

TOPTEN ACT 2015-2018 • REPORT

Find out the most efficient products in Europe with a simple click on the Topten websites

OCTOBER 2018

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Topten Act project

Find out best products in Europe

Cold appliances

- Free standing refrigerators
- Built-in refrigerators
- Chest freezers
- · Upright freezers

Washing machines

Dishwashers

Tumble driers

- · Residential use
- · Semi professional use

Vacuum cleaners

Cooking appliances

- Ovens
- · Range hoods
- Hobs
- Coffee machines

TVs

Air conditioners

Energy saving lamps

- LED lamps
- LED spot
- Office Luminaires

Office equipment

- Notebooks & Tablets
- Computer monitors
- · Laser printers
- Laser multifunction printers
- Inkjet printers

Cars

- Mini
- Small
- Compact
- Middle class
- Upper middle class
- · Vans 5 seats
- Vans 6 seats and more

Electric water heaters

Circulation pumps

Professional cold appliances

www.topten.eu

March 2015 - August 2018

17 partners presenting complementary backgrounds: energy specialists, energy agencies and research institutes, environmental NGOs and consumer organisations with communication competencies:

ADEME – French Agency for Environment and Energy Management, France (coordinator)

AEA - Austrian Energy Agency, Austria

BBL - Bond Beter Leefmilieu Vlanderen vzw, Belgium

SEVEn - The Energy Efficiency Center, Czech Republic

Guide Topten, France

Oeko-Institut e.V., Germany

Eliante, Italy

LNCF, consumer federation, Lithuania

Oeko-Zenter, asbl, Luxembourg

Norges Naturvernforbund, Norway

FEWE - Polish Foundation for Energy Efficiency, Poland

Quercus, Portugal

ICEMENERG, Romania

WWF Spain, Spain

SSNC - Swedish Society for Nature Conservation, Sweden

Bush Energie, Switzerland

The Energy Saving Trust, United-Kingdom

The members of the Steering Committee show interest in the Topen Act project and support its partners:

WWF Switzerland

TCO Certified, Sweden

The European Energy Award, European network

ECOS Standards, European network

eceee, European council for an energy efficient economy

Cost / Financial support from Horizon 2020 programme: 1.93 M€ for 17 partners over 3.5 years.

Purpose

Topten is a market transformation tool used to bring more energy efficiency on the market of products and equipment. Topten:

- Provides selections of the most efficient products available on the market. The selections are displayed on user-friendly websites managed at national level, close to consumers' markets
- Stimulates consumers and large buyers, via communication and support to professional procurers

- Stimulates manufacturers and retailers, via regular contacts, information and promotion of their most efficient products
- Contributes to market transformation and policy design thanks to its analyses

Key results

- 16 websites presenting continuously updated selections of best appliances, recommendations for users, and selection criteria
- Information available in 14 languages
- 365 product categories scanned in the 16 countries, filterable into more than 1 000 market segments reflecting consumers' preferences. More than 21 000 super efficient products displayed in August 2018, with all their features
- More than 5.37 Mio visitors over the three years and a half of the project
- Extensive media coverage
- · An open Topten platform: new organisations can join at any time
- Differentiated impact on numerous target groups: tailored information delivered to consumers, procurement officers, retailers, policy makers, NGOs and institutions, support to utilities, support and recognition to product manufacturers and retailers investing in energy efficiency
- As a result, over 150 partnerships developed across Europe
- "Best of Europe": the only review of the supply of efficient appliances on the European market (BAT, policy analyses)
- Integration into a world-wide network together with Top10 China, Topten Chile and Topten Argentina, www.topten.info

Target groups a	nd main inputs brought by the project
Market Actor	Topten Value Proposition
Consumers	User-friendly interface to identify most efficient products
	• Educate consumers on total cost (purchase price plus energy bill minus incentives) and good use of products
	Communicate benefits of efficient products for climate protection
Manufacturers	Support market introduction of new products
	Provide independent, objective marketing of products
	Channel incentives and increase demand for innovative products
Retailers	• Bring potential clients from the Topten websites directly to the product page at on-line shops, through referral links
	Increase of high mark-up products' sales
	Position retailer as "trend setter", and build trust in the message against climate change
Large Buyers	Support formulation of procurement specifications and award criteria
and Procurement	• Ensure that very efficient products are available on the market (no pilot product, lower risk of unsuccessful calls
Officers	for tenders) from brands that are able to provide all associated services
	Reduce operating costs to enhance value-for-money
Policy makers	Provide real-time market data on the "best" products, with energy efficiency as a key criterion
	Pave the way for new and more stringent standard & label specifications
Utilities	Continuously identify the highest-efficiency products
	Serve as a basis for rebate programmes
	Serve as a source of information for their clients
Media	Serve as credible, independent source of information
	Issue regular updates
	Provide one-stop shop for broad range of product categories
NGOs & Institutions	Concrete actions to illustrate their campaigns on sustainable consumption and climate change
	Material and information for their campaigns

Topten, a leverage to market transformation



1.A Topten, a market transformation tool

Since 1881 and the first Edison light-bulb, it has only been a little over a century that mankind has developed the habit of using electricity. It is very flexible for the user (just press a button), but it is energy intensive to produce (3 parts of primary energy for 1 part of electricity), expensive, and very difficult to store. It should therefore be used wisely.

However, and despite undeniable efficiency improvement at the level of single appliance, electricity consumption in the residential sector has grown a lot until a peak in 2010 when it reached 850 TWh. Since then, it has decreased, but the year 2015 showed a little increase again (it then reached 795 TWh in the EU28 countries¹). There are several reasons for this high consumption: appliances and devices have multiplied, but are not always eco-designed, have grown in size, user behaviour is not always savings-oriented, etc.

The Topten network estimates that the specific electricity consumption could be reduced by 30 to 50%, provided appliances as well as purchasing and user behaviours continue to improve.

A synergy provider

While electrical appliances present a fundamental energy saving stake at European level, the market for these appliances is a complex one, generating three main difficulties:

- For consumers: Thousands of refrigerators, TVs, cars and other kinds of energy-consuming equipment are available on the market. Consumers, whether individuals or professional buyers, cannot always compare and chose judiciously: without clear information, nor time, it's too difficult to analyse the market...
- For manufacturers: The development of energy efficient and innovative products has an initial cost. Manufacturers need to trust there is a demand for these efficient products in order to start their production and to develop a real marketing strategy.
- For policy makers: Under the pressure of budget restrictions, it is not always easy to carry out ambitious and successful policies, despite the shared concern about climate change and energy issues.

^{1 -} Source: Energy Consumption and Efficiency Trends in the EU-28 2000 – 2015 - Joint Research Center, Science for Policy report, 2018, EUR 29104 EN

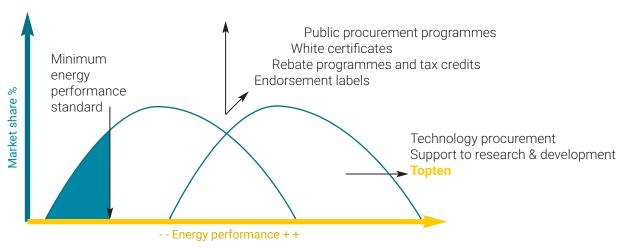
This observation has led to the development of several instruments, all part of the market transformation tool box aiming at shifting the markets towards more energy efficiency:

- Data analysis and knowledge of the market
- Informative labels
- Endorsement labels
- Minimum energy performance standards
- Rebate programmes and tax credits
- Information campaigns
- Training campaigns for sales teams
- Voluntary agreements with industry, and/or retailers
- Commercial campaigns from producers and/or retailers
- White certificates
- Public procurement programmes
- Technology and cooperative procurement
- Support to research and development
- Topten: promotion of best models

With regards to this situation, Topten encompasses and can serve most of these instruments as it:

- Provides selections of most efficient products available on the market
- Stimulates consumers and large buyers, via communication and support to professional procurers
- Stimulates manufacturers and retailers, via regular contacts, information and promotion of their most efficient products
- Contributes to market transformation and policy design thanks to its analyses

Data analysis and knowledge of the market Informative labels Information campaigns Training campaigns for sales teams Voluntary agreements with industry, with retailers Commercial campaigns from producers and/or retailers



Topten responsive website: directly accessible in shops





Qualified, updated and widely accessed online

A major barrier to broad dissemination of more energy efficient and environment-friendly equipment, products and services is that consumers do not have quick and easy access in their language to ready-made qualified, independent and up-to-date product information. The purpose of Topten is to provide consumers and energy professionals with credible, up-to-date information on the most efficient products available on their local markets. The selection is much narrower than typical labelling systems, making it easier for consumers to choose from among the thousands of products available.

With Topten, consumers are directly informed about:

- The importance of choosing a good product (at the time of purchase) for their electricity bill and overall expenditure, and for the environment in general
- The importance of using electricity-consuming devices correctly, for the same reasons

A reference for marketing, R&D, and policy decision makers

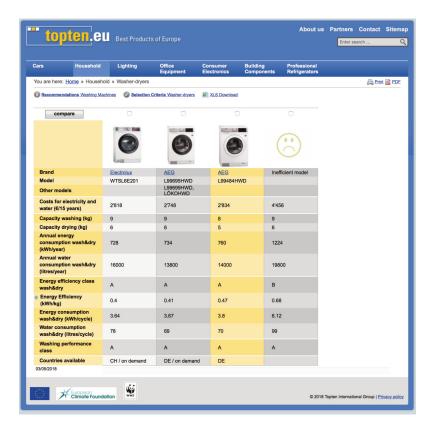
Topten goes further than providing direct information to consumers and use synergies between the various Market Transformation tools: once the selections of Topten products are available, this very valuable information can also be used for other purposes. Topten provides key information to decision makers on their markets and the status quo of best available technologies; Topten can serve as a basis for rebate programmes or tax credits; Topten can fit into white certificate schemes; Topten teams can assist in many ways in cooperative and technology procurement operations; Topten feeds in information campaigns and the media – contributing to awareness raising.



Topten reinforces existing informative and endorsement labels as it verifies the information through a continuous dialogue with manufacturers at European level and in each of the countries where a Topten website is available; Topten rewards retailers and producers who are seriously investing in energy efficiency.

The Topten tool is especially adapted in countries where information on products is available (producers' declarations, informative labels on energy efficiency, etc.) and where a significant number of people has access to the internet.

Given European standards of living and equipment rates, Topten represents a uniquely valuable tool, offering to European consumers and procurement officers a resource to replace the current generation of consumer appliances, lighting, and products sold each year with super efficient models. In choosing to purchase super efficient appliances,



European consumers can reduce their individual energy consumption while simultaneously playing a major role to pull the global market toward urgently needed super-efficient products.

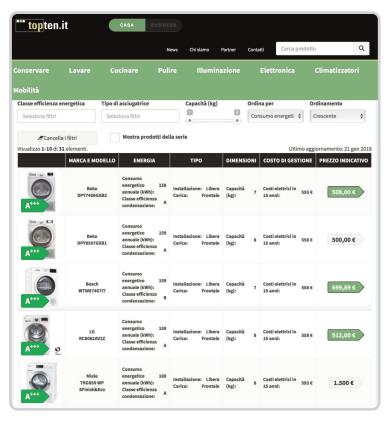
1.B Showcasing

An internet tool: from the portal www.topten.eu 16 national close-to consumer Topten websites can be accessed...

...Targeting the average consumer... Aware green consumers can find information by themselves, as they are ready to spend time looking for the greenest possible products. On the contrary, a large number of consumers may be resistant to, frightened or even upset by "green" information accused of promoting "expensive non-functioning devices". Even though the whole purpose of Topten is to promote the most energy efficient products, this is not the message put forward here. The environmental rationale is not the first information even though it is extensively explained on specific pages of the web site...

...Centred on products... The main information (home page and second and third levels) focuses on products, almost as if the web site was a retailer's site that a consumer would visit before buying in order to compare products and prices...

...Presenting appliances... all the product characteristics that may interest a consumer are presented: the brand, the commercial reference, the dimensions, the different services (for example for white goods: no frost function, 0°C compartment, built-in), the picture, links to manufacturers' site for more information...



- ...And only the "best appliances"... from the energy efficiency point of view. These "best" appliances are presented in a table with the most energy efficient on top. They are presented according to energy efficiency but visitors can choose the ranking criteria. Filters allow visitors to target the more specific sub category they are interested in (e.g. within the white goods freezers, freestanding, upright models of a given brand)...
- ...Emphasising electricity costs over the lifetime... For each product, Topten provides the purchase price and the electricity cost over the life- time of the appliance so that total cost can easily be calculated. Advice is also given on how to use and maintain the various products...
- ... Highlighting the overall efficiency gain in comparison with an inefficient model that could be on the market...
- ... And facilitating consumer action to buy a super efficient products, by directly linking, with one more click, to on-line retail shops, on the specific page of the selected Topten product.

Topten's websites ethics and basic rules

- **Transparency**: the whole Topten approach is published on the website: manufacturers and consumers know, for each product category, the criteria for selecting "best appliances". The methodology is available on-line, with a simple additional click.
- **Flexibility**: the Topten products lists are updated frequently, at least twice a year, and much more often when links are proposed toward on-line shops. The criteria are easy to revise and are strengthened according to the markets' progress.
- **Simplicity**: priority is given to existing classifications and criteria. Where an energy label exists, it is used to determine the best appliances (in Europe, A+++ class for major appliances). Where it does not exist, other labels are used (such as Energy Star®, the Blue Angel label, or ATE). When there is a lack of harmonised norms to measure energy efficiency, Topten may carry out tests and develop its own methodology.
- **Neutrality**: Topten is fully independent from appliance manufacturers, importers or retailers. Thus fully independent from brands and commercial trends, Topten enables consumers to choose environment-friendly products, an incentive for manufacturers and retailers to favour them as well.

1.C Achievements of field activities

The next figure illustrates that Topten is a concept that goes far beyond presenting information on a website. The various activities reinforce each other with the ultimate goal to encourage and accelerate the design, marketing and buying of highly efficient appliances and equipment within a reasonable timeframe. For each type of product, Topten teams undertake regular market studies at national level in order to:

- Verify their information with manufacturers (on technical issues, availability on the market, price, photos, etc.) and establish referral links to on-line retailers.
- Generate partnerships and publications in printed media and mentions of Topten in audio-visual communication means.

A lot of effort is made to find media support: if Topten is known and its credibility recognised, more consumers will visit the site and choose to buy efficient appliances and more manufacturers will be willing to collaborate and hopefully develop energy efficient products. However, Topten does not spend money on advertisement, but grows thanks to the development of partnerships, which multiply opportunities to make Topten known.

The fieldwork is therefore substantial for the Topten teams who gather specialists in project management, energy efficiency, technical issues for specific products, communication, procurement, and IT specialists to ensure automatic exchange of information with retailers and other stakeholders.





The Topten teams:

Manage and coordinate

- Establish a national Topten organisation (managing the project, the various content editors, the information towards consumers, the relations with testing laboratories, partners, etc.).
- Work in cooperation with manufacturers in order to obtain as accurate product data as possible.
- Work in cooperation with retailers in order to help provide consumers with a full service: which are the best appliances, where to find them, 1 more click to by them.
- Establish cooperation with the other national Topten projects to benefit from and create international synergies, through specific programmes such as the Topten Act project sponsored by the European Commission, and through the association Topten International Group - TIG (see below).

Assess & Report

- Undertake market research on energy using products to determine which product categories should be targeted given the national market characteristics (for example boat engines in Sweden). The most comprehensive Topten system has currently 8 major product fields online for the general public: domestic appliances, consumer electronics, office equipment, lighting, building technology, mobility (incl. cars, bicycles), leisure (incl. restaurants, vacation destinations), green electricity; and 5 fields for professional users: professional cold appliances, gastronomy, professional laundry rooms, office & lighting, mobility and pumps.
- Define benchmark criteria for top energy efficiency for each product category in cooperation with national standard and labelling organisations. The selection is different for each product category and is based on widelyaccepted industry testing procedures, if available, or on a testing procedure defined by Topten. In the case of products bearing labels based on welldefined procedures (e.g., EU energy Label, TCO (Sweden), Blue Angel (Germany)), Topten relies on the label information and on independent thirdparty testing.
- Create, operate and update data for Topten product lists. The primary technical task in establishing a national Topten system is to create an effective database for a national market. All information is adapted to local needs and market conditions. The data includes information for the most energy efficient and environmentally friendly products in each category. It includes product energy data, photo, sales price and all functional specifications of interest for consumers. It also includes a "second price" which shows the energy cost over the lifetime of the product, and often a comparison with an inefficient model, to underline its relative importance for the buying decision.
- Set up an automatic system to exchange product information with retailers and propose a new service to the Topten visitors: with one more click, they

can access through referral links the Topten product they are interested in directly on a retail-shop on-line.

- Exchange data with Topten Act stakeholders to stimulate market availability of best products.
- Provide for each product category the selection methodology in details. It is crucial that the Topten selection of product is transparent and neutral.
- Provide for each product category recommendations for consumers regarding optimal use of the product.
- Monitor and evaluate segment and intensity of use of website, to guide future Topten development.

Communicate

- Focus on the website which must be user-friendly, in particular for first-time visitors who are more likely to be "average" consumers looking for products than "green" consumers looking for environmental information. The website also contains more technical information for professional users and procurement officers in a dedicated section, and media partners.
- Publicise Topten via print material in newspapers, journals, and dedicated leaflets to attract first users. Consumer organisations, environmental organisations and the media are key partners to raise awareness among potential users of Topten.
- Initiate dialogue with responsible government officials and private sector procurement officers on use of Topten for procurement.
- Initiate dialogue with producers and multipliers (for their campaigns).

In conclusion, Topten "backstage" activities are paramount to the websites' success, as they ensure consistency and accuracy of information.

Topten: an established market shifter

After several years of operation, from a policy point of view, the main advantages of such a tool are that:

- Topten directly reaches consumers: the number of visitors has been kept high (considering its rather specialised focus).
- Topten acts as a resource centre for many articles in newspapers, consumer and environmental magazines.
- Topten is flexible compared to a label, there is no additional information stuck on the product itself; the criteria are easy to revise and strengthen according to the markets progress.
- Topten can serve as a basis for governmental programmes, such as rebate schemes.
- Topten provides specifications for public/ private procurement programmes to increase market demand for the most energy efficient products.
- Topten stimulates competition as detailed data is published, manufacturers can compete to be "at the top"

- of the Topten list (no threshold effect). As the website is very often updated, the competition on the energy efficiency criteria is continuous. It creates a market pull effect, beyond existing minimum performance standards or recommended labels.
- Topten is also a platform for dialogue with manufacturers and retailers: they cooperate, answer questions about appliances, availability, provide photos, discuss possible problematic test results and ask about new regulations and norms.
- Topten increases market transparency and lowers barriers for consumers to purchase the most energy efficient equipment, products and services.
- Topten supports ambitious government or European standards by providing real-time data on the efficiency level of the best products available on each national market, thus giving policy-makers confidence to propose ambitious levels for new/updated standards.

The Topten projects work at both local and international levels

The strength of the European framework, supported by national market expertise

Each step of the twelve-year Topten market monitoring has confirmed that the European market for appliances remains both internationally and nationally driven hence the necessity for Topten to cover both international and national issues: On the one hand, **many elements of the market chain drive it towards homogeneity**: a few large manufacturing companies are present in all countries and are able to supply all countries; products are generally the same from a technical point of view; the European Energy Label and Ecodesign Requirements allow for homogenous information across the whole of Europe; etc.

But on the other hand, **there are still important differences between countries:** design variety and corresponding differences in model references require study of the market at national level in order to reflect national preferences and availability in shops; the market structure is also less international than it may seem: on the manufacturers' side, especially in the white goods sector (as opposed to the brown goods where the situation is easier to track), national branches are rather independent in their management: they choose the products they want to sell (from a production line proposed by the headquarters), they decide the marketing positioning of the various brands they manage, the price is set at national level, etc. This is how we get to important differences:

- In terms of **national preferences:** e.g. Nordic consumers will prefer a freezer at the bottom of a cold appliance; Latin consumers will buy a significant share of top opening washing machines.
- In terms of **supply policy from manufacturers:** at the summer 2018, the distribution of A+++ cold appliances with a maximum consumption of 200 kWh/year in Europe is very uneven: over 220 models in Germany and Switzerland, 74 in Czech Republic, 68 in Italy, 45 in Portugal, 29 in UK and Romania². Likewise, the efficient heat pump driers are not proposed and sold equally in European countries, even if they present comparable equipment rates³. These differences which can be explained by cultural variations between countries, average wages, the sensitivity to environmental issues, policies implemented (or not) by public authorities, etc. are taken into account by Topten, which mixes national market information targeting consumers and global action towards manufacturers, by working in parallel on two axis:
- At national level, a field market analysis, based on national market preference and product availability; each country uses the same Topten concept but is free to adapt the web site design and the working methodology according to its own national context.
- At international level, the development of a "Topten system" in order to gain critical mass, share knowledge, compare data, understand the products' energy efficiency status quo and contribute to European policies.
- 2 Summer 2018, various Topten websites
- 3 For example, the availability of A+++ heat pump tumble driers in the summer 2018 varies from 40 in Switzerland, 30 in Germany and Italy, 20 in France and Romania, 10 in Czech Republic (source: national Topten websites)

2.A A twelve year well-established network

The Topten concept was first developed in Switzerland in the year 2000 by S.A.F.E., the Swiss agency for efficient energy use. Within limited financial resources, S.A.F.E. chose to build a flexible tool supporting consumers but that would not need the design and implementation of a complex infrastructure across the country. Topten benefited from a close cooperation with WWF Switzerland, which used its notoriety to make the concept and the website known to the general public. Since then, Topten Switzerland has grown steadily up to a point where www.topten.ch provides today an unquestionable service recognised by the public authorities which largely supported it: 13 product fields (office equipment, home equipment, mobility, etc.), 68 product categories with filtering possibilities, presenting close to 3 300 Topten products, 48 partners, 380 000 visitors per year.

Early 2004, and after the sound local anchorage of Topten Switzerland, the Swiss Topten team started to contact their European colleagues, as it appeared that a much larger impact could be gained thanks to a European critical mass:

- European consumers face the same situation when they want to buy electricity-consuming equipment.
- Electricity demand is high all over Europe and has a high cost as well.
- Manufacturers develop at least European-wide strategies: any tool aiming at market transformation should integrate a European dimension in order to be able to discuss with the manufacturers' head offices with one united voice asking for concerted improvements.
- Participating NGOs, such as WWF also offer both national and European coverage.

The first countries to develop a Topten concept in cooperation with the Swiss team were:

- France at the end of 2004: www.guidetopten.fr was launched as a partnership between an environmental organisation - WWF France and a consumer organisation - CLCV - with support from ADEME (French agency for environment and energy management); it is today managed by an independent company.
- Austria in 2005: the Austrian Energy Agency launched www.topprodukte.at as part of a large governmental "klima:aktiv" programme, still on-going.
- And Germany where in 2005, the Öko-Institut launched www.ecotopten.de, with support from the Federal Ministry of Food agriculture and Consumer Protection as well as from the Stftung Zukunftserbe (a German foundation for sustainable projects).

2.B 17 partners working together within the Topten Act project

The European Commission has supported for many years accompanying projects, educational tools, and ICT tools for consumers and other stakeholders on energy savings, thanks to its SAVE-, then Intelligent Energy Europe- and today Horizon 2020 research programmes. The overall goal is to secure a sustainable energy future for all European citizens, with, for each programme, specific targets and priorities.

The Topten concept fits very well within the European energy and climate objectives and strategy putting consumers are at the heart of the energy system. Therefore, in 2006, the "Euro-Topten" project was launched to start building a Topten network and benefit from European synergies, followed by the "Euro-Topten Plus" project in 2009 which had a focus on professional buyers, the "Euro-Topten Max" project in 2012 enlarging to retailers and the Topten Act project (under the H2020 programme) in 2015⁴.

All the Topten projects aimed at encouraging consumers to ask for, choose and properly use energy efficient products, while getting retailers and large buyers involved, and at creating multinational pressure to orient manufacturers toward more energy efficiency across their range of products. They use synergies with existing instruments such as the European energy label and Ecodesign requirements, utility programmes, and information campaigns.

The projects' short-term goal is to create the best conditions to shift the market towards higher energy efficiency, i.e.: sharing experience, and reaching the necessary critical mass through the efficient network of Topten websites.

The Topten Act project was built around 17 core formal partners, as an open platform, to share information with a wider circle of countries and to welcome organisations interested in the project and leading complementary initiatives – the Topten Steering Committee gathering these non-formal participants had five members at the end of the project. As a result, 16 Topten European websites plus a European platform (www.topten.eu) were up and ruining at the end of the summer 2018 (from 8 in 2006, and after reaching a peak of 19 websites in 2014⁵).

- 4 See also the H2020 ProCold project which applied the Topten pragmatic approach to
- 5 Croatia, Finland and Greece could not join the Topten Act project.

(2015 - 2018).

professional and commercial cold products









Topten Act Steps and components

The Topten Act H2020 project has gathered 17 partners committed to implement a work programme composed of 7 major components (all public deliverables are available from www.topten.eu).

1 - Project management - Coordination: ADEME

Partners of projects gathering numerous teams must be able to rely on a solid yet lively management. The project gathered 17 official partners and 5 additional organisations interested in the Topten concept and implementation.

- Topten Act gathered teams with different and complementary backgrounds: energy specialists, energy agencies and research institutes, environmental NGOs and consumer organisations with communication competencies.
- A small coordination team led by ADEME (3 persons) dealt with contractual and administrative issues, managed joint expenses in order to generate economies of scale, and also acted as a hot-line regarding technical issues on all products and dissemination activities (see component 2).
- Two websites were developed and maintained: a collaborative working tool
 dedicated to partners and a user friendly tool for the public (www.topten.eu)
 also acting as a portal to the national websites and providing information on
 European best appliances.

2 - European Product Analysis - Coordination: Bush Energie

Elaborating the Topten product selections is the most time consuming activity (as it is continuous) but constitutes the basis for all the other activities and feeds-in the other components.

The Topten European Technical Competence continuously carried out European-wide analyses of regulatory, technological and market developments. The technical experts have regularly mapped developments on the European market for all product groups covered by the project: domestic appliances, consumer electronics, lighting products, office equipment, cars, etc. This centralised approach responds to a common European regulatory framework (Ecodesign, Energy Labelling and other relevant Directives) and the fact that manufacturers operate transnationally throughout Europe. As a result, the Topten European technical Competence produced and updated:

• 119 product lists of Best Available Technology (BAT) products available on the market (distributed in 23 main product categories).

Topten Act project's deliverables to the European Commission

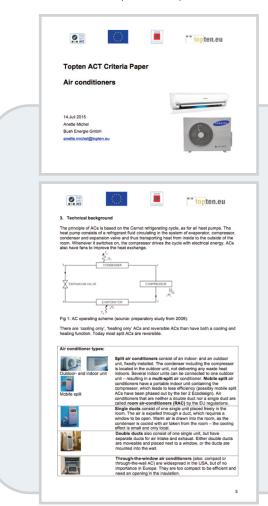
(All the public deliverables are available from www.topten.eu)

- D2 15 Criteria papers
 Topten BAT product lists at the
 European level
- D3 Comparison of Topten selection criteria across Europe
 2 Market surveillance guidance documents
 Market surveillance reports
 10 Pro Guidelines
- D4 16 websites up and running
 With updated criteria and
 recommendation pages
 Using a new software
 2 Dissemination activities reports
 2 European press books
- D5 2 Retailer partnership reports Guidelines for referral marketing 2 Referral marketing reports

2 Topten website visitors reports

- D6 Visitor survey (in 2 steps)
 2 Impact reports
 Stakeholders Added value report
 Topten Act case studies
- D7 Topten Act Infographics and Factsheets Communication on the Topten Act's results

 15 product criteria papers showing the status quo and trends in technology and related regulations for ovens, air-conditioners, coffee-machines, dishwashers, cold appliances, monitors, range-hoods, tumble driers, TVs, vacuum cleaners, washing machines, lamps, luminaires, commercial cold products, professional cold products.



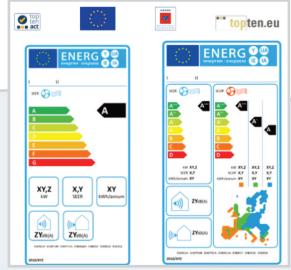


Figure 1 - Topten Act criteria papers

For example, the Air Conditioner Topten Act criteria paper presents in 8 pages all the necessary information to understand the functioning principles of an air conditioner, the various types present on the European market, the current regulations, a short market analysis, most common questions on this product category and a series of links to further documentation.

One of the European added values of the Topten Act project is that this technical information was developed once, by the most qualified partner, for the benefit of all partners.

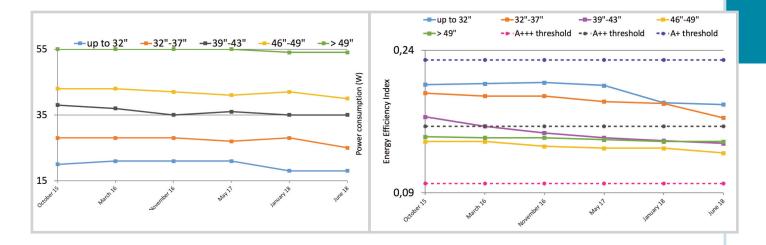
These European analyses were the cornerstone of the Topten Act project, setting the foundations for the remaining national technical and non-technical work as each partner was in charge of developing its national website and implementing the numerous related activities: market studies, media events, partnerships with cities, etc.

3 - Activating National Markets - Coordination: AEA, SEVEn, Quercus

This component aimed at providing the necessary technical and general market elements to a Topten team when they were ready to update and / or start a new product category and generate partnerships.

To make the analyses produced by the Topten European Competence Centre relevant to consumers and other market actors in each of the participating

countries, national partners adapted them to their respective national markets, by studying national preferences, checking with manufacturers product information and availability, refining the criteria, and repeating this process very regularly. A cross European analysis showed that several partners were able to tighten their selection criteria – mirroring the market improvement – mostly for cold appliances, tumble driers and lighting products.



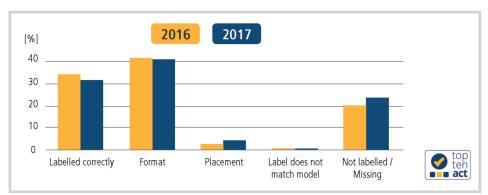
To strengthen the credibility of the technical work, two-market surveillance and conformity assessment exercises were undertaken, during which the national Topten teams:

- Recalculated and verified the Energy Efficiency Indexes (EEIs) of ca. 700 products in 6 key product categories, to check if, at least on paper, the energy efficiency class declared on the energy label by manufacturers match the calculations. Only few modifications occurred (e.g. alignment of the product fiche and product label data) but it could be noticed that numerous products are declaring an energy efficiency class at the lowest limit of the respective EEI. While this is not illegal, it highlights the need for proper submission of data, calculation of the indexes, let alone the technical measurement of individual performance parameters.
- Verified the availability of Energy Label and Ecodesign information for Topten models in selected internet shops. More than 50 on-line shops were visited, focusing on white goods, TVs and lamps. The assessment showed that even online shops with high market shares (well established

ones) did not always properly display the energy efficiency data. The various mistakes were monitored

Figure 2 –Topten selected TVs in Italy: Evolution of Power and Energy Efficiency Index (EEI) over time, for different screen sizes. While the screen size has a huge impact on energy consumption, EEIs show that the smaller size models progressed more towards better energy ranking than larger screens.

Figure 3 - Energy label information display for Topten products in online



This component also covered the development of partnerships between Topten Act partners and 'multipliers', i.e. stakeholders that help improve the impact of the project. A specific focus was put on:

 Manufacturers that participate in the quality of the displayed Topten information: All Topten teams have made contacts with manufacturers at the national level and developed their own network. More than 380 manufacturers all over Europe were contacted and informed about the project.

Figure 4 – The Pro sections of the Topten websites propose Topten guidelines for professional procurers.



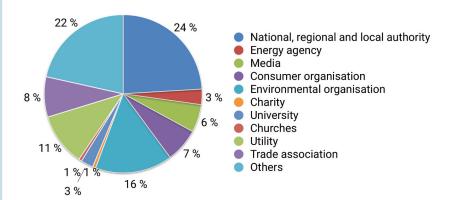


Figure 5 - Share of Topten Act partnerships established by type of multiplier

- Professional buyers, whether from the public or the private sector who buy large quantities of products and act as prescribers in many domains: A specific "Pro Section" on the European platform enriched with numerous advice and documents $\circ f$ which procurement guidelines for 12 product categories including technical specifications that can easily be copied and pasted in call for tenders, and simple tables guiding costing scenarios covering the purchasing price, the planned use pattern and the related operational costs over the lifetime of the products. This "Pro section" was adapted in 13 for the national Topten websites who now propose tailored information to professional buyers.
- Partners also worked with more than 150 Multipliers who are crucial to increase Topten. Collaborations were established with different types of organisations, from national authorities, consumer associations, media, utilities, professional unions and others (see examples of these partnerships in section C below).

4 - National Dissemination and Exploitation - Coordination: Energy Saving Trust

Thanks to the solid analytical basis developed in the previous components, the Topten national teams have worked to ensure this information actually reached consumers through a suite of dissemination activities.

In 16 countries and on a European platform, a lot of information was pushed in national languages to wide array of publics.

• More than 21 000 selected products a displayed on line with their features.

 Selection methodologies and advice tailored for each products on how to chose and how to use efficiently appliances are also published.

Most communication activities are implemented at national level by the Topten teams in order to make the Topten website known and visited. They concentrate on the media: without paying for publicity, the more Topten is quoted in printed magazines, daily newspapers, on the radio, TV, on the Internet... the more visitors will browse on Topten, get to know the site, the concept and the stakes about energy savings in their homes.

At national level, Topten teams regularly make interviews with journalists on their Topten site, on specific products, and on wider issues as recognised experts able to popularize complex issues; they publish press releases and organise press conferences, make presentations at conferences and fairs, organise the publication of posters and leaflets sometimes targeting specific target groups such as procurement officers, link Topten with national campaigns on energy savings and climate change mitigation.

Topten Act achieved coverage in over 1 000 media pieces and put out 90 press releases. As a result, over 140 Million media contacts were reached⁷.

Another result is the number of visitors attracted to the Topten websites across Europe. Their number was monitored on a monthly basis together with usual web and SEO indicators, with the objective to monitor the project but also to learn from comparisons between countries, between media events generating traffic, etc.

5 - Engaging retailers - Coordination: Ökozenter, Bush Energie

The Topten Act project focused in particular on working with retailers who are key to the Topten goal of transforming the market, for two main reasons:

- They 'edit' the choice of products available to consumers by deciding what is available in their shops and websites;
- They have a direct relation with consumers: at the point of sales and at the very moment of purchase.

The project's objective was not to increase overall retailer sales, but to support consumers to buy top energy-efficient products. The Topten teams therefore worked to promote brick and mortgage shops and one-line shops presenting Topten-selected energy-efficient products, and not the retailer in general.

Establishing energy efficiency partnerships with retailers is a challenging job: Retailers have other priorities; they generally look for impactful, often one-off communication activities that promote them generally and not just some of their products; administrative hurdles in large retailers, and lack of staff in small ones, often hamper the establishment of such partnerships. Despite these difficulties, many Topten partners managed to establish 185 partnerships with retailers to help them choose and promote top energy-

Table 2 - Topten Act media coverage

Туре	Number of pieces
Print article	455
Web article	438
TV appearance	30
Radio slot	33
Newsletter	50
Press release	90
Paper (e.g. confere	nce, academic) 19
Other	29
Total	1 144

Table 3 - Topten Act Web visitor statistics

Topten web	visitors numbers
	2015 - 2018
Users	5 377 314
Sessions	6 430 395

^{7 -} Person potentially in contact with a Topten in the media, given the readership and audience of the media in which it featured.

efficient products. The objective was to encourage them to include Topten products in their shops and on-line catalogues and to present them prominently and possibly monitor the sales – many retailers used the Topten label in stores, online, in print materials. In some cases the Topten teams delivered training to the retail staff

When retailers were not interested in collaborating, the Topten teams facilitated consumer purchases by providing direct links to top energy-efficient products on retailer websites. The business of directing visitors towards retailers is commonly known as 'affiliate marketing', or 'referral marketing' was made possible thanks to the development and the implementation of a specific software, based on tools usually used by retailers. Over 40 retailers accepted, either directly or through their so-called "affiliate networks", to setup such links, sometimes also accepting to link back to the Topten websites, going one step further in the information of their clients on environmental issues.

6 - Impact monitoring - Coordination: Öko Institut, ADEME

The two main objectives of this component were to quantify the environmental and economic savings for society generated by Topten Act and to evaluate additional significant qualitative project impacts.

For each quantifiable project impact —energy savings; greenhouse gas (GHG) emission reductions; economic savings—, a bottom-up calculation was carried out: the impact of a single purchase (the energy, GHG or economic savings of buying an energy-efficient product over a non-efficient one) was multiplied by the estimated number of purchases induced by Topten Act activities.

To estimate this, a web-based visitor survey was implemented in two consecutive rounds to assess first the Topten information tool itself and secondly the behaviour of visitors (whether Topten has influenced their purchases), and the related reduction in energy demand and $\rm CO_2$ emissions. Factors to take into account other types of Topten activities (beyond visitors, e.g. working with manufacturers, retailers and large buyers) were also considered.

When the Topten teams speak at conferences, present the project to policy-makers, promote manufacturers' best appliances, undertake common activities with utilities, NGOs, retailers, etc. they have an influence – difficult to quantify but undeniable - on these stakeholders' decisions and strategies. This is why this component aimed at highlighting some of the Topten impact from a qualitative point of view (see section C):

 The Topten teams selected case studies that they considered as success stories, highlighting what the project brought to different stakeholders and markets. Success stories cover partnerships with retailers, supporting the work of public procurers, stimulating the political

- agenda, organising competitions for manufacturers and competition for retailers, supporting and organising rebate programmes, etc.
- These stakeholders could also express themselves and give their own point of view on the value that the project brought to them, thanks to 67 interviews that were undertaken by the Topten teams, crosschecked and summarised at the European level. They show a great appreciation of the Topten Act work that was sometimes crucial for their activities, that stakeholders have many suggestions on how to improve the value of the project to them and their own community, and that they presume the project will continue.

Figure 6 - Example of a twitter post encouraging the Topten community to vote for the project and linking to the Topten presentation video

7 - Communications - Coordination: ADEME, Bush Energie

This component had the goal of assembling project results – e.g. make sure all Topten teams had developed and shared info graphics and factsheets disseminating their messages and activities – and promoting the project's overall results (more than its activities at the national level).

At European level, the promotion focused on the www.topten.eu portal and the "Best of Europe" results. The project was widely promoted at conferences and meetings with decision makers, manufacturers, consumers and public procurers. A total of 13 papers focusing on market transformation, technical innovations and impacts of European and National energy efficiency regulations – mentioning Topten Actwere presented at two eceee Summer studies (2015 & 2017) and two EEDAL conferences (2015 & 2017).

Topten Act was selected amongst hundreds of applications as one of the three finalists of the EU Sustainable Energy Week Awards 2017 in the category "Consumer"; as such the project won the making of a professional video on Topten that was communicated to the European public during a European communication campaign on the Topten websites and on the social networks.







Figure 7 - The European coordinator from ADEME receiving their EUSWE finalist award in Brussels (Therese Kreitz and Sophie Attali)

Topten – A global network

Topten websites need time to be established at national level and become well known. By covering several product groups and engaging in continuous communication they succeed in becoming widely known and generate considerable impact. No Topten website can "rest on its laurels". If the market surveys are not updated regularly, and / or if communication activities slacken, awareness levels and website visitor numbers drop sharply within just a few months.



Figure 8 – The European Topten Act Network during a team meeting in Luxembourg

Up until the end of 2008, Topten projects within the Euro-Topten network have been focusing on technical issues in order to ensure sound and up-to-date information for consumers and a credible ground to exchange information with manufacturers. From 2009, increasing communication activities have been developed to promote Topten to individual consumers, therefore contributing to consumer awareness on potential energy savings, and more recently towards retailers and public procurers - with a focus on office equipment. In the period 2012-2014, with 18 Topten websites working

together, more products categories were presented, generating more visits, reaching more retailers and partners. A product competition, including product testing, has been organised. Between 2015 and 2018, 16 Topten websites continued this work, focusing on leading consumers to acting and choosing the best products in shops, thanks to partnerships with retailers and the set-up of referral links toward on-line shops – thanks to the development of a new software.

During these last years, some Topten partners also developed a new Topten field of activity, working on professional and commercial cold appliances, for which the potential energy savings are very large.

TIG - Topten International Group

Next to the national and European Topten projects (implying dedicated budgets and work programmes), the association Topten International Group—TIG has been founded with the objectives to support the launch of and co-ordinate national Topten projects.

The "Topten umbrella" has thus been created, which provides a continuum in time to maintain international collaboration between national Topten projects

on the long run, and in space to welcome Topten projects from outside Europe and therefore allow for a better international understanding and the development of benchmarks. Any country can join at any time.

Each of the national Topten has its own web site, which can be accessed through the common portal www.topten.info. Euro-Topten partners and TIG members follow the Topten

Charter whose purpose is to guarantee Topten quality and neutrality vis-àvis the market actors (see appendix 1).

TIG oversees the continuous development of:

- 16 Topten projects in Europe accessible through www.topten.eu. At European level, TIG runs the project "Best of Europe", which addresses researchers and policy makers, presenting the best available technologies in Europe for specific products (see part 3.B). This concept identifies the most energy efficient products available across Europe, indicating the countries where they are marketed.
- Top10 China, which was launched on October 2010 in Chinese and English, and now presents 18 product categories www.top10.cn
- Topten Chile (top-ten.cl) and Topten Argentina (toptenargentina.org) were launched in 2015 and each present a vast number of product categories.
 Topten Brazil will be officially launched in February 2019.

As an example of joint international level activity between WWF and Topten International, the 2 organisations will host in September 2018 a webinar on "Energy efficiency and the cooling imperative: Tapping the synergies with the HFC refrigerant phasedown under the Kigali Amendment".



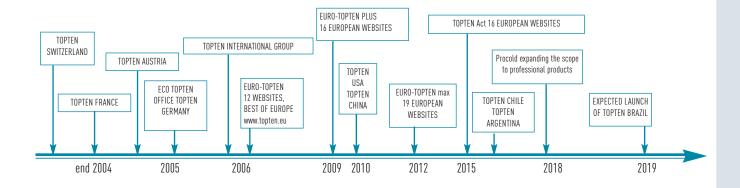




"Topten is a professional expert partner for WWF to address climate change, and more specifically mitigation through energy efficiency. WWF greatly appreciates the high credibility of Topten, including its market development knowledge, and technical expertise, and its ability to transform this into impactful policy advocacy activities and accessible consumer awareness information"

Bella Roscher

Senior Manager, Climate & Energy WWF Switzerland



3

Topten's achievements

Find out best products in Europe

Cold appliances

- Free standing refrigerators
- · Built-in refrigerators
- Chest freezers
- Upright freezers

Washing machines

Dishwashers

Tumble driers

- Residential use
- · Semi professional use

Vacuum cleaners

Cooking appliances

- Ovens
- Range hoods
- Hobs
- Coffee machines

TVs

Air conditioners

Energy saving lamps

- LED lamps
- LED spot
- Office Luminaires

Office equipment

- Notebooks & Tablets
- Computer monitors
- Laser printers
- Laser multifunction printers
- Inkjet printers

Cars

- Mini
- Small
- CompactMiddle class
- Upper middle class
- Vans 5 seats
- Vans 5 seats
 Vans 6 seats and more

Electric water heaters

Circulation pumps

Professional cold appliances

8 - Beyond the Topten own monitoring reports, see for example in Appendix 2 the logical framework developed by the University of St Gallen, and the INFRAS Topten Global Impact Assessment report undertaken in 2015 for WWF. **Multiple levels results and impacts.** Topten covers a wide range of activities, from detailed market and technical studies to dissemination to various target groups including the general public. This versatility offers many keys for evaluation. A city modifies its procurement policy; a utility decides on a rebate programme; policy makers favour ambitious regulations; NGOs communicate on energy savings in homes in order to link individual behaviour and climate change issues; retailers choose to adopt energy efficient positioning, revise their product range, get more clients via referral links; manufacturers develop new efficient models and strongly market them; consumers' demand for efficient models grow – Though these decisions depend on the strategies stakeholders decide to adopt, Topten may weigh, more or less explicitly, in all of these decisions transforming markets.

Within the market transformation toolbox, Topten is considered as a "soft measure", a measure that definitely impacts the market on crucial aspects: it is a market shifter, a facilitator, an education tool, a decision-making aid. The resulting number of saved kWh can be best quantified in the framework of a structured and comprehensive evaluation project.

Several evaluation studies have been carried out in order to evaluate Topten's multiple impacts⁸. These studies, and the visitor study implemented during the Topten Act project, confirm that the estimate of 350 kWh savings (over the lifetime of purchased products) per unique visitor on the Topten websites is a very reasonable and conservative one. In addition, impacts on manufacturers, retailers, professional buyers and policy makers should also be considered as they frame the market and its evolution.

When the European Topten websites gather 1.5 Mio visitors a year, it means 564 GWh primary energy savings are triggered each year. If all the impacts are considered, the savings triggered each year reach 1 072 GWh. This corresponds to saving more than 60 Mio € per year, i.e. roughly the electricity consumed in a year by 55 000 European citizens.

The monitoring activities undertaken within the framework of the Topten Act project confirm other important trends:

- A constant growth of the websites' contents (in number of product categories).
- The fact that all Topten projects were able to strengthen their selection criteria for several product groups – showing that the best on the market have evolved positively enough to look for even better performance.

Next to the deliverables of the Topten Act project, Topten brings about three major positive impacts, which all together contribute to save energy.

- Visitors get to know very quickly and simply about best appliances, they
 can choose and buy those best products in one more click. They save
 energy and avoid CO₂ emissions.
- The www.topten.eu portal has enabled the Topten partners to develop synergies and develop the "Best of Europe" activity which identifies best available technologies and presents the status quo on efficient products.
- Through their daily activities, the Topten teams generate substantial
 positive impact and play a range of market functions that add value for
 the full range of market actors: consumers, manufacturers, retailers,
 procurement officers, policy makers, utilities, the media, NGOs. These
 three major types of impact are detailed below.
- **3.A** Topten available to millions of people

The best indicators of the vitality of a project largely based on internet are the number of visitors, together with the number of quotes in the media.

Notoriety can only result from the intensive Topten teams' communication activities. A deficit in communication activities means fewer visitors, less interest from manufacturers, and from large-scale buyers and less credibility, this is why the Topten teams have actively worked to reach over 142 million readers, listeners and viewers, and more than 5.37 Mio web visitors over the 3.5 years of the project.

The number of web visitors is sometimes difficult to assess, due to data discrepancy from one web analysis software to another. Topten partners have worked on harmonizing the method: the majority uses today the least "optimistic" tool, which leaves out random bots hits, but some webmasters use other software, with different metrics. It also depends on many external factors that do not fall under Topten's control: the public's general

awareness and sensitivity to energy, environmental issues changes according to the international context (economic crisis, climatic catastrophic event, raise or drop of oil and energy prices...) and political agendas; the fact that media follow trends and have the final say for what they publish even if Topten provides high quality material; the varying degree of interest and willingness of partners to collaborate with Topten; etc.

Across the European media

Regarding the quotes in the media, few Topten teams have the means to do an exhaustive follow-up and assess the value of their media coverage, but all try to keep track of the number of "media contacts" – i.e. how many times their Topten project is being mentioned in the press, on the radio, the TV, on the internet etc. and how many viewers/ listeners or spectators are covered by each of these mentions.

- Circa 130 000 average monthly visitors for the Topten Act partners' websites
- More than 1.5 Mio unique visitors attracted by the Topten Act partners' websites and its portal per year and more than 5.37 Mio for the 3.5 years duration of the project
- More than 142 Mio readers / listeners / viewers had a media contact with Topten in the 16 countries over the project's duration



Six Topten countries trigger more than 5 Mio Euro worth of press coverage

Without paying for any advertisement, Germany, France, Italy, Poland, Spain and Switzerland monitored their press coverage: they were successful in gaining repeat coverage with large national and regional publications such as Stuttgarter Zeitung, Neue Welt, II Sole 24 ore, Donna Moderna, Supertele, Réponse à tout, 20 Minuten, Saft &Kraft, or Izolacje. The total value of the press coverage about Topten in those 6 countries was 5 300 384 €. This represents a huge amount of added value to the project both in these countries and overall.

"We are motivated to collaborate with Topten, an internationally well recognised organisation which shares many common goals.
Topten increases knowledge of TCO Certified among private and institutional buyers."

Annika Overödder

Market Developer Sustainable IT at TCO Certified

2015 Tumble drier sales



3.B www.topten.eu Portal and Best of Europe

- The portal www.topten.eu is an axis for all Topten projects: it provides access to the national URLs, to the Topten Pro section for professional buyers, information on the Topten project, and also proposes a specific international activity: "Best of Europe".
- Best of Europe targets policy makers and researchers with up-to-date information on the best products available on the European market. The objective here is to provide explicit and transparent information on best available technologies and the status quo on energy consuming products on the European continent.

The information is displayed in the Topten user-friendly way (quick access to the information, various functionality of the products, etc.); additionally, the site provides global market analysis and recommendations for policy makers. These comprehensive product information overview fulfils two main functions:

- Best of Europe supports the national Topten teams:
- As a key source of information: teams starting to benchmark a new product use the European selections as a market comparison basis, they benefit from the already developed selection criteria, from information in English on the product itself, etc.
- As a quality control tool: information issued by manufacturers' headquarters
 can be checked in the field, in order to harmonize national Topten selection
 and best of Europe selections.
- Best of Europe provides explicit data on Best Available Technologies and their presence on the European market.

In a market covering 28 countries, Best of Europe is the only review of the supply of efficient appliances.

Eventually Best of Europe data are to be used for future policy design, labelling strategies, dissemination programmes, as a basis for standard harmonisation and the adoption of minimum efficiency requirements, and specifications for large-scale buyers. They offer the opportunity to coordinate a common understanding and empower decision makers to launch new initiatives promoting efficient products.

Topten helps revise european labels

The evidence on Best Available Technology published on www.topten.eu, accompanied by policy recommendations, supports regulation makers when deciding on performance levels for Label classes or on allowed minimum energy performance. Information on Topten and input from the Topten team contributes to more effective Ecodesign regulations in several cases, for example:

- **Tumble driers:** In 2015, 47% of all tumble driers sold in the EU had a heat pump (classes A to A+++). MEPS in the EU mandate that driers must meet class B requirements since 2016. In Switzerland based on Topten data and market analysis the national MEPS were set to minimum class A from 2012 and raised to minimum class A+ in 2015. If all driers sold in the EU in 2015 had been class A+, they would have saved 5.8 TWh over their lifetime.
- Washing machines: The European JRC preparatory study on "Ecodesign and Energy Label for Household Washing machines and washer dryers" refers nearly 80 times to Topten and reproduces a lot of its analysis and graphs. It presents Topten as one of the European and national ecolabels focusing on energy performance criteria, as one of the European consumer information portals (alongside Stiftung Warentest), as a source of information on market evidence such as benchmarks (also in China), sales data, market segmentation in Europe, price and costs elements but also feature analysis such as programme duration.

28

3.C Positive Impacts on target groups

With 12 years of steady international growth, Topten has built an unparalleled experience and represents a full educational and technical services package, a unique best practice database. In short, Topten serves as a genuine public service. Topten plays a range of market functions that add value for the full range of market actors. We have chosen to illustrate the Topten impacts through a collection of sample activities led by the Topten teams.

Consumers' full information

- A user-friendly interface to identify, choose and buy most efficient products
- Information on total cost: purchase price and energy bill minus incentives
- Information on the good use of products
- General awareness on benefits of efficient products for climate protection

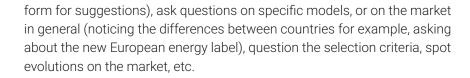
In Europe, 5.377 Mio visitors have used the Topten websites in the last three and a half years. Consumers regularly contact the Topten teams to congratulate them about the service, suggest improvements on the user friendliness of the site (e.g. Topprodukte in Austria offers a specific on-line

"We frequently use the EcoTopTen website and appreciate it very much. The product lists, for example, allow us to form a better overall view of certain product groups. Furthermore, the background information provided on the website serves as an orientation guide and has been very valuable for our work most recently as regards the editorial revision of our Internet texts on LED lighting."

Gerhild Loer / Stefan Nakazi

Consumer Association of North Rhine-Westphalia (VZ NRW)

Market Alotor	Topten Value Proposition
Consumers	User-friendly interface to identify most efficient products
	• Educate consumers on total cost (purchase price plus energy bill minus incentives) and good use of products
	Communicate benefits of efficient products for climate protection
Manufacturers	Support market introduction of new products
	Provide independent, objective marketing of products
	Channel incentives and increase demand for innovative products
Retailers	• Bring potential clients from the Topten websites directly to the product page at on-line shops, through referral links
	• Increase of high mark-up products' sales
	Position retailer as "trend setter", and build trust in the message against climate change
Large Buyers	Support formulation of procurement specifications and award criteria
and Procurement	• Ensure that very efficient products are available on the market (no pilot product, lower risk of unsuccessful calls
Officers	for tenders) from brands that are able to provide all associated services
	Reduce operating costs to enhance value-for-money
Policy makers	Provide real-time market data on the "best" products, with energy efficiency as a key criterion
	Pave the way for new and more stringent standard & label specifications
Utilities	Continuously identify the highest-efficiency products
	• Serve as a basis for rebate programmes
	Serve as a source of information for their clients
Media	Serve as credible, independent source of information
	• Issue regular updates
	Provide one-stop shop for broad range of product categories
NGOs & Institutions	• Concrete actions to illustrate their campaigns on sustainable consumption and climate change
	Material and information for their campaigns



Also organisations working with Topten underline the crucial role played by Topten for consumers. For example the Environment Department of the city of Lahr in Germany, appreciates that "EcoTopTen is oriented towards the needs of consumers. It is a flexible website providing clearly structured information"; For Eng^a. Paula Cristina Gomes from DGEG - Directorate General for Energy and Geology, "the most important component is the possibility to disclose the most efficient products on the market and to advise consumers, particularly in terms of conditions of use, maintenance and end of life".



Being part of an eco-consumption network

In Belgium, Topten is inserted in an "eco-consumption network", working hand in hand with 2 national organisations:

- -écoconso is the expert on sustainable consuming and energy efficient products in the French speaking part of Belgium. It reaches out to consumers via their own communication channels.
- VITO is a well-known research institute that underlines the strong scientific basis on which the best products are selected.

Collaborating with recognised and strategic experts and being at the heart of the Belgian ecoconsumption network are crucial to the success of the Topten initiative, as the Topten message can be relayed using all positive channels.

Topten adapts to consumer needs: boat motors in Sweden!



Sweden has among the highest number of boats per capita in the world, with around 600 000 outboard motors. The government is determined to speed up the transition from dirty petrol engines to efficient and clean electrical engines. It has therefore extended its existing rebate programme for Swedish consumers buying electrical bicycles, mopeds and motorbikes to those buying an efficient electric boat motor. The subsidy can go up to 960€ when buying an electrical outboard motor with a power rating corres-

ponding to a 5 horsepower or larger petrol engine. Topten Sweden is the only official site in Sweden gathering and analysing information about specific electrical boat engines where consumers can find concrete information on best motors; it also participates in consumer events to promote its list of best motors.



Engaging younger citizens for energy efficiency on the social networks

WWF Spain ran a consumer competition about refrigeration, consisting of an interactive photo competition on social media. Entrants were asked to send in pictures of their fridge and organised a popular vote. This helped engage a younger demographic and engage consumers on appliance efficiency. Prizes consisted of a folding bike and a solar backpack.

Manufacturers' marketing facilitator

- A support for market introduction of new products
- Independent, objective marketing of products
- A channel for incentive, and increased demand for innovative products

Throughout Europe, in their daily work, the Topten teams are in contact with hundreds of product managers, marketing and R&D staff checking data, availability, prices, etc. in order to promote best models – thousands of products are highlighted by Topten, following a neutral and transparent methodology.



"Since the issue of energy efficiency is of high priority to Electrolux, it is of

course very important for us that our products are listed on the EcoTopTen website for ecological forerunners."

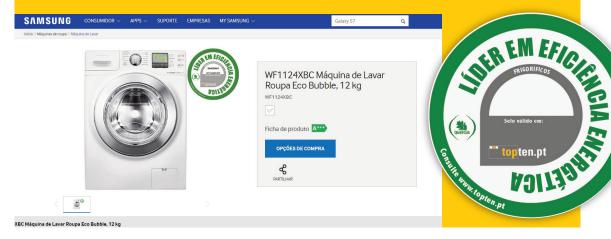
Marina Matke,

Electrolux, Product Management

Topten.pt Sticker

The sticker covers all the topten.pt categories (washing machines, dishwashers, cold appliances, monitors, printers, air conditioners, coffee machines, cars and lighting). The layout is sent in jpg format, to be used in promotional written materials or media, to be displayed on specific qualifying appliances. However they cannot be changed by the brands or used for other models or after the expiration date.

Today nearly 50 brands have joined this initiative, using the Topten sticker to highlight their Topten products.

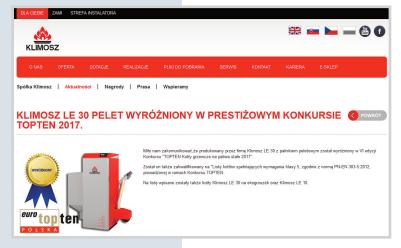


While **Topten Poland regularly organises manufacturer competitions** for efficient windows, under Topten Act, it organised 3 competitions for efficient boilers fueled with solid fuels (coal, biomass), in cooperation with the Polish Chamber of Ecology.



All boilers have been evaluated by a Competition Commission in terms of energy efficiency and emissions. The best units were listed into the Topten lists which include equipment and devices that meet the provisions set under the Regulation EC 2015/1189. Class 5 boilers can help fighting air pollution, which is a severe problem in Poland. Each competition edition was finalized with a grand celebration and the best manufacturers were awarded with a special diploma and allowed to place the Topten logo on the awarded equipment. The competition's results were presented to the Ministry of Environment.

TOPTEN - CLICK YOUR WAY TO ENERGY SAVINGS



"Depicting the EcoTopTen label allows us to show our users at a glance that a particular product is an ecological top product. The co-operation with EcoTopTen is a valuable measure for us to assist our users in making a good purchase decision by providing them with product information which is as complete as possible."

Sebastian Frindte.

www.oekotopten.lu

achetez malin! achetez durable!

idealo, Editorial department test reports

Retailers' objectives sales aid

- Direct referral links from the Topten websites to the best products on retailers' on-line shops
- Increased sales of high mark-up products
- Clear positioning as trend setter, trust in the message against climate change

Oekotopten, a label of excellence and a support to decision making

Oekotopten.lu has started its first partnership with retailers in 2008 with Luxembourg's largest retail chain "Cactus". Since then, partnerships have increased up to 49. Covering electronic stores (24), bike shops (12), shops for building materials (3) and kitchen stores (15).

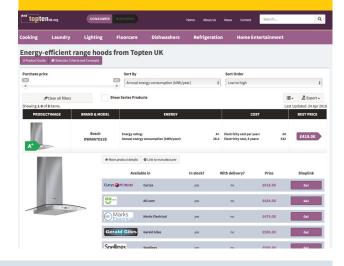
All Topten-compliant products listed on the Oekotopten.lu website are clearly marked in shops. Retailers receive the Oekotopten-label as adhesive or magnetic sticker. They can use for free the Oektoptenlogo in electronic format to customize their own advertising material.

Consumers find Oekotopten-labelled products in 70 points of sale in every corner of the country. All shops are highlighted on a map on the Oekopten.lu website. In addition, retailers can put a sticker on their door to make their partnership with Oekotopten.lu more visible to consumers.

The Oekotopten-team regularly visits partner stores to supply new documents, control the correct use of the label on site and inform about a tightening of Topten's selection criteria. Several staff training were organised in stores or at Oekotopten.lu.

Benefiting from the new European Topten software planed to facilitate consumer action, **Topten UK could engage in referral marketing**, first linking to 2 retailers but quickly expanding to 11 retailers. Topten models can be - with just one click - seen directly at a series of on-line retail shops.

AO.com recently invited Topten UK to join its online referral platform where Topten will receive commission for "click throughs" resulting in a product purchase. Thanks to diverse referral partners, Topten UK could establish shop links for a wide range of product categories – from large household appliances, to TVs and lighting.



Training workshop and e-learning course for Retail Apprentices



Topprodukte carried out workshops for apprentices (age 16-26, aiming at working in the retail sector) which contained theory parts on domestic energy consumption and its impact on climate, as well as the positive effects of energy saving and energy efficient household appliances for society, but also for personal use. Sessions were interactive, inviting apprentices to:

- Make product comparison from the Topprodukte.at best performing lists, learning about the differences in terms of running costs over the expected lifetime for best performing models and the anonym inefficient product
- · Study light bulbs' packaging
- · Play an EU energy label matching game

Topprodukte also developed an innovative software "KnowledgeFox micro course" for the same target group. Learning content is presented via knowledge cards and in the optimal order to ensure rapid knowledge acquisition. Students can use it for free on their smartphone, tablet or laptop, or at the school workspace, and get prepared for their final apprenticeship examination. The micro course is called "Apprentices as Efficiency-Multipliers". It consists of 25 knowledge cards surrounding the theme of "energy efficient household appliances".



Topten Act for procurement

- Support in the formulation of procurement specifications and award criteria
- Assurance that very efficient products are available on the market (no unsuccessful call for tenders), from brands that are able to provide all associated services
- Reduction in operating costs to enhance value-for-money

• Integration of lifetime costing into tender evaluation • Sharing experience and expertise to fine-tune procurement Guidelines Targeting professional buyers, Topten Lithuania has developed an "e-book

for green procurement". It gathers in one document key information on green public procurement regulations, good practices in Lithuania and the EU, useful links, examples of ready to use tools such as life cycle costs

calculators, Topten product lists, labeling systems, product comparisons and advice. A number of public institutions with decision making competencies were actively involved in the preparation and dissemination of the e-book, especially the Ministry of Energy, the Ministry of Environment, the State Consumer Rights Protection Authority, the Public Procurement Office and a large Energy Utility. The e-book is available on their official websites, and was promoted via their social media channels.

Topten project is useful for setting GPP criteria; we use some information published on the Topten website for the definition of the Minimum Environmental Criteria. We also involved some Topten experts in the GPP working groups for IT products and professional refrigerators used in catering services and, in the future. we will involve them to define GPP criteria for other product groups.

Riccardo Rifici.

Head of the GPP office at the Italian Ministry for the Environment.



Training Public Procurers

ANCI Lombardia is the regional branch of the National Association of Italian Municipalities. It represent the needs of 1 400 municipalities and provides support on a number of topics, among which renewable energy and energy efficiency.

Eliante - who runs the Topten project in Italy - and ANCI Lombardia have signed Memorandum of Understanding to cooperate and help local administrators in implementing ambitious procurement criteria.

Topten Italia drafted a template of "Delibera di indirizzo" (a "quideline resolution"), which, once approved by the City Council, forces procurers, usually municipal officers, to purchase products accordingly. The "Delibera di indirizzo" can be easily adapted to the needs of each municipality, since the criteria are presented as attachments that can be followed separately. The process and technical questions on products were discussed during a workshop with procurers.







Every second year, the experts from Guide Topten in France have an informal exchange

with professional buyers from UGAP, the French central buying agency for public procurers. Together with the responsible for sustainable procurement, buyers are briefed on regulations' and standards' evolution, on the market state of the art for most energy efficient models and on how to integrate new approaches in procurement processes, such as total cost calculations.

The European Energy Award supports municipalities willing to contribute to sustainable energy policy and urban development through the rational use of energy and increased use of renewable energies. Under different



national language names - Energy Stadt in Switzerland, Cit'ergie in France, Città dell'energia in Italy, Pacte Climat in Luxembourg, etc. more than 1 500 municipalities are labelled because they implement sustainable policies.

Topten is part of the specifications of the Energy Award in several countries, either as advice or as mandatory condition to get the label. For example, the Swiss guideline endorsed by the ministry of energy, refers to Topten in its IT section; The city of Zurich which owns 10 000 flats that are rented with full equipment buys appliances according to the Topten criteria.

"Topprodukte.at is an ideal tool that can be used for energy advice activities for private individuals and companies. The information and recommendations are objectively processed and manufacturer-neutral"

eNu - Energy agency of the regional government of Lower Austria.

Impacting policy

- Real-time market data on the "best" products, with energy efficiency as a key criterion
- Indications on the way for new and more stringent standard & label specifications

Policy makers can use the Topten ready-made analysis for several purposes: to base their policy decisions (at national and European levels), to promote Topten to their citizens or to set an example.

In Romania, Topten was selected to be presented at the "National Research and Invention Stock-Exchange", an exceptional event organised by the Ministry of Research and

Innovation and the Chamber of Deputies at the Parliament Palace in Bucharest. This event welcomed business representatives, members of the parliament, experts and the press, and was evaluated as one of the best ways of promoting the results of scientific research to the economy in the spirit of Romania's sustainable economic development.





Topten as a basis for national policy tools

In June 2016 the German Federal Ministry of Economic Affairs and Energy launched the National Top Runner Initiative (NTRI) as part of the National Action Plan on Energy Efficiency. The NTRI targets manufacturers, retailers and consumers; It aims at communicating the benefits of energy-efficient products and at encouraging companies and individuals to develop, market and use energy-efficient and energy-saving products.

Within the NTRI and the campaign "Deutschlands macht's effizient" (Germany makes it efficient), a Product finder was created to help consumers find energy efficient appliances.



EcoTop**Ten**



topten.ch



EcoTopTen was identified by the Federal Ministry as the most suitable database on energy efficient appliances in Germany and the product finder refers to EcoTopTen for its recommendations on energy efficient products.

des Deutschen Bundestages

Topten research benefits to several stakeholders and fulfils several policy objectives

Filament LEDs are available on the European market since 2015 and achieve outstanding luminous efficacy and lifetime when compared to halogens or CFLs. Topten Switzerland organised a test of 9 filament LED models regarding lifetime, energy, light distribution and on/off switching cycles. The project was co-funded by several stakeholders, each with a specific interest in the benefits:

- EKZ, the utility of the Canton or Zurich, preparing for a potential rebate programme
- The Swiss Federal Office of Energy in charge of market surveillance
- A radio and TV consumer show looking for quality information on energy

As a result of the test and of the TV show, retailers – hence also benefiting from the Topten research - decided not to sell anymore the four insufficient models. It was also possible to highlight the very good results of some models confirming that good filament LED lamps are a good alternative to halogens and CFLs.

Political debate on sustainable consumption in Norway

Naturvernforbundet who manages Topten in Norway co-hosted with the Norwegian Consumer Agency, Restarters Oslo and Deichmanske library a "restartparty" for electronics, combined with several talks highlighting energy efficiency,

electronic waste, circular economy and planned obsolescence, as well as a political debate regarding these

While electronic equipment brought by the public could be fixed for free, several debates were organised, including a political debate with representatives from the main parties (in opposition or supporting the government). Political responsibility for a sustainable consumption in the future was at the heart of the discussions: what political tools can be used (taxes, prohibition/bans, subsidies etc.) and what political goals each party had regarding electronics, consumption, energy and resource efficiency.



Utilities' reference

- Continuous identification of the highest-efficiency products
- A basis for rebate programmes
- A source of information for their clients



During the heat wave of the summer 2018. Topten Switzerland communicated on the savings reached when using a fan (using 50 Watt) instead of an air conditioner (using 1 000 Watt).

Topten organised a rebate programme for the utility of the canton Zurich (EKZ) which gave a 30% cash-back to their customers for the purchase of all fans bearing the Topten logo. This rebate programme ran for three months from

June to August 2018, with all information available on the Topten website, which presented as well direct shop links and daily prices from each product on various online shops offering the product. On peak days, the energy efficient ventilators in the outlets were sold-out.





ENERCOOP, a cooperative selling electricity made only from renewable sources, by answering questions from their clients on the topic of efficient appliances. All clients have access to the ENERCOOP wiki site on energy savings and the Topten team is notified whenever a question concerns appliances.

Vous souhaitez acquérir de l'electro-ménager mais ne savez que choisir ? Le <u>Guide Top Ten</u>, référence dans le domaine des produits à faibles nuisances environnementales et à follation de la contraction de vous propose des cons personnalisés. Pendant 2 mois, po vos questions sur le forum du wiki économies d'énergie. Un expert Guide Top Ten répondra à toutes



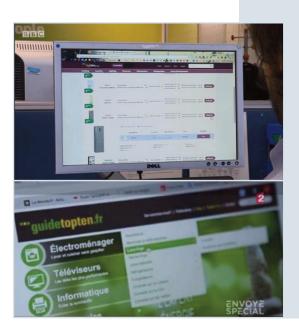
Topten is a well-known media source

- A credible, independent source of information
- Regular updates
- One-stop shop for a broad range of product categories, Topten provides media with dependable and straightforward resources through the promotion of the products' selection (press releases, press conferences, etc.) and ready-to-use editorial material for news articles, journals, TV and radio reports. The resulting direct referrals by major media outlets and on-line consumer resources (e.g. Google) are in turn a major boost to Topten websites traffic.



Topten "Minutes" broadcasted in Portugal

The Topten team in Portugal regularly develops Topten information for a TV programme called "Minuto Verde" (Green Minute), which has over 400 000 viewers on average: the Topten website is used and quoted each time the Green Minute focuses on products consuming energy. During the Topten Act project, five of these "Minute" were dedicated to Topten on lighting, air conditioners, vacuum cleaners, washing machines and the launch of the revamped Topten.pt website, with a demonstration on how to use it.



Topten used by high circulation newspapers and popular TV shows

In most countries Topten is used as a source of information by the media, either in the framework of regular partnerships or for specific publications & shows - Examples showed here: 20 minuten Switzerland, Rip Off Britain TV show in the UK, Envoyé Spécial TV show in France.



NGOs' and institutions' campaigns raising awareness with Topten

- Concrete actions to illustrate their campaigns on sustainable consumption and climate change
- Material and information for their campaigns

Most Topten projects benefit from a close relationship -and in some cases are co-managed- with a consumer organisation or an environmental NGO. For Topten, this feature is essential to reach the general public and public authorities, and to gain support (be it in the form of money, data or referrals in the media); for these NGOs Topten brings information and a live illustration of actions that can be implemented to mitigate climate change and consume in a judicious way – two major objectives of these stakeholders. Likewise, many partnerships are developed with institutions, themselves leading awareness campaigns and looking for synergies with concrete projects enabling citizens to act (e.g. "Klimaaktive" in Austria, "Earth Hour" in many countries, etc.).



The Lithuanian National Consumer Federation (LNCF) who manages Topten in Lithuania, has produced 3 short, clear and easy to understand videos to answer consumer's questions on energy: How to choose an electricity supplier? How to understand the Energy Label? How to save

electricity at home? Etc. **These videos**, coproduced with experts from several governmental institutions, **are embedded in 64 municipalities' websites**, and more non governmental organisations to which the videos were proposed free of charge.





NGOS and institutions united for Global Sustainability - Green Friday Campaign

In November 2015, on the eve of the commercial "Black Friday", a day of record sales in Spain, three Spanish environmental and Social NGOs - WWF, Ecoserveis and Ecodes - organised a press conference in the headquarters of the European Commission in Madrid and with its support, in order to present the environmental version of Black Friday, that was named "Green Friday".

The three organisations presented projects funded by the European Commission - Topten Act, ecoGator and Marketwatch - constituting the base of the "Green Friday" campaign and presenting important elements for the way towards to energy efficiency and responsible consumption. The press conference was followed by a social media campaign under the slogan "Green Friday - We don't reduce prices, we reduce costs", targeting consumers and urging them to think before buying, and to buy efficient products, when it comes to products that consume energy.

In **Czech Republic**, Topten produced a series of infographics that are published on the Advisory Section of the **State Environmental Fund** - called Nová zelená úsporám. This Fund is in charge, among other tasks, of public funding for efficient heaters, thermal insulations and similar projects. The series of 12 infographics bear the logos of the State Environmental fund, the Czech Topten (Úsporné spotřebiče), Topten Act and the EU emblem. They were promoted on the social media.



Topten: The keys to success

- Competent, neutral, independent: energy experts with no links to manufacturers nor retailers design selection criteria
- Transparent selection: all methodologies are available on-line
- Only very best products are presented: work and budget concentrate on efficiency
- Comprehensive variety of categories to attract visitors: hundreds of product categories and thousands of products
- Information on purchase price and global cost (with energy bills)
- Beyond energy features, market features that interest and attract consumers: photos and main functionalities of products
- Simple, fast and up-to-date: direct access to product information on what is available in shops
- Advice for good use of the products
- Analytical studies of the market and technical expertise for specific products

Tobten

- 1. Topten is a concept with tools for end-users to speed up sales, focus on quality and lower barriers for market access of energy efficient equipment and respective information in households, offices, buildings, industry, transportation, etc.
- 2. Topten is internationally coordinated by the Topten International Group (TIG: a non-profit association, based in Zurich, Switzerland) in order to increase influence on energy efficiency standards, to safeguard high quality of operations, to maintain independence, to accelerate exchange of experiences and data and to provide access to tools and web-systems for national Topten organisations. TIG safeguards the use of the Topten concept worldwide. It will protect international property rights of Topten.info, its name, logo and web content.
- 3. Topten wants to move national and international markets, individual manufacturers and retailers, organisations of trade and manufacturers, international standard organisations, etc. to contribute to the efficient use of energy by providing, designing, building, marketing and operating more energy efficient equipment.
- 4. In order to achieve this goal Topten has led by TIG the following tasks:
 - a. Research in national an international markets for the best products.
 - b. Building and updating databases for energy efficient equipment.
 - c. Design of criteria catalogues for the Topten-qualification (cut-off line). d.Providing independent testing facilities.
 - e. Support of procurement programmes for energy efficient equipment.
 - f. Design and hosting of a series of national and international web-sites.
 - g. Support of design and distribution of print products with information on energy efficient equipment, etc.
 - h. Training for personnel working in national Topten projects.
 - i. Contacts to national and international organisations to influence the sale of more energy efficient equipment.
- 5. Topten works in cooperation with, but is independent of, equipment manufacturers and retailers and their respective associations.
- 6. Topten is not engaged in the sales of equipment that is mentioned on any Topten site.

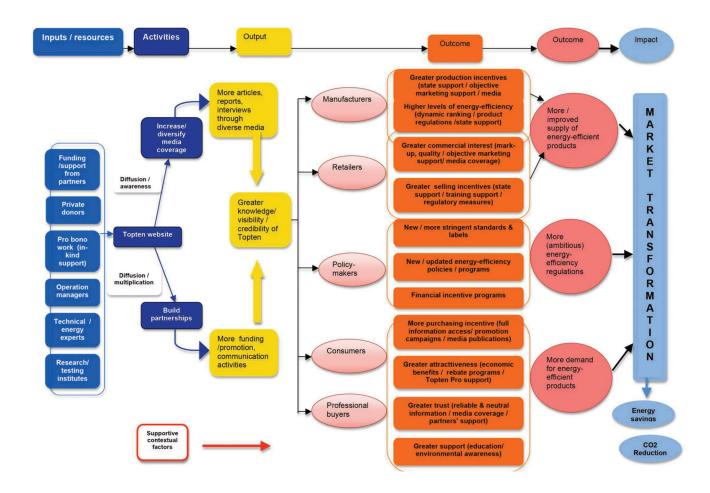
Charter

- 7. Topten is organised nationally in order to better understand and guide market conditions.
- 8. Topten is financed and supported by national, regional, local and international governmental agencies, consumer and environmental NGO's and other partners (utilities, media, etc.). No sponsor shall be directly linked to the manufacturing and selling of energy using equipment displayed in Topten.
- 9. TIG does not normally support national Topten projects with funds except in developing countries under special agreement.
- 10.TIG chooses, gives accreditation and supports national organisations that want to use and distribute Topten in their country according to the Topten Charter. For the process of accreditation the prospective national Topten organisation has to setup its national partners, funding, operation managers etc. and provide the relevant information to TIG. The accreditation procedure is a transparent process with a peer review.
- 11.TIG tries to avoid having more than one national Topten organisation in a given country / or in a given market.
- 12.All national organisations accredited by TIG are members of the Topten International Group and are linked to www.topten.info. They pay an annual membership fee. They can use the Topten logo, operate their national Topten system and have access to the Topten database and international market research.

Since September 2006

Topten impacts logical framework, in "Topten International: Developing comparable measures to evaluate impact on market transformation towards energy efficient products"

Chloé Burkhardt, University of St Gallen, 2012



WHO IS TOPTEN

The Topten Act project is led by energy specialists, environmental NGOs and consumer associations and consists of the following partners







AEA - Austrian Energy Agency, Austria



BBL - Bond Beter Leefmilieu Vlanderen vzw, Belgium



SEVEn: The Energy Efficiency Center, Czech Republic



Guide Topten, France



Institut für angewändte Okologie Institute for Applied Ecology

Oeko-Institut e.V., Germany



Eliante, Italy



LNCF, consumer federation, Lithuania



Oeko-Zenter, asbl, Luxembourg







Polish Foundation for Energy Efficiency

FEWE Polish Foundation for

Energy Efficiency, Poland



Quercus, Portugal





(*

Norges Naturvernforbund,

Norway



Swedish Society for Nature Conservation



energy®

ICEMENERG, Romania

WWF Spain, Spain

SSNC, Swedish Society for Nature Conservation, Sweden

Bush Energie, Switzerland The Energy Saving Trust, United-Kingdom

trust



WWF Switzerland



TCO Certified, Sweden

european energy award

Steering Committee Members

The European Energy Award, European network



ECOS Standards, European network



eceee, European council for an energy efficient economy



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