

Guidelines for Topten Public Procurers

Household Refrigerators

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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 household refrigerators 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 Household Refrigerators](#).
- 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 household refrigerators, listed on www.topten.eu, includes built-in and freestanding refrigerators, each with and without an additional freezer compartment (also 'refrigerator-freezer combination').

Considering the following assumptions, it is possible to achieve the savings indicated in the next table.

- Assumptions {
- Lifetime expectation: 15 years
 - Daily use: 24h in use-mode
 - Electricity cost: 0.20 €/kWh

	Topten model	Inefficient model	Topten model	Inefficient model
Type	Refrigerator	Refrigerator	Refrigerator-freezer	Refrigerator-freezer
Net volume (liter)	161	161	256	256
Energy class	D	F	D	F
Electricity consumption	127 kWh/year	191 kWh/year	182 kWh/year	273 kWh/year
Use cost (electricity in 15 yrs)	381 €	573 €	546 €	819 €
Savings in 15 years	34% energy / unit ⇒ 192 € / unit		33% energy / unit ⇒ 273 € / unit	

The savings potential for a Topten model compared to an inefficient model is significant. In the example the electricity saving for a Topten refrigerator is 34%, for a refrigerator with a freezer compartment savings are 33%. Over the product life time of 15 years these efficiencies accumulate to 192 € per unit and 273 € per unit respectively.

Differences in electricity consumption between inefficient and Topten models rise as the net capacity grows, leading to higher energy savings and consequently greater money savings.

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 HOUSEHOLD REFRIGERATORS

TECHNICAL SPECIFICATIONS

Energy class

Household refrigerators must have an energy class between A and D, declared in agreement with the European Energy Label.

Refrigerants

Consumer refrigerators must not use any refrigerants, i.e., be free of CFC and HFC.

Verification

Bidders must supply the energy label and technical data according to EU Regulations No. 2019/2019 and No. 2019/2016.

Table 1: Overview of energy classes allowed on the European market

<p>The image shows a template for an EU energy label. At the top left is the European Union flag and the word 'ENERGY' with a lightning bolt. Below it are fields for 'SUPPLIER'S NAME' and 'MODEL IDENTIFIER'. A QR code area is labeled 'Insert here product QR code'. The main part of the label is a vertical scale of energy efficiency classes from A (green) to G (red). A black arrow points to class 'B'. Below the scale, the annual electricity consumption is shown as 'XYZ kWh/annum'. At the bottom, there are icons for a refrigerator compartment (labeled 'XYZ L'), a freezer compartment (labeled 'XYZ L'), and a noise emission class (labeled 'XY dB' and 'A B C D'). A vertical QR code is on the right side.</p>	<p>Commission Delegated Regulation n° 2019/2016</p>	
<p>Energy efficiency class</p>	<p>Energy efficiency index</p>	
<p>A</p>	<p>EEI ≤ 41</p>	
<p>B</p>	<p>41 < EEI ≤ 51</p>	
<p>C</p>	<p>51 < EEI ≤ 64</p>	
<p>D</p>	<p>64 < EEI ≤ 80</p>	
<p>E</p>	<p>80 < EEI ≤ 100</p>	
<p>F</p>	<p>100 < EEI ≤ 125</p>	
<p>G</p>	<p>EEI > 125</p>	
<p>Note: The lower the value, the better the efficiency of the device</p>		

Since 1 March 2021 the revised EU energy label for household refrigerating appliances is mandatory. It shows:

- the energy efficiency class;
- the annual electricity consumption in kWh per year;
- the net volume of refrigerator compartments;
- noise emission classes (A to D) that help compare noise levels

FURTHER REMARKS

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

Table 2: 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*	Energy consumption in kWh/year x product life time (15 yrs) x n° units	Electricity cost**: 0,20 €/kWh	
Maintenance			
Recycling and disposal			

* Example of how use costs can be determined.

** 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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