

# Laser multifunctional devices (MFDs)

## Guidelines for Frontrunner Public Procurers



Photo courtesy of silicon.com

### What is Topten?

- Topten.eu is a European web portal helping buyers to find **the most energy efficient products available in Europe**. Links to national Topten websites from a number of European countries are also available.
- All laser MFDs displayed on [www.topten.eu](http://www.topten.eu) meet the criteria contained in these guidelines. Procurers can therefore use the website to check the availability of products currently on the market, which meet the **Topten selection criteria**.
- **Sample tender documents** are provided on [www.topten.eu/professional](http://www.topten.eu/professional) to demonstrate how the criteria can be applied in practice.
- The European Commission's [GPP website](#) also contains valuable legal and practical guidance and procurement criteria for a range of commonly procured products and services.

**Product group covered:** All laser multifunctional devices (MFDs), both colour and monochrome.

**Product availability:** All products listed at [www.topten.eu](http://www.topten.eu) meet the criteria listed below.

**Potential energy savings<sup>1</sup>:** The energy consumption of similar products can vary considerably – The most efficient laser MFD **consumes 86% less energy** than an inefficient model with a similar printing speed.

**Potential cost savings<sup>1</sup>:** In the following example, **a saving of €670** in electricity costs would be achieved over 5 years compared to an inefficient model with a **similar colour printing speed** in ipm (images per minute).

However, having slightly **slower printers** helps achieve further savings. In this example **a total of €722** could potentially be saved over 5 years:

Inefficient model		Topten MFD		Saving <sup>2</sup>
Speed	Cost	Speed	Cost	
50 ipm	€783	51 ipm	€113	<b>€670</b>
		35 ipm	€61	<b>€722</b>

<sup>1</sup> These represent rough figures comparing the best product currently available, with an inefficient model also available on the market – see [www.topten.eu](http://www.topten.eu) for more details.

<sup>2</sup> Based on an electricity price of €0.15/kWh

## Procurement criteria – Updated: June 2013

The following criteria can be inserted directly into tendering documents. The specifications are updated continuously. The newest versions are always available at [www.topten.eu](http://www.topten.eu)

<p><b>Technical specifications:</b></p>	<p>1. Products must meet the latest criteria of the ENERGY STAR Programme Requirements for Imaging Equipment.</p> <p><b>Verification:</b> Products carrying the ENERGY STAR label 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.</p>												
	<p>2. In addition to the above requirements, products must not exceed the following maximum Energy Efficiency Index (EEI, in %)</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;"></th> <th style="padding: 5px;">b/w</th> <th style="padding: 5px;">colour</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"><b>Speed (ipm)</b></td> <td style="padding: 5px;"><b>Maximum Energy Efficiency Index (EEI)</b></td> <td style="padding: 5px;"><b>Maximum Energy Efficiency Index (EEI)</b></td> </tr> <tr> <td style="padding: 5px;">1 – 20</td> <td style="padding: 5px;">45%</td> <td style="padding: 5px;">30%</td> </tr> <tr> <td style="padding: 5px;">21 – 100</td> <td style="padding: 5px;">35%</td> <td style="padding: 5px;">30%</td> </tr> </tbody> </table> <p>I.e. the Typical Energy Consumption (TEC) of the product must only reach these proportions, or less, of the maximum ENERGY STAR TEC for that type and speed of MFD.</p> <p><b>NB:</b> Please refer to the Appendix for a table in which maximum TEC values fulfilling these requirements have been calculated for each speed of MFD.</p> <p><b>Verification:</b> Bidders must supply test results demonstrating that these requirements are met according to the methodology set out in the ENERGY STAR Programme Requirements for Imaging Equipment (Version 1.1). ENERGY STAR's TEC limit values can be found in this document and hence the EEI of a product may be calculated.</p> <p>TEC values for products can be verified by:</p> <ul style="list-style-type: none"> <li>• Producers' declarations found in catalogues, on the web or upon request</li> <li>• Declarations by 'ENERGY STAR'</li> </ul>		b/w	colour	<b>Speed (ipm)</b>	<b>Maximum Energy Efficiency Index (EEI)</b>	<b>Maximum Energy Efficiency Index (EEI)</b>	1 – 20	45%	30%	21 – 100	35%	30%
	b/w	colour											
<b>Speed (ipm)</b>	<b>Maximum Energy Efficiency Index (EEI)</b>	<b>Maximum Energy Efficiency Index (EEI)</b>											
1 – 20	45%	30%											
21 – 100	35%	30%											
	<p>3. Must be able to print on recycled paper</p> <p><b>Verification:</b> Bidders must supply a technical dossier or test results demonstrating this requirement is met.</p>												
	<p>4. All products with a printing speed &gt; 19 ipm (images per minute) must be equipped with an automatic double-sided printing function.</p>												

### Notes on implementation

#### 5. Energy Efficiency Index (%)

The Energy Efficiency Index (EEI, in %) is calculated by Topten based on the product's TEC and Energy Star's TEC limit value:  $EEI = TEC \times 100 / \text{TEC limit value}$ . **The lower a product's EEI, the better is its energy efficiency.**

Maximum EEI values for Topten laser MFDs relate to TEC limit values in the following way:

- Speeds of **1-20 ipm**: **black & white** MFDs must only use **45% or less**, and **colour** MFDs **30% or less** of the TEC required by ENERGY STAR for the speed of MFD in question
- Speeds of **21-100 ipm**: **black & white** MFDs must only use **35% or less**, and **colour** MFDs **30% or less** of the TEC required by ENERGY STAR for the speed of MFD in question

Please refer to the Appendix for a table containing maximum TEC values for products of each printing speed up to 100 ipm, in black & white and colour, which fulfil these Topten requirements.

- **Market checks**

National websites may be used by procurers to check that there are products on the market that meet Topten criteria in a particular country. Links to Topten websites in many different European countries can be found on [www.topten.eu](http://www.topten.eu). Appearance on national websites should not be used as a means of verification of technical specifications however, as performance is based on self-declaration by suppliers.

- **Duplex printing/copying**

Printing double-sided can save even more energy than choosing an energy efficient laser MFD. The production of paper consumes a considerable amount of energy, therefore reducing paper consumption by printing on both sides contributes to energy saving.

- **Using award/evaluation criteria**

The exact model used for evaluating compliant tender bids will vary from authority to authority. If you apply this criterion however, it should be given a significant weighting (at least 10-15%) in the evaluation scheme.

### 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 the Procura+ team at:

[Procurement@iclei.org](mailto:Procurement@iclei.org) +49 761 368 9248

An expression of interest form is also available on [www.topten.eu/pro](http://www.topten.eu/pro) for public authorities who would like support to apply these criteria in an upcoming procurement process.



#### What is Procura+?

Procura+ is an initiative designed to help support public authorities in implementing Sustainable Procurement. The campaign is run by ICLEI – Local Governments for Sustainability, the Topten partner for public authorities.

[www.procuraplus.org](http://www.procuraplus.org)

## Appendix

Specification 2 requires that laser MFDs must not exceed the following maximum TEC in kWh/week.

All products with TEC values below these thresholds are considered to be Topten laser MFDs until the criteria are updated in response to development of the market:

Speed (ipm)	Max. TEC (kWh/week)		Speed (ipm)	Max. TEC (kWh/week)		Speed (ipm)	Max. TEC (kWh/week)		Speed (ipm)	Max. TEC (kWh/week)	
	b/w	Colour		b/w	Colour		b/w	Colour		b/w	Colour
1	0,68	1,44	26	1,09	1,83	51	4,15	4,46	76	8,12	8,46
2	0,68	1,48	27	1,21	1,94	52	4,27	4,56	77	8,37	8,67
3	0,68	1,52	28	1,33	2,04	53	4,39	4,67	78	8,61	8,88
4	0,68	1,56	29	1,45	2,15	54	4,52	4,77	79	8,86	9,09
5	0,68	1,60	30	1,58	2,25	55	4,64	4,88	80	9,10	9,30
6	0,68	1,64	31	1,70	2,36	56	4,76	4,98	81	9,35	9,51
7	0,68	1,68	32	1,82	2,46	57	4,88	5,09	82	9,59	9,72
8	0,68	1,72	33	1,94	2,57	58	5,01	5,19	83	9,84	9,93
9	0,68	1,76	34	2,07	2,67	59	5,13	5,30	84	10,08	10,14
10	0,68	1,80	35	2,19	2,78	60	5,25	5,40	85	10,33	10,35
11	0,72	1,84	36	2,31	2,88	61	5,37	5,51	86	10,57	10,56
12	0,77	1,88	37	2,43	2,99	62	5,50	5,61	87	10,82	10,77
13	0,81	1,92	38	2,56	3,09	63	5,62	5,73	88	11,06	10,98
14	0,86	1,96	39	2,68	3,20	64	5,74	5,94	89	11,31	11,19
15	0,90	2,00	40	2,80	3,30	65	5,86	6,15	90	11,55	11,40
16	0,95	2,04	41	2,92	3,41	66	5,99	6,36	91	11,80	11,61
17	0,99	2,08	42	3,05	3,51	67	6,11	6,57	92	12,04	11,82
18	1,04	2,12	43	3,17	3,62	68	6,23	6,78	93	12,29	12,03
19	1,08	2,16	44	3,29	3,72	69	6,41	6,99	94	12,53	12,24
20	1,13	2,20	45	3,41	3,83	70	6,65	7,20	95	12,78	12,45
21	0,91	1,68	46	3,54	3,93	71	6,90	7,41	96	13,02	12,66
22	0,95	1,71	47	3,66	4,04	72	7,14	7,62	97	13,27	12,87
23	0,98	1,74	48	3,78	4,14	73	7,39	7,83	98	13,51	13,08
24	1,02	1,77	49	3,90	4,25	74	7,63	8,04	99	13,76	13,29
25	1,05	1,80	50	4,03	4,35	75	7,88	8,25	100	14,00	13,50