



D3.3 – Periodic Selection Criteria Report Edition 1

August 2016

Topten Act coordinator: ADEME

European portal www.topten.eu

Project partners and websites

Austria, AEA
www.topprodukte.at

Belgium, BBL
www.topten.be

Czech Republic, SEVEn
www.uspornespotrebice.cz

France, Guide Topten
www.guidetopten.fr

Germany, Oeko-Institut
www.ecotopten.de

Italy, Eliante
www.eurotopten.it

Lithuania, LNCF
top-10.lt

Luxembourg, Oeko-Zenter
www.oekotopten.lu

Norway, Naturvernforbund
www.besteprodukter.no

Poland, FEWE
www.topten.info.pl

Portugal, Quercus
www.topten.pt

Romania, Icemenerg
www.topten.info.ro

Spain, WWF
www.topten.wwf.es

Sweden, SSNC
www.toptensverige.se

Switzerland, Bush Energie
www.topten.ch

UK, EST
www.top10energyefficiency.org.uk/



Topten Act aims at transforming the European market of energy-using products towards higher energy efficiency by addressing non-technical market barriers. Topten Act works in order to:

1. Increase consumer purchases of top energy-efficient products in Europe: Topten Act identifies the top energy-efficient products in 16 European countries, and pushes this information to consumers through tailored national websites and targeted communications activities. Topten websites are a free, accessible to all, 'public service' that helps consumers navigate the myriad of energy-using products offered to them in AT, BE, CZ, FR, DE, IT, LT, LU, NO, PL, PT, RO, ES, SE, CH and UK.

2. Increase the availability and visibility of top energy-efficient products on EU markets: Consumer demand for top energy-efficient products improves Topten Act's ability to: 1) work with manufacturers to help them steer production lines towards more energy-efficient products; 2) support retailers to display and promote energy-efficient products in their shops.

3. Increase large buyers' knowledge of and demand for top energy-efficient products in Europe (both public and private entities): Large buyers have the ability to steer the market towards more energy-efficient products. Topten Act approaches them with information on products of their interest (e.g. office equipment, vehicles) and offers direct advice in preparing calls for tenders that include energy efficiency criteria.

Authors

Thomas Bogner – AEA thomas.bogner@energyagency.at

Kerstin Schilcher – AEA kerstin.schilcher@energyagency.at

Editor

Sophie Attali – SOWATT sattali@sowatt.net

This document reflects only the author's view. EASME is not responsible for any use that may be made of the information it contains.

Content

1. Introduction.....	4
2. Section “Cars”	5
3. Section “Household appliances”	7
Cluster “Cooling appliances”	7
Cluster “Washing, Drying & Cleaning”	8
Cluster “Kitchen appliances”	10
4. Section “Lighting”	12
5. Section “Office Equipment”	15
6. Section “Consumer Electronics”	17
7. Section “Building Components”	18
8. Section “Professional Refrigerators”	20
9. Statistical Overview	21

1. Introduction

This report (D3.3) provides an overview on Topten selection criteria for all Topten platforms applied in June 2016.

The document facilitates a cross country comparison of national selection criteria and outlines the development of various national markets in Europe for the product groups covered.

The structure of this report follows the first level navigation of the topten.eu-Platform concerning the online presentation of Topten product lists.

- Cars
- Household appliances
- Lighting
- Office equipment
- Consumer electronics
- Building components
- Professional refrigerators

Nevertheless national Topten platforms may apply other sequences or clusters of main product categories.

All criteria sets applied by topten.eu and all national partners are presented in tables (cf. chapters 2 – 8), whereas section “Household appliances” is split in clusters “Cooling appliances” “Washing, Drying & Cleaning” “Kitchen appliances” to facilitate a better overview. The specific criteria are documented with abbreviations and the respective threshold levels without “minimum/maximum, >= / <”, e.g. “Energy Efficiency class: min. A+” is noted as “EEC: A+”. The Topten teams’ common understanding is that threshold levels are used as minimum requirement or maximum allowance in general. A list of relevant abbreviations is provided for every section each.

This evaluation covers different distributions and availability of energy-efficient products among the various markets and includes the number of categories, sub-categories and product references covered across Europe.

Concerning the definition of categories and sub-categories, the following concept is applied: Every section includes several categories, which are split in various sub-categories, representing the specific Topten product lists themselves. For example the section “Household appliances” covers “Washing machines” (as “category”), which are presented according to different ranges of “rated capacities in kg”, e.g. “washing machines with 8 kg capacity” (as “subcategory”).

Number of categories and subcategories

Section / Cluster	categories [#]	sub-categories [#]
Cars	25	115
Cooling appliances	61	126
Washing, Drying & Cleaning	45	91
Kitchen appliances	36	87
Lighting	36	149
Office Equipment	52	179
Consumer Electronics	17	67
Building Components	21	95
Professional Refrigerators	67	98
TOTAL	360	1007

The total number of actual product references was estimated based on the typical average product list length specific for every national platform multiplied with the number of subcategories maintained by the respective partners, resulting in a total number of product references presented by all partners to 17,780 units.

2. Section “Cars”

Categories

- Mini
- Small cars
- Compact cars
- Middleclass
- Upper middleclass
- Van 5 seats
- Van 6 or more seats
- Electric vehicles
- E-bikes
- Tyres

Abbreviations

CO₂ specific CO₂ emissions [g/km]
 EEI Energy efficiency index
 EP Eco points
 SEC Specific energy consumption [Wh/km]

Overview “selection criteria – status June 2016”

Category	Cars (different fuels, except E-cars)	Electric vehicles	E-bikes
Country			
EU	EP: mini: 72.3 small cars: 66.3 compact: 67.2 middle class: 55.8 upper middle class: 46 van 5 seats: 57.3 van 6 and more seats:49.5	n.a.	n.a.
AT	CO ₂ : Diesel / Petrol small car: 95 / 110 compact car: 95 / 110 mid-size car: 105 / 130 micro van: 110 / 130 compact van: 115 / 130 CNG or hybrid cars: 150	Overview of available electric vehicles in Austria	Overview of available E-bikes in Austria, based on test results from German initiative extraenergy.org
BE	EP: min. 69. All cars are in the same category, including electrical cars. They are the ten best scoring cars on Ecoscore for each type of car.	n.a. (see comment in column “cars”)	n.a.
CH	EP: mini: 74.3 small cars: 67.3 compact:67.0 middle class: 55.8 upper middle class: 54.5 van 5 seats: 62.2 van 6 and more seats:54.5 4x4: 54.5	EP: 85.6	SEC: 8

CZ	n.a.	n.a.	n.a.
DE	minimum of 6.5 points according to the car-environment list of "Verkehrsclub Deutschland"	Available, but no criteria	n.a.
ES	n.a.	n.a.	n.a.
FR	same as topten.eu	n.a.	n.a.
IT	Ecorating based on EP: mini: 5*, small cars, compacts, vans: 4 to 5*, middle, upper-middle, station wagon 3 to 5*,	Ecorating: 5* for electric and plug-in cars)	n.a.
LT	same as topten.eu	n.a.	n.a.
LU	CO2: mini: 85 small & compacts: 85 middle: 95 upper middle: 110 monospaces -6: 100 monospaces +6: 110 Euro 6, available in Luxembourg	all models integrated in the others subcategories	Life span min. 500 full charge cycles Motor max.250 Watt support max. 25 km/h Lightings front & back -disk break, except folding pedelecs EEI: Trekking: 0.30 City / Cargo : 0.25 Pliable: 0.15
NO	n.a.	n.a.	n.a.
PL	EP mini: 67, small: 66,5, compact: 65, middle class: 58,3, upper middle class: 50, van to 5-seats: 57, vans 6 seats: 51, available in Poland	n.a.	n.a.
PT	same as topten.eu	Available, but no criteria	n.a.
RO	ECO STARS: 5* (Mini) 4* (Small cars, Compacts) 3* (Middleclass, Van 5) 2* (Uper middleclass, Van 6)	n.a.	n.a.
SE	n.a.	n.a.	n.a.
UK	n.a.	n.a.	n.a.

Comment on cross country comparison of selection criteria

Topten.eu selection criteria for cars are based on Eco-points according to the ATE/VCS (Swiss vehicle association) methodology¹. Higher Eco-points show a better environmental compatibility. 5 partners (BE, CH, FR and PL) apply the same selection criteria as topten.eu. One partner (IT) follow a different approach by applying a star rating based on Eco-points. Eco-points rating is based on available and comparable data on cars in terms of polluting emissions and noise. Furthermore, 2 partners (AT and LU) rate cars depending on how much greenhouse gas CO2 g/km is emitted. 5 partners (CZ, ES, NO, SE and UK) do not list cars on their respective websites.

In regard to electric vehicles, 8 partners (AT, CH, DE, IT, LU, and PT) list them on their respective websites. E-bikes are covered in 3 partner countries (AT, CH and LU).

¹ www.ate.ch

Overview: sum of categories and subcategories

categories [#]	sub-categories [#]
25	115

3. Section “Household appliances”

Cluster “Cooling appliances”

Categories

- Fridge
- Fridge/Freezer
- Chest freezer
- Upright freezer

Abbreviations

AEC Annual energy consumption [kWh]

EEC Energy efficiency class

N Noise emission [dB(A)]

Overview “selection criteria – status June 2016”

Category	Fridge	Fridge/Freezer	Chest freezer	Upright freezer
Country				
EU	EEC: A+++ / AEC: 200	EEC: A+++ / AEC: 200	EEC: A+++	EEC: A+++
AT	EEC: A++ / N: stand-alone <= 40 N: built in: <=38	EEC: A++ / N: stand-alone <= 40 N: built in: <=38	EEC: A++ / N: <= 45	EEC: A++ / N: stand-alone <= 45 N: built in: <=40
BE	EEC: A+++	EEC: A+++	EEC: A+++	EEC: A+++
CH	EEC: A+++ / AEC: 200	EEC: A+++ / AEC: 200	EEC: A+++	EEC: A+++
CZ	EEC: A+++ / AEC: 200	EEC: A+++ / AEC: 200 except side-by-side fridges/freezers (EEC: A++)	A+++ / AEC: 200 (chest and upright free- standing freezers together)	EEC: A++ (only built in freezers)
DE	EEC: A+++	EEC: A+++	EEC: A+++	EEC: A+++
ES	EEC: A++	EEC: A++	EEC: A++	EEC: A++
FR	EEC: A++ / AEC: 100 for "Table Top" models (not more than 85 cm height) EEC: A+++ / AEC: 100 for 1-door models	EEC: A+++ / AEC: 200	EEC: A++ / AEC: 201	EEC: A++ / AEC: 201
IT	n.a.	EEC: A+++ / AEC: 200	EEC: A++ / AEC: 300	EEC: A++ / AEC: 300
LT	EEC: A+++	EEC: A+++	EEC: A+++	EEC: A+++
LU	EEC: A+++ / AEC: 198	EEC: A+++ / AEC: 198	EEC: A+++ / AEC: 175	EEC: A+++ / AEC: 198
NO	EEC: A+++ / AEC: 75	EEC: A+++ / AEC: 149	EEC: A++ / AEC: 194	EEC: A+++ / AEC: 193
PL	EEC: A+++ / AEC: 200	EEC: A+++ / AEC: 200	EEC: A+++ / AEC: 200	n.a.
PT	n.a.	EEC: A+++	EEC: A+++	EEC: A+++

RO	EEC:A++	EEC:A++	EEC:A++	EEC:A++
SE	EEC: A+++	EEC: A+++	EEC: A+++	EEC: A+++
UK	EEC: A++	EEC: A+++	EEC: A++	EEC: A++

Comment on cross country comparison of selection criteria

Topten.eu selection criteria for cold appliances are mainly based on the efficiency class with a limit of A+++, and include a maximum allowance for annual energy consumption for some categories. 10 partners apply similar selection criteria as topten.eu. Only AT followed a different approach by introducing a further criterion, namely noise emission limits.

The comparison of recent criteria sets with to the Euro-Topten Max Monitoring Report², including an overview on criteria applied by December 2014 evidences that some partners (e.g. CZ, FR), could tighten their limits from A++ to A+++, whereas others did apply A+++ for cooling appliances already. Compared to End of 2014 several partners decided to introduce levels for “Annual Energy Consumption” in order to make selection criteria more ambitious.

Overview: sum of categories and subcategories

categories [#]	sub-categories [#]
61	126

Cluster “Washing, Drying & Cleaning”

Categories

- Washing machine
- Wash-Drier
- Tumble Drier
- Vacuum Cleaner

Abbreviations

AEC	Annual energy consumption [kWh]
AWC	Annual water consumption (washing machine, dishwasher) [ltr]
CC	Cleaning class (vacuum cleaners, for carpet and hard floor each)
COE	Condensation efficiency class (tumble dryer)
DRE	Dust re-emission class (vacuum cleaner)
EEC	Energy efficiency class
EEl	Energy efficiency index
N	Noise emission [dB(A)]
PC	Rated power consumption [W]
SE	Spinning efficiency class (washing machine)
SEC	Specific energy consumption [kWh/kg]
SS	Spin speed (washing machines) [rpm]
SWC	Specific water consumption [ltr/kg]

Overview “selection criteria – status June 2016”

² http://www.topten.eu/uploads/File/deliverables_max/D5.1_4th_monitoring_report_final2.pdf

Category	Washing machine	Wash-Drier	Tumble Drier	Vacuum Cleaner
Country				
EU	EEC: A+++ / SE: A	SEC: 0.5 kWh/kg / SWC: 12 litres/kg	Domestic: EEC: A++ / COE: B semi-prof: EEC: A++ / COE: A	EEC: A CC (carpet/hard floor): AC, CA or BB DRE: A
AT	EEC: A+++ / SE: B / 5 – 6.5 kg: AEC: 155, 7 - 9 kg: AEC: 170	EEC: A / SE: B	EEC: A++	EEC: A CC (carpet / hard floor): CB / DRE: A N: <=85
BE	EEC: A+++	n.a.	EEC: A++	n.a.
CH	EEC: A+++ / SE: A	n.a.	EEC: A++ / COE: B	EEC: A CC (carpet/hard floor): DD DRE: A
CZ	EEC: A+++ / SE: A except slim: SE: B	EEC: A	EEC: A+++	EEC: A CC (carpet/hard floor): AC, CA or BB DRE: A
DE	EEC: A+++	n.a.	EEC: A++ / COE: B	PC: 900W, CC (carpet/hard floor): AB DRE: A
ES	EEC: A+++ / SE: B	n.a.	n.a.	n.a.
FR	EEC: A+++ / SE: A capacity max. 9 kg, AEC: 196 / AWC: 11,300	n.a.	EEC: A++ / COE: B / AEC: 250	EEC: A CC (carpet/hard floor): BA DRE: B
IT	EEC: A+++ / SE: B Top-loading: AWC: 9,300 Front-loading 5-6,5 kg: EEI: 45, AWC: 9600 7 kg: EEI: 42, AWC: 9,400 8 kg: EEI: 32, AWC: 10,000 9 kg: EEI: 32, AWC: 11,000	n.a.	n.a.	EEC: A DRE: A with bag: CC (carpet/hard floor): AC, CA or BB / AEC < 27,5 without bag CC (carpet/hard floor): AC, CA, BB, BC, CB
LT	EEC: A+++	n.a.	EEC: A+	EEC: A / AEC: 28
LU	EEC: A+++ / SE: A / >8 kg 192 AEC <7 kg 183 AEC	n.a.	EEC: A+++ / COE: A	EEC: A DRE: A CC (carpet/hard floor): A, B and C, AEC: 28
NO	EEC: A+++ < 8 kg: AEC: 125, SE: A/B/C, SS: 1200 8kg: AEC: 140, SE: B, SS: 1400. > 8kg: AEC: 188, SE: B, SS 1400	n.a.	EEC: A+++ / AEC: 177	n.a.
PL	EEC: A+++ / SE: A	n.a.	EEC: A+++ / COE: A	EEC: A CC (carpet/hard floor): AA DRE: A
PT	EEC: A+++ / SE: A	n.a.	n.a.	EEC: A CC (carpet/hard floor): AC, CA or BB DRE: A
RO	EEC: A+++ / SE: B	n.a.	EEC: A++ / COE: B	EEC: A CC (carpet/hard floor): AC, CA or BB DRE: A
SE	n.a.	n.a.	EEC: A++	n.a.

UK	EEC: A+++ / SE: A	n.a.	EEC: A++ / COE: B	EEC: A CC (carpet/hard floor): AC, CA or BB DRE: A
----	-------------------	------	-------------------	---

Comment on cross country comparison of selection criteria

Topten.eu defines criteria for washing machines based on energy efficiency class and spinning efficiency. This approach is followed by AT, CH, CZ, ES, FR, IT, LU, NO, PL, PT, RO and UK in principle (with spinning efficiency classes A or B), whereas AT, FR, IT, LU NO introduces additional criterion (e.g. annual energy consumption, annual water consumption, etc). BE, DE, LT set a limit for efficiency class (A+++ only).

Regarding wash driers as a niche product category, selection criteria are defined by topten.eu (based on energy and water consumption levels per kg) as well as by AT and CZ.

For tumble drier topten.eu sets limits for energy efficiency class and condensation efficiency class. This concept is followed by CH, DE, FR, LU, PL, RO and UK (FR includes a criterion for annual energy consumption as well). AT, BE, CZ, LT and SE set a limit for efficiency class only.

Topten.eu's selection criteria for vacuum cleaners are based on energy efficiency class and combined sets for carpet and hard floor cleaning class as well as a limit for dust re-emission. CZ, PT, RO and UK apply the same approach. BE, ES, NO and SE don't cover this product category. The remaining partners use a concept similar to that of Topten.eu, but with some minor deviations.

Comparing recent criteria sets with Topten criteria applied by End of 2014 (cf. Euro-Topten Max Monitoring Report, as mentioned above) highlights that for washing machines the selection has been made more stringent based on additional requirements concerning the maximum allowance of "Annual Energy Consumption". The criteria for tumble dryers have been maintained from 2014 to 2016 in general, as the market offer covered high efficient products in 2014 already (but their sales are expected to have increased significantly). In the category washer-dryer the market situation appears to be quite stable as there is no 2nd generation efficiency label in place. For vacuum cleaners a further increase of the top segment's energy efficiency become evident, since several partners set more ambitious levels for energy efficiency classes resp. introduced this criterion (instead of "Rated power consumption").

Overview: sum of categories and subcategories

categories [#]	sub-categories [#]
45	91

Cluster "Kitchen appliances"

Categories

- Dishwasher
- Oven
- Range hood
- Coffee machine

Abbreviations

AEC	Annual energy consumption [kWh]
AWC	Annual water consumption (dishwasher) [ltr]
DEC	Drying efficiency class (dishwasher)
EEC	Energy efficiency class
EEl	Energy efficiency index
FD	Fluid dynamics class (range hood)
GF	Grease filtering class (range hood)

LE Lighting efficiency class (range hood)
 N Noise emission [dB(A)]
 OP On mode power [W]
 PS Place settings (dishwasher)
 SBP Stand by power [W]
 SWC Specific water consumption (dishwasher) [ltr/cycle]

Overview “selection criteria – status June 2016”

Category	Dishwasher	Oven	Range hood	Coffee machine
Country				
EU	Built-in EEC: A+++ Freestanding EEC: A++ AWC: 2800	EEC: A+	All: FD: A LE: A Island range hoods: EEC: A, GF: B Wall range hoods: EEC: A+, GF: C Telescopic and integrated range hoods: EEC: A, GF: C	Low energy consumption effective auto power down
AT	Built-in EEC: A+++ , N: 44 Freestanding: EEC: A++ , N: 44	EEC: A EEI: 90	EEC: A N: 65 GF: B	Automatic power off <=60min SBP: 3.5W OP: 30W
BE	EEC: A+++	n.a.	n.a.	n.a.
CH	Built-in 55cm: EEC: A++ Built-in 60cm: EEC: A+++ Freestanding: EEC: A++	Steamer: EEC: A+ Oven EEC: 2 x A No pyrolysis	same as Topten.eu	same as Topten.eu
CZ	60cm EEC: A+++ 45cm EEC: A++ DEC: A AWC: 2,800	n.a.	FD: A LD: A island: EEC: A+, GF: B wall: EEC A+, GF C telescopic/integrated: EEC: A, GF: C	same as Topten.eu
DE	60cm EEC: A+++ / N: 44 45cm EEC: A++ / N: 46 AWC: 2800	n.a.	n.a.	same as Topten.eu
ES	EEC: A+++ / DEC: A	n.a.	n.a.	n.a.
FR	60cm EEC: A+++ 45cm EEC: A+ DEC: A AWC: 2800 N: 47	n.a.	n.a.	same as Topten.eu
IT	Compact EEC: A+ AEC: 180 45 cm EEC: A++, AWC: 2800 60 cm built-in EEC: A+++ AWC: 2800, EEI =45, 60 cm freestanding EEC: A+++	EEC: A+ no pyrolysis cleaning. For 66-71 l ovens energy consumption < 1kWh/cycle	n.a.	n.a.
LT	n.a.	n.a.	n.a.	n.a.
LU	60cm EEC: A+++ 45cm EEC: A++ SWC: 14 ; N: 47, AEC: 247	n.a.	n.a.	AEC: 70 Pressure min. 15 bar SBP: 1W off-timer max 5 hrs AEC: 61
NO	EEC: A+++ AEC: 234 N: 46	n.a.	n.a.	n.a.

	place settings min. 13			
PL	EEC: A+++ DEC: A	n.a.	n.a.	same as Topten.eu
PT	EEC: A+++ DEC: A	EEC: A+	n.a.	same as Topten.eu
RO	EEC: A++ DEC: A	n.a.	n.a.	n.a.
SE	n.a.	n.a.	n.a.	n.a.
UK	EEC: A+++ DEC: A SWC: 10	EEC: A+	EEC: A, FD: A LE: A Chimney and Integrated hoods: GF: C Island hoods GF: B	n.a.

Comment on cross country comparison of selection criteria

Topten.eu defines criteria for dishwashers based on energy efficiency class and annual water consumption. CZ, DE and IT follow this approach, whereas many others use an efficiency class criterion, combined with limits for either noise emission or drying efficiency class. For ovens topten.eu has introduced an efficiency class limit, which is replicated by AT, IT (with one additional criterion), PT and UK. Range hoods are maintained by topten.eu. AT, CH, CZ and UK. CH and CZ follow directly Topten.eu's concept.

Comparing recent criteria sets with Topten criteria applied by End of 2014 (cf. Euro-Topten Max Monitoring Report, as mentioned above) evidences that criteria for dishwashers have evolved since many Topten platforms have introduced additional criteria for "Annual Energy Consumption". The category "range hoods" has been included by some partners based on the new Energy Efficiency Label for this product group.

Overview: sum of categories and subcategories

categories [#]	sub-categories [#]
36	87

4. Section "Lighting"

Categories

- LED classic lamp
- LED spot
- CFL
- Office luminaire

Abbreviations

CRI	Color Rendering Index
CT	Colour temperature [K]
EE	Energy efficiency
EEC	Energy efficiency class
EEl	Energy efficiency index
LE	Lamp efficacy [lm/W]
LT	Lamp life time [hrs]
SC	Switching cycles

Overview "selection criteria – status June 2016"

Category	LED classic lamp	LED spot	CFL	Office luminaire
Country				
EU	EEC: A+ LT: 15,000 SC: 20,000 LE: 85	EEC: A+ LT: 15,000 SC: 20,000	n.a.	LED, LE: 100 MINERGIE-certificated
AT	E27: LE: replacement <30 W min. 60 40 W: 75 60-75 W: 80 100W: 85 LT: 20,000 E14: LE: replacement 20-30W: 65 30-40W: 65 LT: 20,000	GU 10, GU5.3: LE: 50 E14: LE: 40 E27: LE: 55 LT: 20,000	n.a.	LE: downlights: 70 floor lamps: 90 wall lights: 85 mounted ceiling luminaire: 95 recessed ceiling luminaires: 85 pendant luminaires: 90
BE	E27: LT: 15,000 SC: 75,000 LE: 55 E14: LT: 12,000 SC: 50,000 LE: 45	LT: 12,000 SC: 50,000 LE: 45	LT: 12,000 SC: 50,000 LE: 45	n.a.
CH	EEC: A+, LE: 85 LT: 15,000 SC: 20,000	EEC: A+ LT: 15,000 SC: 20,000	n.a.	LED, LE: 100 MINERGIE-certificated
CZ	EEC: A+, LE: 85 LT: 15,000 SC: 20,000	EEC: A+, LE: 65 LT: 15,000 SC: 20,000	n.a.	n.a.
DE	EEC: A+, LE: 85 LT: 20,000 SC: 50,000	EEC: A+, LE: 60 LT: 20,000 SC: 50,000	n.a.	n.a.
ES	EEC: A+, LE: 85 LT: 20,000 CT: max. 3,500	EEC: A+, LE: 80 LT: 20,000 CT: max. 3,500	n.a.	n.a.
FR	LE: 85 LT: 15,000 SC: 50,000 Warm white (max 3500K), at least 200 lm	LE: 70 or 55 (if dimming capability) LT: 15,000 SC: 50,000 Warm white: CT max 3500K, at least 200 lm	n.a.	n.a.
IT	All models: EEC: A+ LE: 85 LT: 15,000 CT: 2,700-3,000 SC: 100,000 Models > 600 lm: LE: 90	All models: EEC: A+ LE: 65 LT: 30,000 CCT: 2,700-3,000 E27 and GU 10 > 400 lm: > 75 lm/W - GU 5.3: LT: 25,000	n.a.	Only tube lamps: all models EEC: A+ T8 models: LE: 100 LT: 35,000 (0-1999 lm), LT: 50,000 (> 2000 lm) - T5 models: LE: 85 LT: 20,000 (0-2499 lm) LT: 25,000 (> 2500 lm)
LT	EEC: A+ <470 lm: LE: 25 <1000 lm: LE: 65	n.a.	n.a.	n.a.
LU	EEC: A+, LE: Max. 100 LE: Spot (GU10, E27, E14): LE: 55 Type "A35" and "45": LE: 60 tubes: LE: 90	EEC: A LE: 83	n.a.	n.a.

	bulbs type A60: LE: 70 LT: 25,000 Type A35 and A45 LT: 15,000 SC 50,000 CCT: 4,000 (exception 6,500 K for tubes)			
NO	All: EEC: A/A+, min. 200lm, CCT: 3500, CRI min.80, LT: 25000 LE: E14 classic form min. 60, E14 candle form 80, GU10 80, E27: LE: 80	n.a.	n.a.	n.a.
PL	EEC: A+, LE: 85 LT: 15,000 SC: 20,000	EEC: A+ LT: 15,000 SC: 20,000	n.a.	n.a.
PT	LE: 70 (60 for CRI 90) LT: 20,000 SC: 50,000 CCT: 3,500	LE: 60 (50 for CRI 90) LT: 20,000 SC: 50,000 CCT: 3,500	n.a.	EEC: A LE: 90 LT: 20,000
RO	LE: < 300 lm: LE: 45 300 to 470 lm: LE: 50 > 600 lm: LE: 60 LT: 15,000 SC: 50,000	LE: 45 LT: 15,000 SC: 50,000	n.a.	n.a.
SE	300 - 600lm: LE: 65 > 600 lm: LE: 75 LT: 20,000 CT: max. 3,000	LE: 60 LT: 20,000 CCT: max. 3,000	n.a.	Rated power [W]: LE: 14: 90 21: 90 28: 92 35: 92
UK	EEC: A+ LE: 75	EEC: A+, LE: 60	n.a.	n.a.

Comment on cross country comparison of selection criteria

Topten.eu defines selection criteria for LED classic lamps and LED spots based on energy efficiency class, lamp life time, switching cycles and lamp efficacy (this criterion for classic lamps only). Overall all partners follow this concept in principle, but requiring different levels for those parameters. CFLs are maintained in BE only.

Comparing recent criteria sets with Topten criteria applied by End of 2014 (cf. Euro-Topten Max Monitoring Report, as mentioned above) highlights that overall the efficiency levels were increased significantly including a switch from requirements regarding the efficiency class to more specific requirements on lamp efficacy (Lumen/Watt), each for several lamp types.

Overview: sum of categories and subcategories

categories [#]	sub-categories [#]
36	149

5. Section “Office Equipment”

Categories

- Computer monitor
- Notebook
- Laser printer
- Laser multifunctional

Abbreviations

AEC	Annual energy consumption [kWh]
D	Screen size [Inch]
EEL	Energy efficiency index
OP	On mode power [W]
OP	On mode power consumption [W]
PM	Pages per minute
SBP	Stand by power [W]
TCO	Total cost of ownership
TEC	Typical electricity consumption [kWh/week]

Overview “selection criteria – status June 2016”

Category	Computer monitor	Notebook	Laser printer	Laser multifunctional	Inkjet
Country					
EU	D <17" OP:13 17-20" OP: 18 20-22" OP: 20 >22": OP: 22 SBP: 0.5	TCO 5 Notebooks	Energy Star v2.0 registered Recycled paper: (be able to print on) Duplex: PM >= 19 colour: EEI: 60 monochrome: EEI: 70	Energy Star v2.0 registered Recycled paper: (be able to print on) PM Duplex: min 19 EEI colour: 40 EEI monochrome: 60	Single Ink technology (ink cartridges can be replaced separately) Registered at EnergyStar or meet comparable requirements SBP: < 1.5 W
AT	D 20"/21"/22" OP: 16 D 23"/24" OP: 16,5 D >27" OP: 22 TEC value acc. Energy Star	n.a.	colour: PM 1-20: EEI: 40 PM >21: EEI: 45 monochrome: PM 1-30: EEI: 60 PM >31: EEI 50 TEC value according to Energy Star	colour: PM 1-20: EEI: 30 PM 21-40: EEI 25 PM >40: EEI:30 monochrome: PM 1-20: EEI: 40 PM 21-40: EEI: 30 PM 40: EEI: 29 TEC value acc. Energy Star	n.a.
BE	Energy Star 5,0, TCO, OP: 18	n.a.	EEI: 70	EEI: 50	SBP <2W, OFF: <0,5W
CH	<17" OP:13 17-20" OP: 18 20-22" OP: 20 >22": OP: 22 SBP: 0.5	TCO 5 Notebooks	same as topten.eu	same as topten.eu	n.a.
CZ	n.a.	n.a.	same as topten.eu	n.a.	n.a.
DE	D <17" OP:13 D 17-20" OP: 18 D 20-22" OP: 20 D >22": OP: 22 SBP: 0,5 W	n.a.	n.a.	n.a.	n.a.
ES	D <17" OP:13 D 17-20" OP: 18 D 20-22" OP: 20 D >22": OP: 22 SBP: 0.5 Energy Star 6.0 or	n.a.	same as topten.eu	monochrome: PM 1-20: EEI: 45 PM 21-40: EEI: 40 PM 41-100: EEI 40 colour: PM: 1-20: EEI: 45	SBP: < 1W Be registered at Energy Star or meet comparable requirements, print in

	5.1 TCO			PM 21-40: EEI: 40 PM 41-100: EEI: 40 Registered at Energy Star, print in recycled paper	recycled paper
FR	All models - Energy Star 6.0 or 5.1, SBP: 0.5, TCO D 15 to 17": OP: 13 D <17": OP:13 D 17-20": OP: 18 D 20-22": OP: 20 D >22": OP: 22	n.a.	same as topten.eu	same as topten.eu	same as topten.eu
IT	D 17-21" OP: 20 D 22-24" OP: 21 D 24-27" OP: 22 SBP: 0.5 Energy Star and TCO labels	n.a.	same as topten.eu	same as topten.eu	same as topten.eu
LT	same as topten.eu	n.a.	same as topten.eu	same as topten.eu	same as topten.eu
LU	EEC: A+ or superior - Energy Star Label 6.0 or 5.1, TCO Label SBP: 0.5 Electricity costs:19 €/5 years		EEI: 21.1 available in Luxembourg, Energy Star Label or similar recycled paper, duplex PM 1 – 20: EEI: 45 (monochrome), 30 (colour) PM 21 – 100: EEI 35 (monochrome), 30 (colour)	EEI: 21.1 available in Luxembourg, Energy Star Label or similar recycled paper, duplex PM 1 – 20: EEI: 45 (monochrome), 30 (colour) PM 21 – 100: EEI 35 (monochrome), 30 (colour)	EEI: 21.1 available in Luxembourg, Energy Star Label or similar recycled paper, duplex PM 1 – 20: EEI: 45 (monochrome), 30 (colour) PM 21 – 100: EEI 35 (monochrome), 30 (colour)
NO	n.a.	n.a.	n.a.	n.a.	n.a.
PL	same as topten.eu	n.a.	same as topten.eu	same as topten.eu	same as topten.eu
PT	same as topten.eu	n.a.	same as topten.eu	same as topten.eu	Energy Star 2.0 and SBP:1,5W
RO	n.a.	n.a.	same as topten.eu	same as topten.eu	Energy Star registered SBP: 1,5W
SE	TCO label SBP: 0.5 D 21-24,9 " OP: 16 D 25-29,9 " OP: 23 D 30+ " OP: 45	n.a.	Monochrome only available on Energy Star EU Duplex PM 30-40 TEC: 2.2	Available on Energy Star EU Duplex PM 16-30 TEC: 1.8	n.a.
UK	n.a.	n.a.	n.a.	n.a.	n.a.

Comment on cross country comparison of selection criteria

Topten.eu's criteria for computer monitors are based on on-mode power consumption. DE, ES, FR, LT, PL, PT use topten.eu limits. AT, BE, IT, LU and SE introduce country specific levels. Notebooks are maintained on topten.eu and CH only.

For laser printers and laser multifunctionals topten.eu defines criteria based on Energy Star, introducing a new "energy efficiency index" as ratio of the actual value for Energy Star's "Typical Energy Consumption" to maximum levels, defined in the Energy Star Programme Requirements.

CH, ES, FR, IT, LT, PL, PT, and RO follow topten.eu's approach directly, whereas others define country specific levels.

Overview: sum of categories and subcategories

categories [#]	sub-categories [#]
52	179

6. Section “Consumer Electronics”

Categories

- TV

Abbreviations

D	Screen size [Inch] or [cm]
EEC	Energy efficiency class
EEl	Energy efficiency index
OP	On mode power [W]
SBP	Stand by power [W]

Overview “selection criteria – status June 2016”

Category	TV
Country	
EU	D < 70cm: EEC: A D 70 to 100cm: EEC: A+ D 100cm and more: EEC: A++ All: 64W OP, 0.5W SBP
AT	D 24"-30": EEl <=0.27 D 32"-39": EEl <=0.23 D 40"-42": EEl <=0.20 D 46"-52": EEl <=0.18 D 55"-65": EEl <=0.18
BE	EEl <0.3, 30W, SBP: 0.3W
CH	D < 70cm: EEC: A D 70 to 100cm: EEC: A+ D 100cm and more: EEC: A++ All: 70W OP, 0.5W SBP
CZ	D < 70cm: EEC: A D 70 to 120cm: EEC: A+ D 120cm and more: EEC: A++ All: 64W OP, 101-120cm: 50W OP
DE	same as topten.eu
ES	EEC: A+ (EEl <0,23) 60W OP 0,5W SBP
FR	All: 60W OP, 0.5W SBP D >= 70 cm: EEC: A and EEl 0.3 D 70 - 100 cm: EEC: A+ and EEl 0.23 D > 100 cm: EEC: A++ and EEl 0.16
IT	D >= to 31" EEC: A+, OP 25W D 32"-37" EEC: A+, OP 30W D 38"-43" EEC: A+, OP 41W D 44"-49" EEC: A++, OP 45W D 50"-55" EEC: A++, OP 63W
LT	same as topten.eu
LU	D <40": EEC: A+ D >40": EEC: A++

	SBP: 0.5, OP: 80
NO	D 26-32" EEC: A, AEC: 54, OP: 44, SBP: 1 D 40-42": EEC: A+, AEC: 66, OP: 45, SBP: 0.5
PL	same as topten.eu
PT	same as topten.eu
RO	D <100 cm: EEC: A D >100 cm: EEC: A+ OP: 64 SBP: 0.5
SE	D ≤37" EEC: A+ D ≥ 38" EEC: A++
UK	D <49" EEC: A+, OP: 64 D ≥ 50" EEC: A++ D no greater than 59"

Comment on cross country comparison of selection criteria

Topten.eu introduces criteria for TV sets based on efficiency classes for size ranges. CH, CZ, FR, LT, PL and PT directly follow this concept, whereas others set limits based on on-mode power consumption values for different size ranges.

Overview: sum of categories and subcategories

categories [#]	sub-categories [#]
17	67

7. Section “Building Components”

Categories

- Circulation pump
- Electric water heater
- Air conditioner
- Motor
- Heat pump

Abbreviations

COP Coefficient of performance
 EEC Energy efficient class
 EEI Energy efficiency index
 SEER Seasonal energy efficiency index
 SCOP Seasonal coefficient of performance

Overview “selection criteria – status June 2016”

Category	Circulation pump	Electric water heater	Air conditioner	Heat pump
Country				

EU	EEl: 0.2	Certified with Swiss FWS quality Label COP: 2.9 (for air temperature 15°C and 7°C) COP: 3.2 (for air temp. 20°C) Measured according to EN 16147:2011	Cooling / heating efficiency: A++/A+, except for Split ≤ 4 kW: A+++/A++	n.a.
AT	EEl: 0.23	Standby energy consumption in 24 hrs/10 litres [kWh]: small water heaters capacity < 5 ltr: ≤0.7 > 5 ltr: ≤0.4 wall mounted 30 - 50 ltr: ≤ 0.2 70 - 100 ltr: ≤ 0.1 >100 ltr: ≤0.1 base mounted: ≤ 0.075	split: A++, max. 55dB(A) mobile: A	direct evaporator: COP ≥ 4.8 air-water: COP ≥ 3.8 sole-water: COP ≥ 4.7 water-water: COP ≥ 6.1
BE	n.a.	n.a.	n.a.	n.a.
CH	EEl: 0.2	same as Topten.eu	same as Topten.eu	air-water: COP ≥ 3,6 sole-water: COP ≥ 4,6 water-water: COP ≥ 5.7
CZ	n.a.	n.a.	n.a.	n.a.
DE	n.a.	n.a.	n.a.	n.a.
ES	n.a.	n.a.	Split: A+++/A++ Multisplit A++/A+ (cooling / heating)	n.a.
FR	n.a.	n.a.	n.a.	n.a.
IT	n.a.	n.a.	Up to 4 kW (cooling): EEI/COP: A+++/A++, 4.1 to 5 kW (cooling): SEER; 8.4, SCOP: 4.6 -A++/A+, > 5 kW (cooling): SEER: 6.7, EEI/COP: A++/A+, SCOP: 6	n.a.
LT	n.a.	<100 litres - <1.0 kW/24h , 100-125 litres - <1.2 kW/24h	n.a.	n.a.
LU	EEl: 0.23, A+	n.a.	n.a.	n.a.
NO	n.a.	n.a.	n.a.	n.a.
PL	EEl: 0.27	n.a.	n.a.	n.a.
PT	n.a.	n.a.	Same as topten.eu	n.a.
RO	n.a.	n.a.	Cooling/Heating efficiency: Split<4 kW: EEI/COP: A+++/A++ Split >4 kW EEI/COP: A++/A+ Multisplit EEI/COP: A++/A+	n.a.
SE	EEl: 0.2 (residential home)	n.a.	n.a.	n.a.
UK	n.a.	n.a.	n.a.	n.a.

Comment on cross country comparison of selection criteria

Topten.eu defines criteria for circulation pumps with an EEI of 0.23 or less. This approach is followed by AT, CH, LU, and SE. Poland has accepts a slighter higher EEI of 0.27. The remaining countries do not cover this product category.

Topten.eu defines criteria for electric water heaters based on the FWS Quality Label in Switzerland and the coefficient of performance. Naturally, CH shares these criteria. AT and LT also feature this product category on their respective websites with slightly different parameters. All other countries do not cover this product category.

Topten.eu defines criteria for air conditioners on the energy efficiency class for cooling and heating. CH and PT follow these criteria.

Overview: sum of categories and subcategories

categories [#]	sub-categories [#]
21	95

8. Section “Professional Refrigerators”

Categories

- Beverage Cooler (BC)
- Ice Cream Freezer (ICF)
- Horizontal Display Freezer (HDF)
- Vertical Chilled Display Cabinet (VCDC)
- Storage Refrigerator (SR)
- Storage Freezer (SF)
- Storage Refrigerator-Freezer (SRF)
- Minibar (MB)
- Wine Cooler (WC)

Overview “categories provided on specific Topten platform”

Category	BC	ICF	HDF	VCDC	SR	SF	SRF	MB	WC
Country									
EU	Y	Y	Y	Y	Y	Y	Y	Y	Y
AT	Y	Y	Y	Y	Y	Y	N	N	N
BE	N	N	N	N	N	N	N	N	N
CH	Y	Y	Y	Y	Y	Y	Y	Y	Y
CZ	Y	Y	Y	Y	Y	Y	Y	Y	Y
DE	Y	Y	Y	Y	Y	Y	Y	Y	Y
ES	N	N	N	N	N	N	N	N	N
FR	Y	Y	Y	Y	Y	Y	N	Y	Y
IT	Y	Y	Y	Y	Y	Y	Y	Y	Y
LT	N	N	N	N	Y	Y	N	N	N
LU	Y	N	N	N	Y	Y	N	N	N
NO	N	N	N	N	N	N	N	N	N
PL	N	N	N	N	N	N	N	N	N

PT	Y	Y	Y	Y	Y	Y	Y	Y	Y
RO	N	N	N	N	N	N	N	N	N
SE	Y	Y	Y	Y	Y	Y	Y	Y	N
UK	N	N	N	N	N	N	N	N	N

Comment on cross country comparison of selection criteria

Several Topten platforms list best performing commercial cooling appliances, identified by EU funded project ProCold (<http://www.pro-cold.eu/>). ProCold applies efficiency criteria, based on methodologies specified for professional refrigerated storage cabinets (EU regulation 2015/1094) and for refrigerated commercial display cabinets (working document for future EU regulation).

Please find details to the respective criteria descriptions, provided by ProCold:

- Professional Storage Refrigerators
<http://www.pro-cold.eu/english/criteria/professional-storage-refrigerators.html>
- Professional Storage Refrigerators
<http://www.pro-cold.eu/english/criteria/professional-storage-refrigerators.html>
- Vertical Chilled Display Cabinets
<http://www.pro-cold.eu/english/criteria/professional-display-refrigerators-crit.html>
- Beverage Coolers
<http://www.pro-cold.eu/english/criteria/beverage-coolers-2.html>
- Ice Cream Freezers
<http://www.pro-cold.eu/english/criteria/ice-cream-freezers-3.html>
- Supermarket Freezers
<http://www.pro-cold.eu/english/display-cabinets/supermarkt-freezers-4.html>
- Refrigerator-Freezers
<http://www.pro-cold.eu/english/criteria/professional-storage-refrigerators.html>
- Minibars
<http://www.pro-cold.eu/english/criteria/minibars-crit.html>
- Wine Coolers
<http://www.pro-cold.eu/english/criteria/wine-coolers-2.html>

As a generic procedure some Topten partners present those products, which are actually available in the respective national market, directly relying on the ProCold selection criteria.

Overview: sum of categories and subcategories

categories [#]	sub-categories [#]
67	98

9. Statistical Overview

Number of categories and subcategories, and average length of Topten lists.

Number of categories and subcategories

Section / Cluster	categories [#]	sub-categories [#]
Cars	25	115
Cooling appliances	61	126
Washing, Drying & Cleaning	45	91
Kitchen appliances	36	87
Lighting	36	149
Office Equipment	52	179
Consumer Electronics	17	67
Building Components	21	95
Professional Refrigerators	67	98
TOTAL	360	1007

Overview “average length of Topten lists”

Country	average length [# of products/subcategory]
EU	11 to 20
AT	21 to 30
BE	11 to 20
CH	Above 30
CZ	21 to 30
DE	21 to 30
ES	11 to 20
FR	11 to 20
IT	Up to 10
LT	11 to 20
LU	21 to 30
NO	Up to 10
PL	Up to 10
PT	Up to 10
RO	Up to 10
SE	Up to 10
UK	Up to 10

The total number of actual product references was estimated based on the typical average product list length specific for every national platform multiplied with the number of subcategories maintained by the respective partners, resulting in a total number of product references presented by all partners to 17 780 units.