders must supply technical documentation or test results demonstrating this criterion is met.

4. Two-sided output (duplex printing)

Printers must have automatic duplex printing function if their print speed is equal or higher than 19 ipm.

Verification

Bidders must supply technical documentation or test results demonstrating this criterion is met.

ADDITIONAL SPECIFICATIONS

5. Assured low-power modes

Bidders must ensure that the declared power levels of the low-power modes are met, and that the printers do enter the low-power modes (no software protocol should prevent printers from quickly entering low power modes). In case the printers are not entering the low power modes as they should, bidders must provide technical assistance and solve the problem.

Verification

Bidders must supply a warranty for technical assistance and problem solving.

NOTES ON IMPLEMENTATION

- 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.
- There are numerous models complying with these criteria that are available on the market – see the latest product lists at www.topten.eu.

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

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 Typical Energy Consumption (TEC) in kWh/week x 52 weeks 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 please contact your national Topten team (find the links on Topten.eu).

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