Appliance Energy Cost Indication

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Content

1 Brief overview

The European Project 'YEARLY APPLIANCE ENERGY COST INDICATION' (YAECI) aims to visualise the yearly energy costs of household appliances at the point of sale in 11 European countries. This action will lead to an increase in sales of energy efficient household appliances, and consequently contributes to the European Energy Efficiency objectives.

This brochure is intended mainly for retailers and draws attention to the importance of the running costs for customers, methodology of calculation and frequently asked questions.

2 Importance of operational costs for customers

Consumers are usually quite sensitive to cost effectiveness in their purchase decisions and there is an increasing demand from buyers to learn whether a more energy efficient appliance will in fact pay off in the near future or whether the cheaper option might be the better choice. By showing the **average yearly energy costs of the appliance**, the "Energy Indicator", besides the purchasing price helps consumers to make the best choice for themselves in the long-term, both from a financial and an environmental point of view. In countries where the costs of water consumption of "wet appliances" are substantial, consumers might also want to know the "water indicator" figures. Many retailers and retailer chains throughout Europe have expressed interest in providing their customers with this additional service, and by doing so gain an advantage over their competitors.

The YAECI project has developed a European database in which manufacturers/suppliers of household appliances can enter the energy and water consumption data of their products. A standardised calculation method leads to figures in Euros or local currency of the annual energy (and water) consumption costs of an appliance. The method used for calculating the energy cost indicator is based on the European energy labels for household appliances. Suppliers and in some cases the retailers can enter these details into the database.

The appliance categories covered by the YAECI project are:

- washing machines,
- combined washing and tumble dryers,
- tumble dryers,
- dishwashers,
- televisions,
- refrigerators,
- freezers,
- air conditioners.

The total energy cost is referred to as the "Energy Cost Indicator".

3 Methodology

3.1 Energy costs calculation

Calculating the annual running costs of products in terms of energy used is quite simple. All you need to know is the average cost of electricity per kWh and the annual energy consumption of the household appliance according to the energy label. If there is no information about annual energy consumption (i.e. for combined washing and tumble dryers), the energy consumption

per cycle the one cycle according to the old energy label is multiplied by the appropriate number (i.e. for 160 combined washing and tumble dryers). The following formula is used for energy costs calculation:

electricity price × annual electricity consumption = annual energy costs

The detailed formulas for each type of appliance:

product category	average electricity cost	multiply	annual energy consumption on energy label?		result
unit	**€/kWh**	×	**kWh**	=	**€**
washing machines	0.125€/kWh	×	yes, or multiply consumption of one cycle shown on the old energy label by 220 cycles	=	annual energy cost in € or local currency
combined washing and tumble dryers			no, multiply one cycle shown on the old energy label by 160 cycles		
dishwashers			yes, or multiply consumption of one cycle shown on the old energy label by 280 cycles		
televisions			yes		
refrigerators			yes		
freezers			yes		
air conditioners – split and duct			yes (sum of the consumption in the heating and cooling function)		

3.2 Water costs calculation

When applicable, the water costs are added to the annual energy costs or displayed separately. The calculation of water costs is similar to the energy costs.

water price × annual water consumption = annual water costs

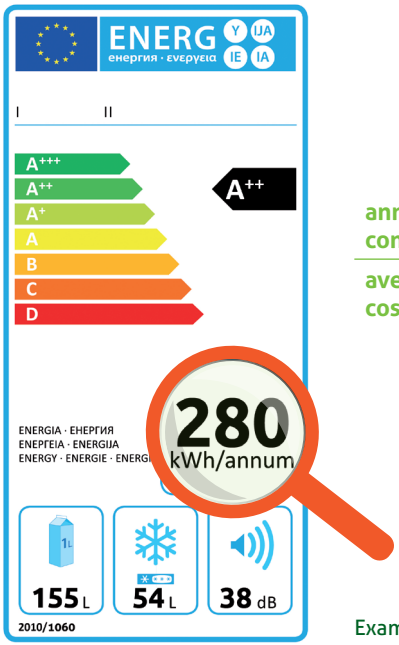
The detailed formulas for each type of appliance:

product category	average water cost	multiply	annual water consumption on energy label?		result
unit	€/kWh	×	kWh	=	€
washing machines	0.0028 €/litre	×	yes, or multiply consumption of one cycle shown on the old energy label by 220 cycles	=	annual water cost in € or local currency
combined washing and tumble dryers			no, or multiply consumption of one cycle shown on the old energy label by 160 cycles		
dishwashers			yes, or multiply consumption of one cycle shown on the old energy label by 280 cycles		

When applicable, the total annual energy cost is a sum of the electricity and water costs. Sometimes the water costs are shown separately.

3.3 Calculation Examples

Refrigerator



Important data that you need to know to calculate the yearly running costs

annual energy consumption	280 kWh
average energy cost per kWh	0.125 € / kWh

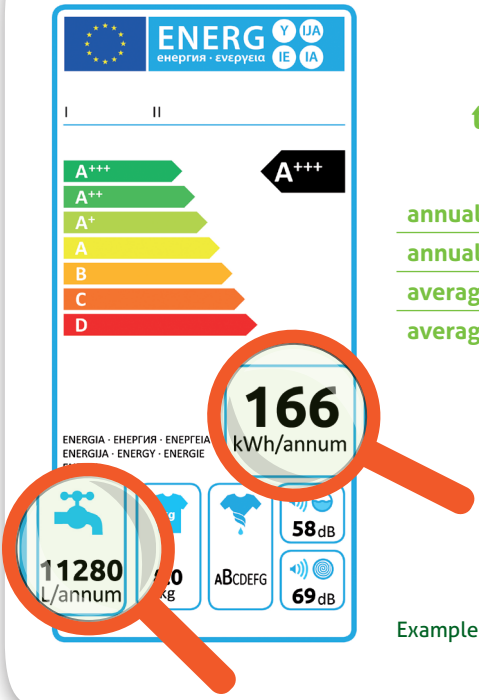
Example of the energy label for a refrigerator

Annual energy cost calculation:

Energy cost for the above example:

0.125 € / kWh × 280 kWh = **35 € / year**

Washing machine



Example of the energy label for a washing machine

Important data that you need to know to calculate the yearly running costs

annual energy consumption	166 kWh
annual water consumption	11280 litres
average energy cost per kWh	0.125 € / kWh
average water cost per litre	0.0028 € / litre

Annual operational cost calculation:

energy: 0.125 €/kWh × 166 kWh = 21 €

water: 0.0028 €/litre × 11280 litres = 32 €

sum: 53 € / year

3.4 Comparison between investment and operational costs

There are a lot of products in the shops and energy consumption differs considerably. The main benefit of displaying the energy costs is that it clearly demonstrates that an energy efficient product could save money in the long-term and i.e. that the product will pay off. Take the following example with a refrigerator. Here we compare a new product with the old one which you have at home.

Example of the 200 liters refrigerator

	B class	A+++ class
Annual energy consumption	425 kWh	170 kWh
Annual energy costs	53 €	21 €
Price	360 €	520 €
5 years energy costs including investment	625 €	625 €
10 years energy costs including investment	890 €	730 €
15 years energy costs including investment	1155 €	835 €

It is clear that the energy efficient product is favourable. The new A+++ refrigerator in the above example will save you 32 euros on your electricity bill per year.

4 Faqs and recommendations

Which shops are collaborating on the Energy Indicator?

On the project website, www.appliance-energy-costs.eu, in the section "Participating Retailers" you can find a list of shops using the Energy Indicator . By clicking on the national section, you can get more details about the participating shops and their activities in individual countries.

Where can you find the Energy Indicator?

The Energy Indicator can usually be found in the participating shops and e-shops on the appliance price tag alongside the purchase price or on a separate sticker.

Why is it useful to display the average annual energy and water costs?

Displaying the average energy costs in your shop makes it easier for customers to compare products. Consumption/ running costs makes it easier to compare things. As such, you, as the consumer, can make a well-informed decision when buying a new appliance. You as a retailer have the opportunity to sell more energy efficient appliances which usually have a higher purchase price compared to less efficient products.

For which appliances is the information available?

For all appliances with an average energy consumption of 100 kWh or more, typically for the products with an energy label. You will find the Energy Indicator mainly on the following appliances: tumble dryers, washing machines, dishwashers, fridges and freezers, televisions and in some cases on air-conditioners as well as washer-dryers.

What are the advantages of the Energy Indicator?

Consumers can make better comparisons. When planning to buy a new appliance, consumers base their decision on price and quality. But the purchase price is only part of the story. Some products may be more expensive to buy, but they are actually cheaper in terms of consumption. So a more expensive appliance may be the most economical choice after all and it is also good for the environment.

Are consumers ready to use the Energy Indicator?

Most consumers are interested in the energy costs when purchasing a new appliance. Research shows that a significant majority of those surveyed

(92%) believe that a period of 1–2 years is acceptable as a period in which costs can be recouped, and a little more than half (54%) feel that at least 2–3 years is okay.

5 National contact

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6 Further information

- **www.appliance-energy-costs.eu**
  YAECI project website, check for latest news and participating retailers
- **www.yaeci.eu**
  YAECI product database for retailers collecting the operational costs
- **wiki.yaeci.eu**
  The WIKI page containing all necessary information regarding database
- **www.topten.info**
  suggested source of energy efficient products information

Disclaimer

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Annual energy costs:

22€