GOOD PRACTICES IN SME

Energy efficient appliances

Designed by freepik

The following document was developed using European Union financing as part of the “Technical support for the promotion of energy audits and energy efficiency investments in small and medium-sized enterprises in Poland”. The opinions presented in this document should not be treated as the official stance of the European Union.

The project was financed by the European Union as part of Structural Reform Support Programme (SRSP) and realized by the Polish National Energy Conservation Agency (KAPE SA) in cooperation with the European Commission on behalf of the Ministry of Climate and Environment.

What are Energy Labels?

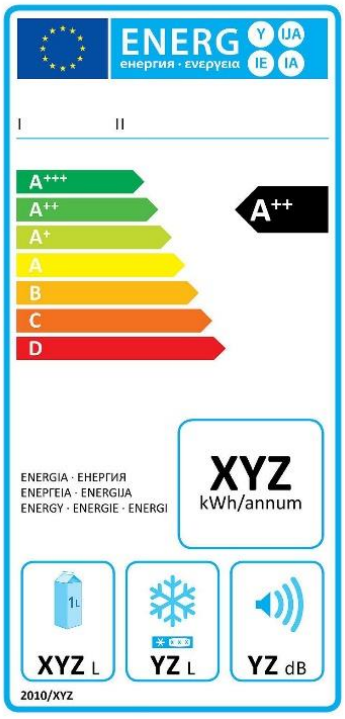
Energy Labels contain information on the given products energy efficiency class and its basic parameters such as energy consumption. The current requirement includes energy labelling on 14 groups of products. These are mostly household appliance (refrigerators, dishwashers, etc. and new product groups such as TVs, extractor hoods, air-conditioning units, solid fuel boilers or room heaters).

The letter A+++ is reserved for appliances with the highest energy efficiency and the following classes (A++, A+, A, B etc.) describe lower energy efficiencies.

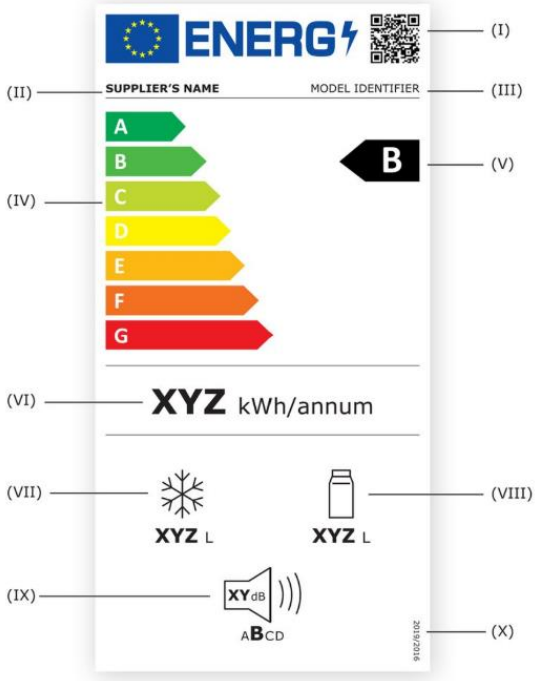
Energy labelling the appliances is meant to enable the consumer to meaningfully compare products and make conscious purchases. They are also meant to force producers to bring introduce more energy efficient products to the market, therefore slowly decreasing energy consumption.

The next few years will see a change in the energy labels. This is due to the increasing energy efficiency of the products which already resulted with the introduction of classes above A: A+, A++, A+++. The new labels will maintain the cohesive A-G classes and keep the colour scale.

According to the requirements of the new energy labels, class A will begin as an empty class (meaning there will be no class A products on the market), making B the highest energy class available on the market. Additionally, in the case of products for which a quick technological progress is expected, the highest available class will be C. This is meant to remove the need to rescale the classes in the next 10 years.



Pic. 2 current refrigerator Energy label



Pic. 1 Refrigerator Energy label from March 1 2021

How quickly will the purchase of an energy efficient dishwasher pay for itself? – Example

Let us follow the total lifetime costs of two dishwasher models of two different energy efficiency classes (class A+++ consuming 188 kWh/year, priced at 1 840 PLN, and a class A consuming 237 kWh/year, priced at 1 750 PLN), with the same capacity (expressed as a set of standard dishes). The average cost of electricity is 0,55 PLN/kWh.

Annual cost of using an A+++ class dishwasher:

$$188\,\frac{kWh}{year}\cdot 0{,}55\,\frac{PLN}{kWh} = 103{,}40\ PLN/year$$

Annual cost of using an A class dishwasher:

$$237\,\frac{kWh}{year}\cdot 0{,}55\,\frac{PLN}{kWh} = 130{,}35\ PLN/year$$

How quickly will the energy efficient dishwasher pay the price difference?

$$\frac{1\,840\ PLN - 1\,750\ PLN}{(130{,}35\ \frac{PLN}{year} - 103{,}40\,\frac{PLN}{year})} = 3{,}3\ years$$

How quickly will the purchase of an energy efficient refrigerator pay for itself? – Example

Let us follow the total lifetime costs of two refrigerator models of two different energy efficiency classes (class A+++ consuming 175 kWh/year, priced at 2 100 PLN, and a class A+ consuming 280 kWh/year, priced at 1 900 PLN), with the same refrigerator and freezer capacity. The average cost of electricity is 0,55 PLN/kWh.

Annual cost of using an A+++ class refrigerator:

$$175\,\frac{kWh}{year}\cdot 0{,}55\,\frac{PLN}{kWh} = 96{,}25\ PLN/year$$

Annual cost of using an A+ class refrigerator:

$$280\,\frac{kWh}{year}\cdot 0{,}55\,\frac{PLN}{kWh} = 154\ PLN/year$$

How quickly will the energy efficient refrigerator pay the price difference?

$$\frac{2\,100\ PLN - 1\,900\ PLN}{(154\ \frac{PLN}{year} - 96{,}25\,\frac{PLN}{year})} = 3{,}5\ years$$

Source: KAPE