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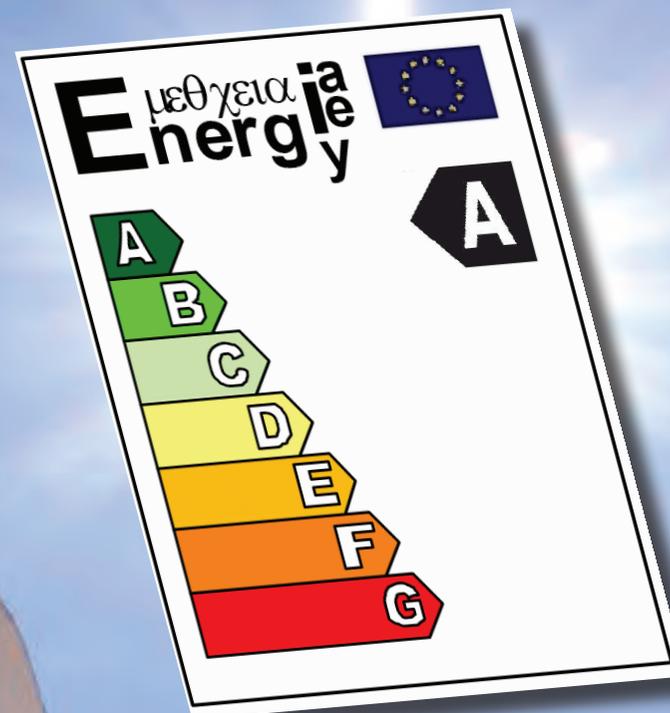


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# CHOOSING ENERGY EFFICIENT GOODS



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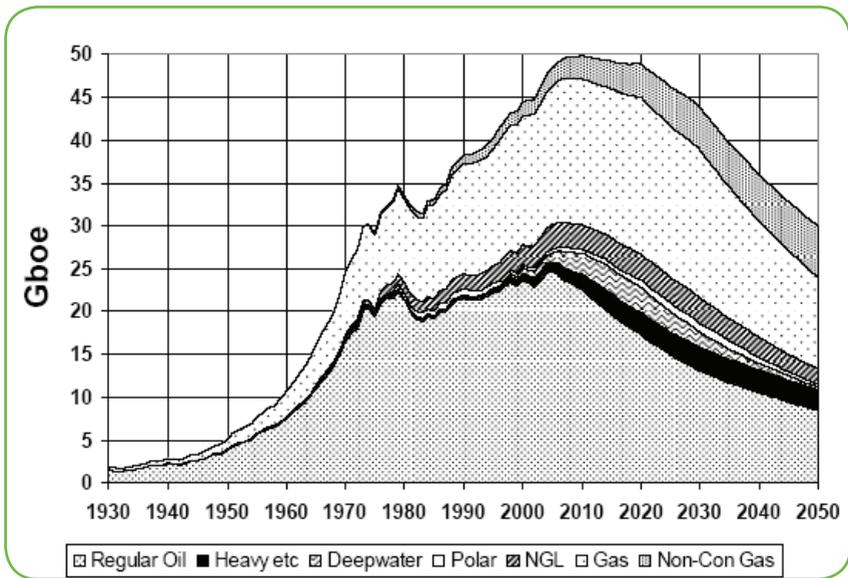
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Cover image: © Thorben Wengert | PIXELIO (Energy label adapted | EU)

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Energy efficiency is one of the most important elements of sustainable development, not only at the strategic and policy level, but also in many aspects of everyday life. Sustainable living means making a conscious effort to include energy efficiency in your consumption decisions. Sustainable consumption considerations are particularly important when buying durable products such as refrigerators, washing machines, dishwashers or light bulbs. The main goal of this brochure is to provide general information to help you choose energy-efficient goods.



**Fig. 1.** Oil and Gas Production Profiles

Source: [http://www.kyotoinhome.info/HU/sustainable\\_energy/resources\\_depletion.htm](http://www.kyotoinhome.info/HU/sustainable_energy/resources_depletion.htm) | The association for the study of peak oil and gas-[www.peakoil.net](http://www.peakoil.net)

- 1 Current energy consumption patterns are unsustainable: the world is using excessive amounts of energy, and non-renewable energy sources are rapidly dwindling. Energy can be conserved in many ways, and choosing energy-efficient goods is one of them.
- 2 As a consumer, you need to be able to make educated decisions when buying electrical appliances. Information about the energy certificate and labelling systems of the European Union can be helpful when making these choices.
- 3 It is also important for you to know how much energy is actually used by your household appliances. There are many readily available tools to help you calculate your energy consumption and implement energy-saving solutions.

## BACKGROUND INFORMATION

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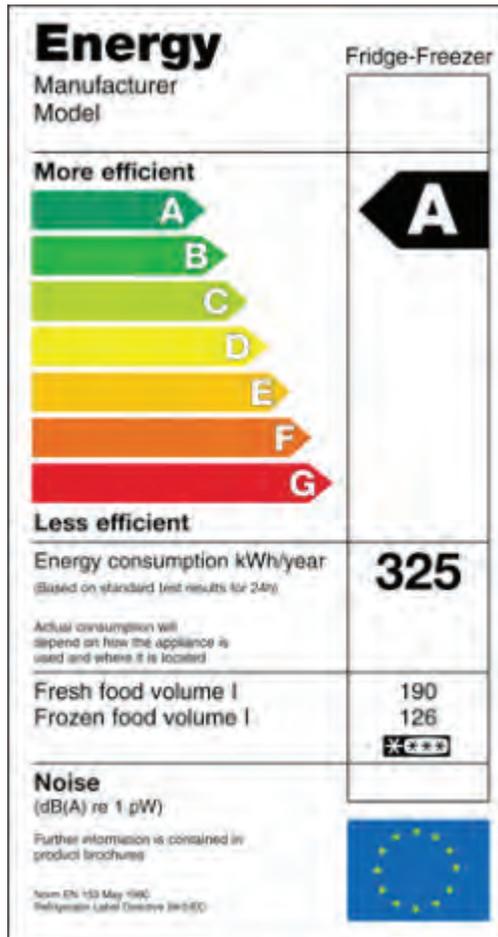
### Step 1. Analyse your current energy consumption and calculate the costs by making a list of the electrical appliances (especially energy-efficient goods) in your home

Non-renewable energy resources such as crude oil, natural gas and coal will be seriously depleted within our lifetime (see Figure 1). Their rising cost is just one of the many reasons why a change in attitude is essential. In general, we waste energy and consume more than we really need, and by doing so we are jeopardising the energy supply of current and future generations. One useful tool for measuring the current and future impacts of our consumption habits is the “ecological footprint” developed by W. Rees and M. Wegernegel in 1992. Using this assesment, it is possible to estimate how much of the earth’s resources it would take to support humanity if everybody lived a given lifestyle. To calculate your personal ecological footprint, visit <[www.footprintnetwork.org/en/index.php/GFN/page/personal\\_footprint](http://www.footprintnetwork.org/en/index.php/GFN/page/personal_footprint)>. While an awareness of the issues can help you to save energy, thus

reducing the impacts of climate change, it can also save you money. Public demand for products that consume less energy, or that use renewable energy sources, can also encourage a shift in the business sector towards the production of energy-efficient appliances.

**Step 2. Learn to recognise energy labels on electrical appliances, and find out about energy use categories. Check the household appliances and products in your home. Which category do they fall into, on the scale from A to G?**

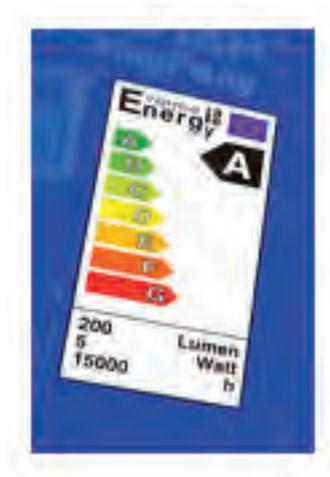
The European Parliament has drawn up regulations and legislation governing the energy consumption of standard products. Directive 2010/30/EU covers all electrical products that have a direct or indirect impact on energy consumption, including refrigerators, freezers, washing machines, dryers, dishwashers, ovens, water heaters and hot-water storage appliances, lighting sources and air conditioners. Before buying a new household appliance, look at its EU Energy Label. This indicates the appliance's energy consumption and efficiency on a coloured scale from A to G (see Figure 2), in which A (dark green) is the most energy efficient and G (red) the least energy efficient. In the case of a refrigerator, the energy label provides information about the producer, energy efficiency class, electricity consumption in kilowatt-hours (kWh), cooling capacity in litres and noise level in decibels (Db). The energy label enables you to compare different appliances, helping you to make the most environmentally friendly decision.



**Fig. 2.** Figure 2: The EU Energy Label on a fridge-freezer  
Source : <[www.squidoo.com/ultimate-guide-to-fridge-freezers](http://www.squidoo.com/ultimate-guide-to-fridge-freezers)>

Lighting is the second biggest drain on energy in households. There are many opportunities to conserve energy and money, without decreasing your level of comfort. Changing old light bulbs to modern compact fluorescent lamps can make a significant difference. For example, replacing an old-style 75-watt incandescent bulb with a 15-watt compact fluorescent bulb can reduce energy consumption by 80

percent. Check the EU Energy Label for information on energy efficiency, luminous flux (lumen), electricity consumption in watts and the average life of the product in hours (see Figure 3).



**Fig. 3.** Figure 3: Example of an EU Energy Label on a compact fluorescent bulb  
Source: [http://ec.europa.eu/energy/lumen/index\\_en.htm](http://ec.europa.eu/energy/lumen/index_en.htm)

Changing your habits can lead to big energy savings. Remember to turn off the lights every time you leave a room, even for five minutes. Invest in an extension cord with a master/slave switch and a plug-in timer that turns off electricity at night or while you are on holiday. Simple and inexpensive measures such as these can reduce your energy consumption by 5 percent.



**Fig. 4.** Energy-saving resources

Source < [http://www.energy-cities.eu/db/zoetermeer\\_575\\_en.pdf](http://www.energy-cities.eu/db/zoetermeer_575_en.pdf) >

Information communication devices such as computers, laptops and mobile phones are becoming more and more important in our daily lives and are already responsible for 9 percent of household energy usage. Laptops generally consume less energy (15 to 45 watts) than desktops (60 to 250 watts). When purchasing computer equipment, look out for the Energy Star energy efficiency certificate (United States). Save energy by putting your computer into sleep mode when you take a break.

## MEASURING AND MONITORING

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Step 3. Monitor your energy consumption using a readily available metering device. Compare your consumption before and after making changes to both your behaviour and your household appliances.

Although energy-efficient products tend to be more expensive than traditional appliances, due to the advanced technology involved, they will result in long-term cost savings.

Electricity consumption can be measured using a simple, inexpensive watt-hour meter. The appliance can be plugged into the meter, which will display the amount of electricity being used at a given moment or over an extended period of time. This will enable you to find out the number of KWh used in the course of a month by devices that are not in constant use.

Alternatively, you can install a meter that measures the consumption of your home as a whole. Whole-house meters cost between EUR 40 and 50 and must be installed by an electrician.

This will allow you to monitor the costs of heating and lighting and to compare data before and after you implement your energy-saving measures.

## CHECKLIST FOR CONSUMERS

Using the simple table and evaluation below you can assess your energy efficiency.

	Yes	No
1. Do you use energy-saving light bulbs in your home?		
2. Would you recognise the Energy Star label?		
3. Are you familiar with the EU Energy Label?		
4. Do you know how many electrical appliances you use in your home?		
5. Do you know how much electricity your oven uses?		
6. Do you know how much electricity your washing machine uses per month?		
7. Do you switch off the light every time you leave a room?		
8. Do you have an extension cord with a master/slave switch in your home?		
9. Do you use a timer to switch off electricity at night or when you are on holiday?		
10. Do you only run your washing machine with a full load?		
11. Do you have a standby shutdown plug in every room of your home?		
12. Do you monitor your heating and lighting costs?		

If you answered YES to between 0 and 4 questions: You have started to think about sustainable solutions: now you need to make responsible consumer choices.

If you answered YES to between 5 and 9 questions: You are aware of the need to save energy and are adapting your behaviour accordingly. Aim for greater energy efficiency by monitoring your consumption.

If you answered YES to between 9 and 12 questions: Congratulations! You are an energy-conscious consumer.