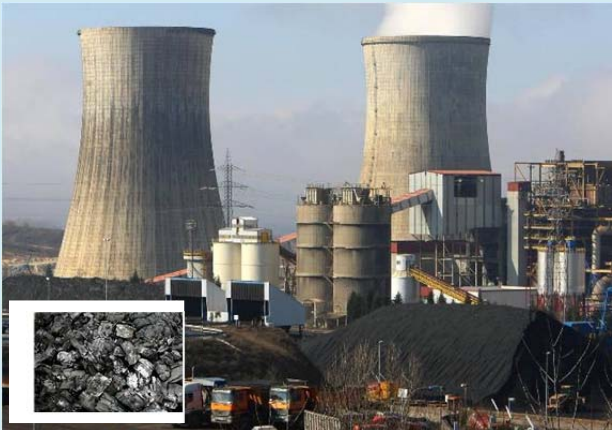



The sources of energy...

Renewable and nonrenewable energies, what are the differences?

	Definition and characteristics	Advantages	Disadvantages
Renewable energies	<ul style="list-style-type: none"> - Generated from natural sources. - They are generated by the wind, sun, volcanic activity, sea and vegetation (directly burned or transformed into biomass). 	<ul style="list-style-type: none"> - Free and infinite. - Clean, low carbon emissions. Create job opportunities. Reduce energy dependence on other countries. - In the long term, energy prices are reduced. 	<ul style="list-style-type: none"> - Initial costs are quite steep. Some of them are difficult to store. - They are not constants, depend on weather conditions and the specific characteristics of each territory.
Nonrenewable energies	<ul style="list-style-type: none"> - Taken from the sources that are available on the earth in limited quantity. - Exist in the form of fossil fuels: natural gas, oil and coal and nuclear energy. 	<ul style="list-style-type: none"> Cheap and easy to use. Some of them generate big quantities of energy. 	<ul style="list-style-type: none"> - Limited (cannot be re-generated within a short span of time). - Pollute the environment, high carbon emission and nuclear residues.

Nonrenewable energy sources				
Type of fuel	Where it is from	Advantages	Disadvantages	Image
Coal (fossil fuel)	<ul style="list-style-type: none"> - Formed from fossilised plants and consisting of carbon with various organic and some inorganic compounds. - Burnt to provide heat or electricity. 	<ul style="list-style-type: none"> - Ready-made fuel. - It is relatively cheap to mine and to convert into energy. 	<ul style="list-style-type: none"> - When burned coal gives off atmospheric pollutants, including greenhouse gases. - Coal supplies will last longer than oil or gas (at about 250 years), but they will finish too. 	
Oil (fossil fuel)	<ul style="list-style-type: none"> - A carbon-based liquid formed from fossilised animals. - Widely used in industry and transport. 	<ul style="list-style-type: none"> - Oil is a ready-made fuel. - Relatively cheap to extract and to convert into energy. 	<ul style="list-style-type: none"> - When burned, it gives off atmospheric pollutants, including greenhouse gases. - Only a limited supply (at about 50 years). 	

Nonrenewable energy sources

Natural gas (fossil fuel)

- **Methane and some other gases** trapped between seams of rock under the earth's surface.
- Often used in **houses for heating and cooking.**

- Gas is a **ready-made fuel.**
- It is a **relatively cheap form of energy.**
- It's a **slightly cleaner fuel than coal and oil.**

- When burned, it gives off **atmospheric pollutants**, including **greenhouse gases.**
- Only **limited supply** of gas (at about **70 years**).



Nuclear



- **Radioactive minerals such as uranium are mined.**


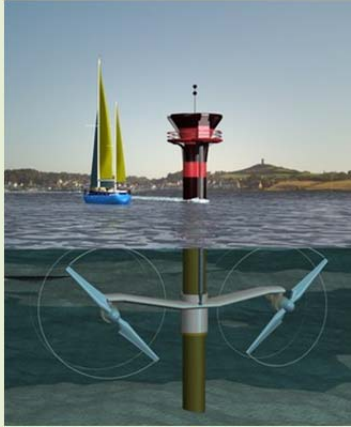
Electricity is generated from the energy that is released when the atoms of these minerals are split (by nuclear fission) in nuclear reactors.



- A small amount of radioactive material produces **a lot of energy.**
- **Raw materials are relatively cheap and can last quite a long time.**
- **It doesn't give off atmospheric pollutants.**

- Nuclear reactors are **expensive to run.**
- **Nuclear waste is highly toxic, and needs to be safely stored for hundreds or thousands of years** (storage is extremely expensive).
- Leakage of nuclear materials can have a **devastating impact on people and the environment.** Remember the **accidents at Chernobyl** (Ukraine, 1986) and **Fukushima** (Japan, 2011).





Renewable energy resources					
Type of energy	Where it is from	Advantages	Disadvantages	Image	
Solar	- Energy from sunlight is captured in solar panels and converted into electricity, heat and hot water.	- Potentially infinite energy supply. - Single dwellings can have own electricity, heat and hot water supply (energy self-sufficiency).	Manufacture and implementation of solar panels can be costly.	 	

Renewable energy resources				
Wind	<ul style="list-style-type: none"> - Wind turbines (modern windmills) turn wind energy into electricity. 	<ul style="list-style-type: none"> - Can be found singularly, but usually many together in wind farms. Potentially infinite energy supply. 	<ul style="list-style-type: none"> Manufacture and implementation of wind farms can be costly. Bird collisions. 	
Tidal and wave	<ul style="list-style-type: none"> - The movement of tides and seawater drives turbines and generate electrical energy. 	<ul style="list-style-type: none"> - Ideal for an island such as the UK. - Potential to generate a lot of energy. - Tidal barrage can double as a bridge, and help prevent flooding. - In case of wave, more likely to be small local operations, rather than done on a national scale. 	<ul style="list-style-type: none"> - Construction may be very costly. Opposed by some environmental groups as having a negative impact on wildlife. - May reduce tidal flow and impede flow of sewage out to sea. 	

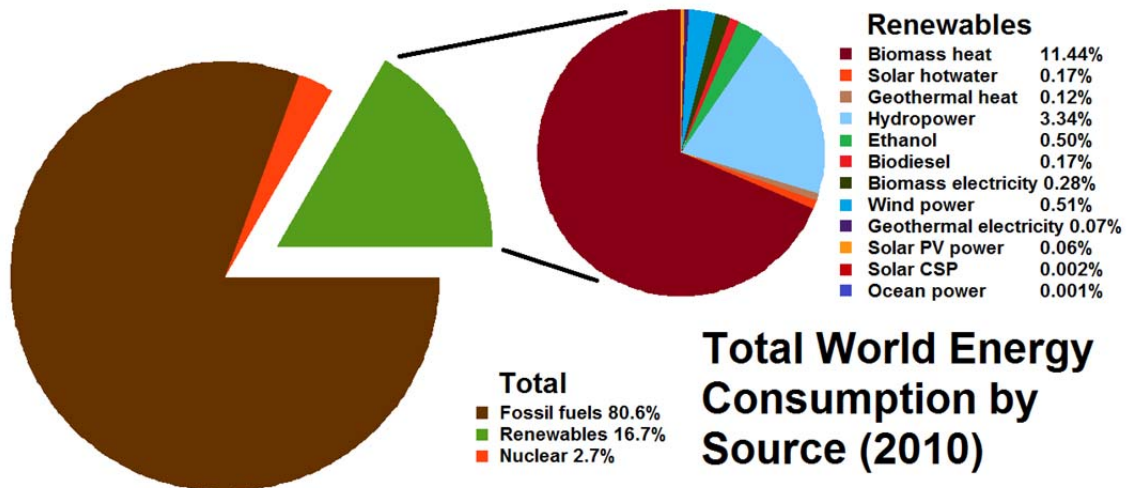
Renewable energy resources				
<p>Geothermal</p>	<p>In volcanic regions it is possible to use the natural heat of the earth. Steam can be used for heating or to power turbines creating electricity.</p>	<p>Potentially infinite energy supply. Used successfully in some countries, such as New Zealand and Iceland.</p>	<p>Can be expensive to set up and only works in areas of volcanic activity. Geothermal and volcanic activity might calm down, leaving power stations redundant. Dangerous elements found underground must be disposed of carefully.</p>	
<p>Hydrological or hydroelectric power</p>	<p>Energy harnessed from the movement of water through rivers, lakes and dams, used to produce electricity.</p>	<p>Creates water reserves as well as energy supplies.</p>	<p>Costly to build. Can cause the flooding of surrounding communities and landscapes. Dams have major ecological impacts on local hydrology.</p>	

Renewable energy resources

<p>Biomass</p>	<p>Decaying plant or animal waste. An organic material, which can be burned to provide energy, eg heat, or electricity. An example of biomass energy is oilseed rape (the fields of yellow flowers you see in the UK in summer), which produces oil. After treatment with chemicals it can be used as a fuel in diesel engines.</p>	<p>It is a cheap and readily available source of energy. If replaced, biomass can be a long-term, sustainable energy source.</p>	<p>When burned, it gives off atmospheric pollutants, including greenhouse gases. Biomass is only a renewable resource if crops are replanted.</p>	
<p>Wood</p>	<p>Obtained from felling trees, burned to generate heat and light.</p>	<p>A cheap and readily available source of energy. If the trees are replaced, wood burning can be a long-term, sustainable energy source.</p>	<p>When burned it gives off atmospheric pollutants, including greenhouse gases. - If trees are not replanted, then wood is a non-renewable resource.</p>	

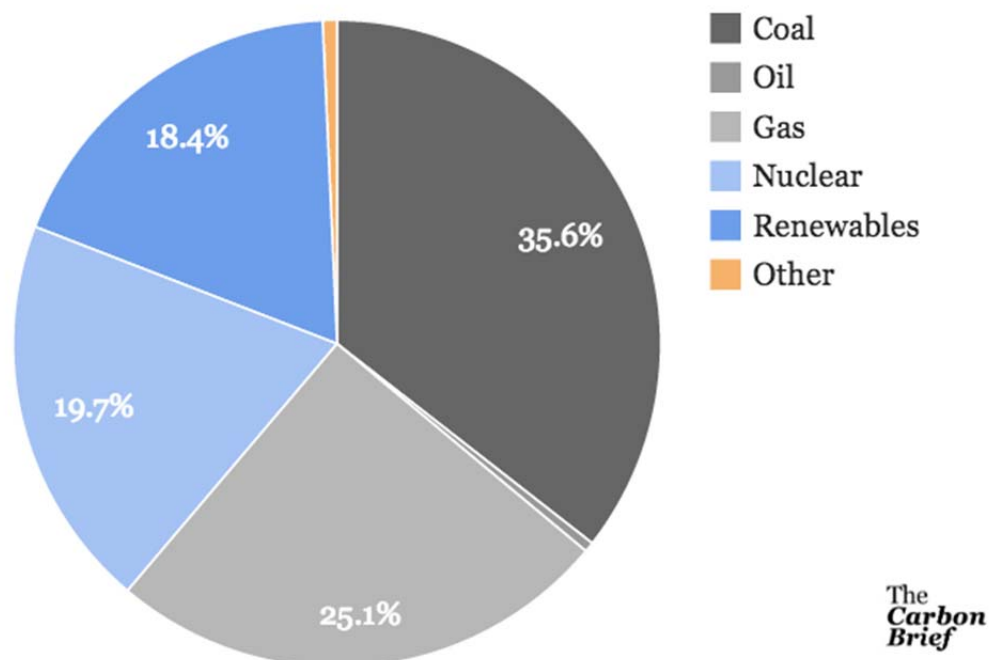
Renewable and nonrenewable energies...

In the world



In UK

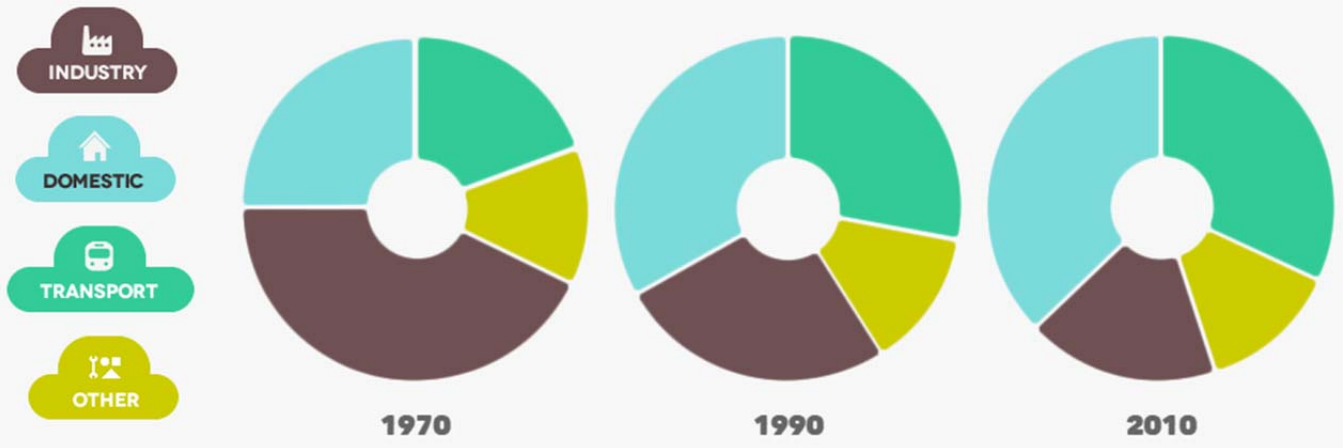
UK electricity generation, November 2013 to January 2014



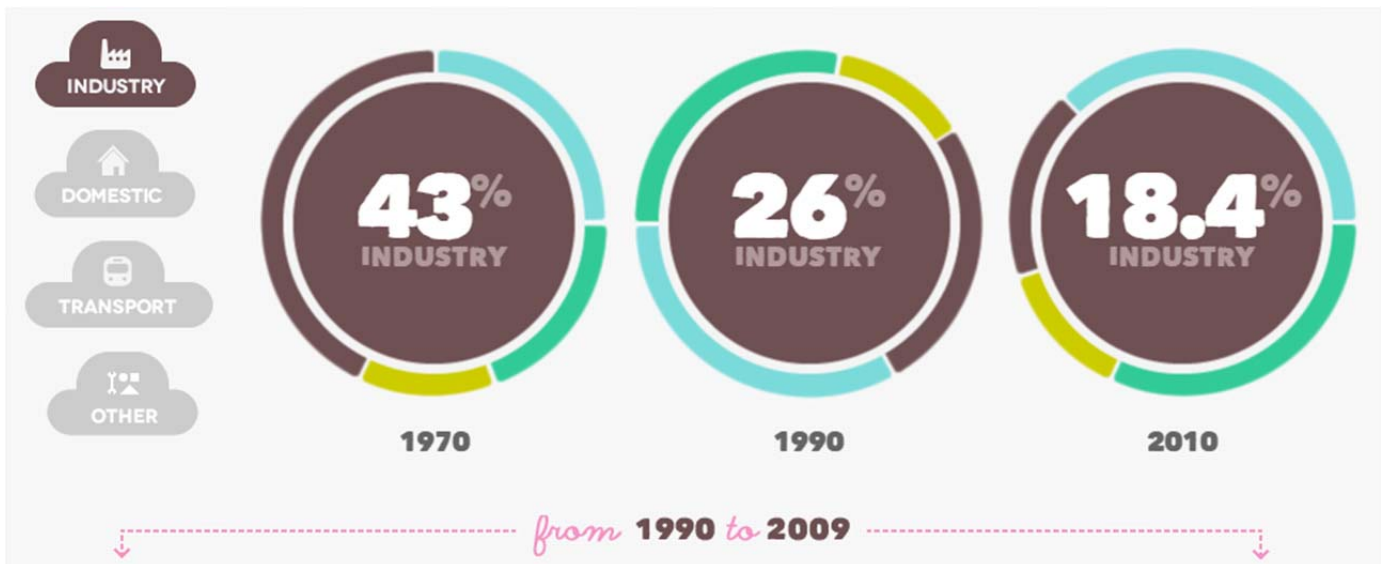
Who do you think uses more energy?

FINAL ENERGY CONSUMPTION *By* SECTOR

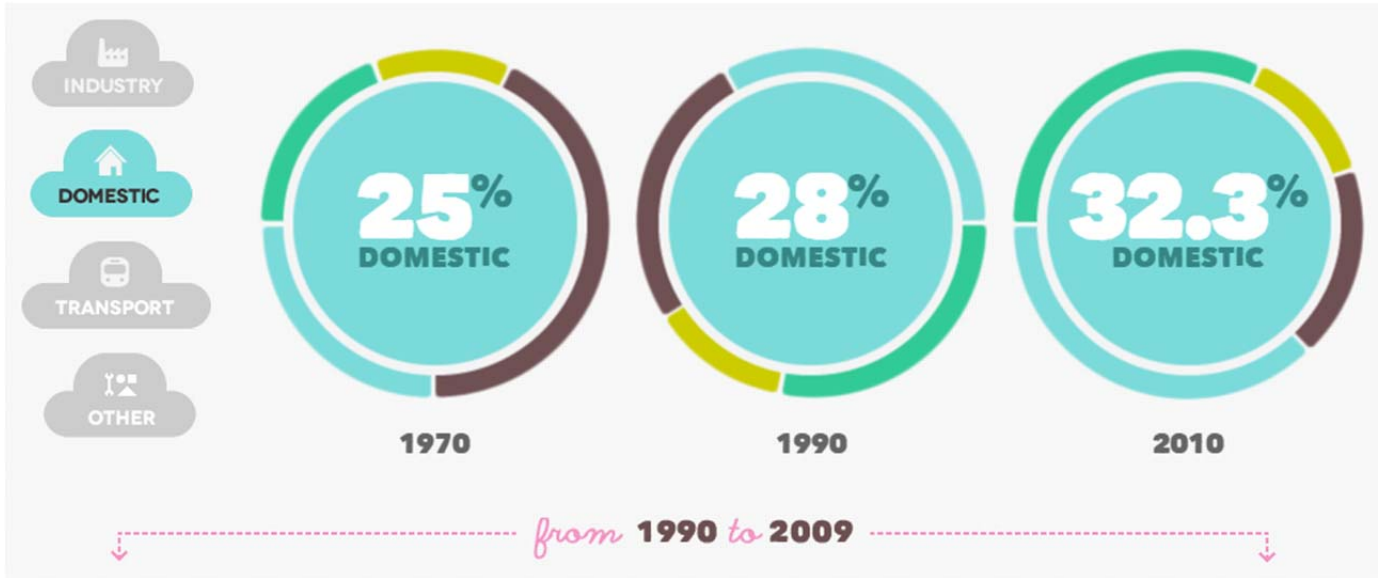
These pie charts show the changing levels of consumption by sector. In 1970, the industry sector was responsible for the biggest share, 62,333 million tonnes of oil equivalent of total UK consumption while in 2010 transport has the biggest share at 37%.



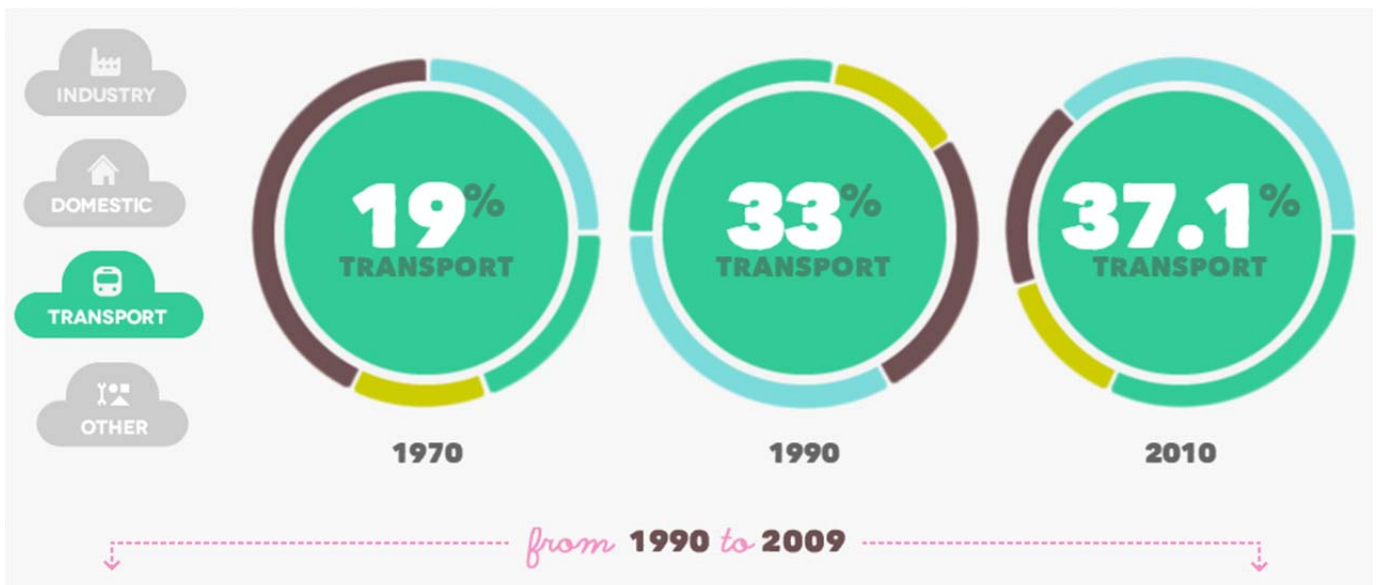
Industry:



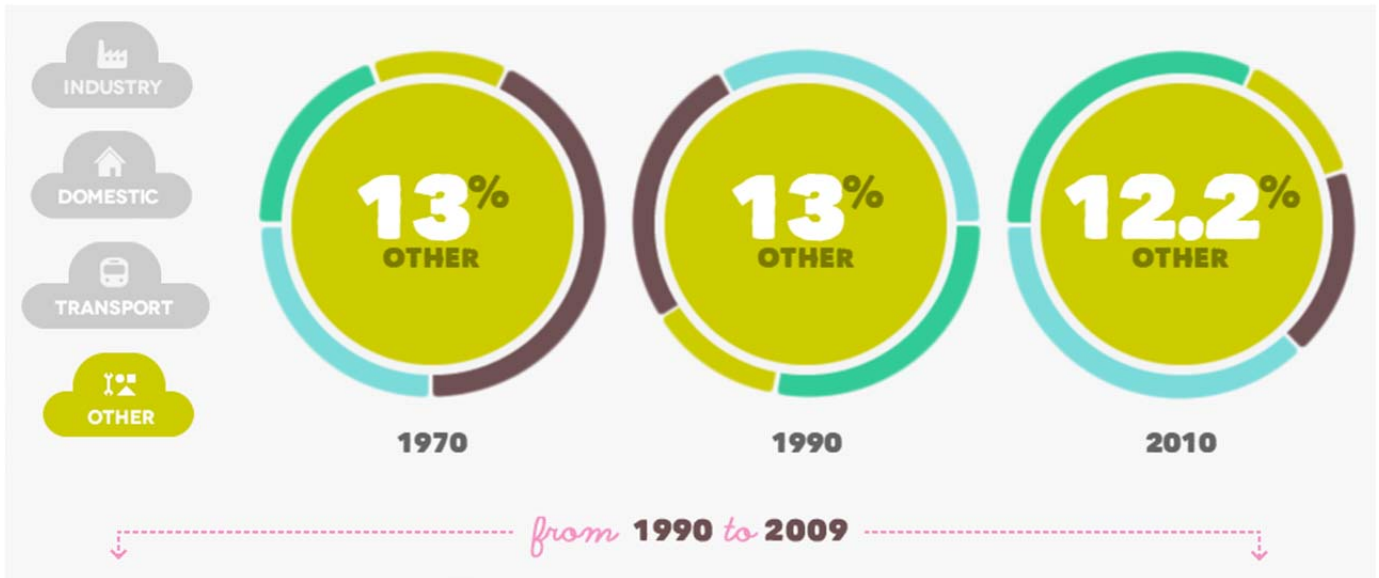
Domestic sector:



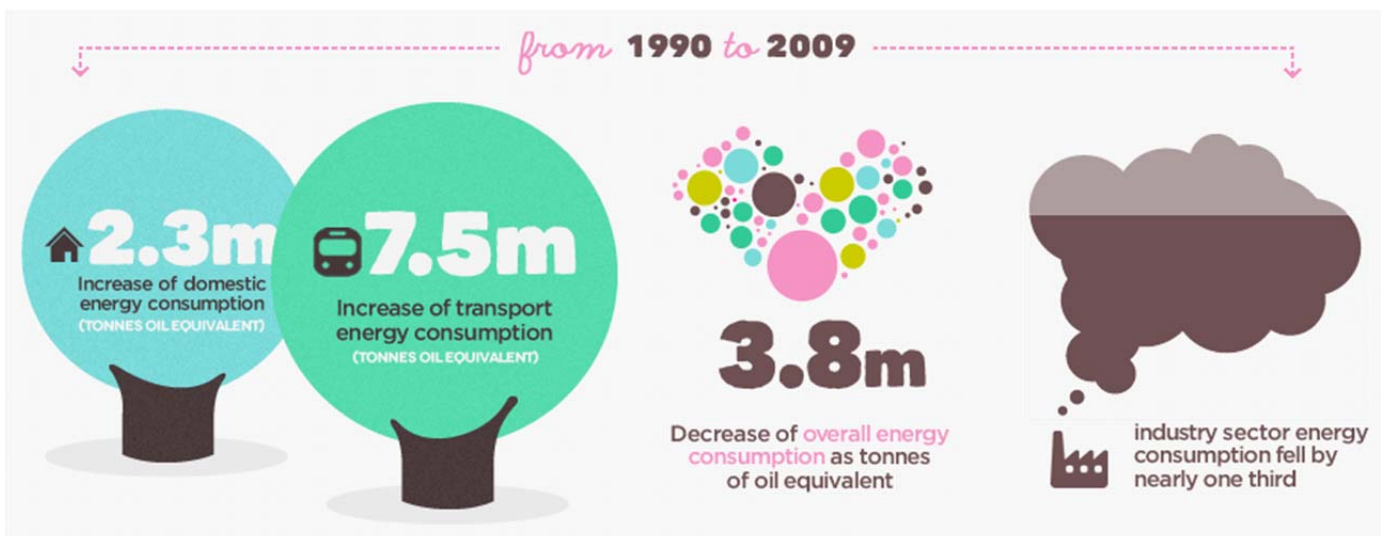
Transport:



Other:

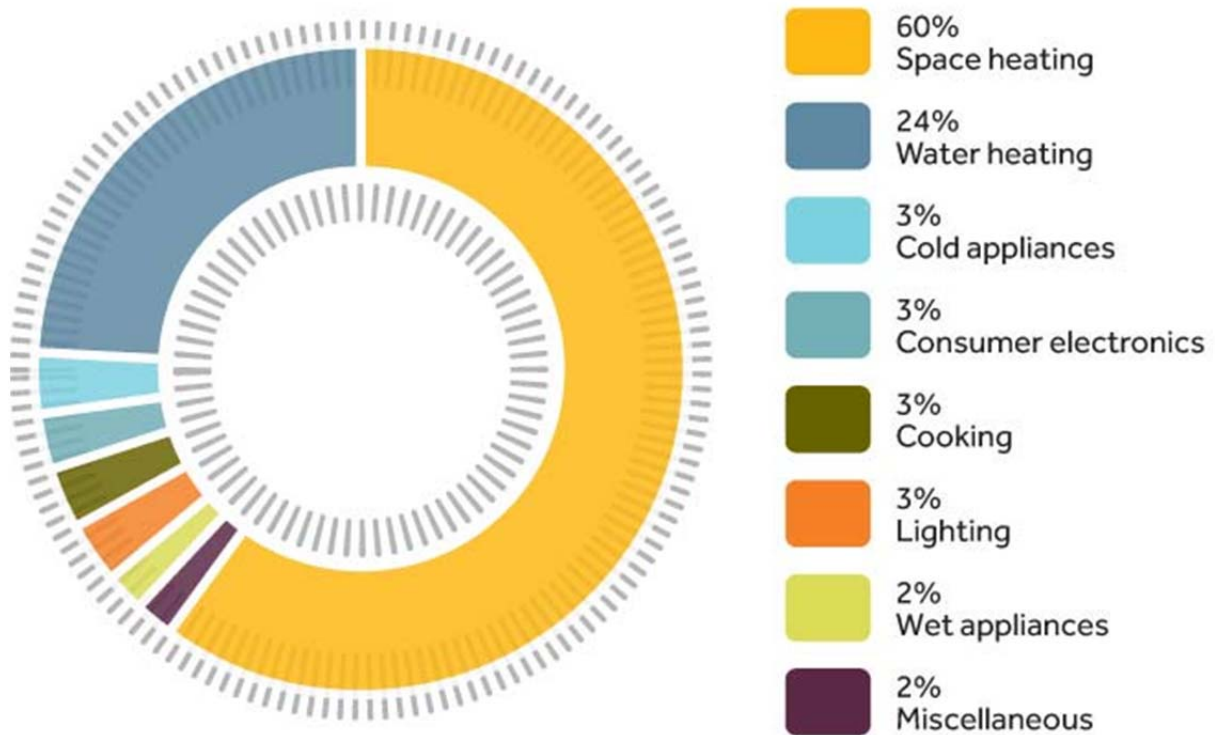


Are industries and governments the main responsible?



Consumption of energy in our daily life

Since we get up... and even when we are sleeping, we are using energy.



Energy is essential for the developing of the countries and for our comfort.

BUT

Is it possible to reduce the consumption of energy without reducing our comfort?

Advice for saving energy:

Advice for saving...on electric appliances

Do I need it?

Sometimes we buy electrical appliances of doubtful utility or ones we use rarely. Before buying an electric appliance take a moment and ask yourself: Do I really need it?

Choose appliances of class A + (or more)

Refrigerators, freezers, washing machines, dishwashers and other appliances have a label that informs us about the efficiency of energy use. The most efficient are those belonging to categories A +++, A ++ and then A +. Remember that the length of the usage of the appliances is usually over 10 years, so that the difference in initial price of an efficient model is usually repaid with energy savings achieved.

Do not leave your appliances in "stand by"

The so-called "stand by" is common in devices with remote control, such as TVs, DVDs and stereos. In the "standby" device appears to be turned off, but is actually using energy. This is known as "ghost consumption", which represents up to 15% of energy consumption of turned on device. We can avoid this unnecessary expense by plugging appliances into a power strip with a switch.

Fridge

Size Matters

Also the size of the refrigerator affects its energy consumption (the larger the fridge, the greater the consumption), so simply choosing an efficient model is not enough – you should suite the size of the fridge to the real needs of the household (number of residents and consumption level).

Do not put hot food in the refrigerator.

Let cooked foods cool before putting them in the refrigerator, thus the fridge will work less. And, whenever possible, defrost food in the refrigerator.

Place your fridge in a cool, ventilated place.

It is important that the refrigerator is away from sources of heat and that the place is well ventilated to ensure the efficient operation of the device.

Maintenance also saves energy.

Clean refrigerator at least once a year: clean the back of the device, defrost when necessary to remove the ice and keep the insulation strips in good condition... these are the three rules to ensure the smooth operation of the refrigerator.

Dish washer and washing machine

Wash clothes in cold water

Between 80 and 85% of energy consumption of a washing machine is used for heating the water. By washing in cold water or low temperature, this expenditure is avoided or reduced. The new detergents allow for efficient washing without using hot water.

Use economic programmes

It is also important to adjust the washing programme. Check if the dishes and clothes are clean after the use of short or economic programmes and, if the test is positive, use them!

Load appliances fully before using them

Using the ability of washing machines and dishwashers fully, avoid their unnecessary use.

Screens

Beware the big screens!

Remember that consumption is proportional to the size of the screen. A TV with 20-inch LCD screen consumes between 45 and 65 W while if the size of the screen is 32 inches, the consumption reaches between 115 and 160 W.

Screens that consume less

The new screens with LED technology consume about 40% less than traditional LCD displays.

Kitchen

Do not waste heat

If you have the glass ceramic stoves, use containers with a diameter equal to or greater than the burner zone, so the heat produced is used properly.

Cook with pressure cooker

The pressure cooker is a fast and very effective way of cooking. Use it, all the advantages are there!

Use lids on pots and pans

With conventional pans, you can save up to 65% energy with the simple gesture of using the lid.

Reduce the heat when the water starts to boil

Once the water starts to boil, we should reduce the temperature of the fire for not doing so is a waste of energy.

Advice for saving... on lighting

Use the natural light whenever you can

No light is as nice, healthy and cheap as the sun. Arrange the lighting in our house trying to make the most of natural light is the main recommendation to take into account.

The walls also illuminate

The walls painted in light colors allow you to get more out of sunlight and reduce the need for artificial lighting.

Plan the lighting

Search for the most suitable location of the points of light and think what intensity is required and what will be the time of their normal usage to choose one or another solution.

If you do not need it, turn it off

Do not leave lights on in rooms that are not being used.

Replaced incandescent bulbs with energy saving lamps

They save up to 80% energy and last up to 8 times longer. Incandescent bulbs convert into light only 5% of the electricity they consume. The rest is lost as heat.

Keep the lamps and fluorescent tubes clean

Dust that accumulates on the bulbs decreases their luminosity, so cleaning them from time to time gives us more lighting without increasing the consumption.

Lights and shadows of the halogen spotlights

If you plan to use halogen light bulbs, think about whether it is the most suitable type of light, given that they produce a very intense, but very concentrated light (which increases the need for points of light) and at it can be annoying. Their consumption of electricity is quite high as well, as it is largely wasted as heat.

Beware the dimmers

Many of the devices that regulate light intensity (resistors) work dissipating the energy that is not used by the lamp as heat; so even when the light is dimmed, the consumption level is the same. Therefore, it is advisable to replace the dimmers with electronic controllers, which only use energy the lamp actually consumes.

Consider sunlamps for the outdoors

In the market there is a wide and affordable supply of outdoor lamps that have a built in their own solar panel, thus using solar energy to recharge.

Advice for saving... on heating

Watch the thermostat

A temperature of 20° C is sufficient to be comfortable in a home. In the bedrooms that temperature should be lowered by about 3°C. For every degree we increase the temperature, the energy consumption increases by 7%! If you're feeling cold, first try putting on a sweater.

Turn it off at night

At night, turn off the heat, it's healthier for the sleep. In the morning do not turn it on until you have finished ventilating the house and have closed the windows. If the house is empty in the morning, you only have to keep the thermostat at 15-17° C.

If you leave the house, turn down the thermostat

It is absurd to heat an empty house. Remember lowering the thermostat to about 15 ° C; when you return, it will be easy to heat it again up to 20° C.

Do not place objects on the radiators

To ensure optimal performance of the radiator, it is best not to block it with furniture or any object that can block the air flow.

Ventilate the house for 10 minutes

Ventilating the house is a very healthy habit, but without going overdoing it. Ten minutes of ventilation ensures the air renewal but avoid excessive cooling of the rooms.

Choose a 4 star heater

Just as refrigerators or washing machines, domestic heating boilers are classified according to the efficiency of their energy usage. The rating goes from one to four stars. One star more saves at least 3% of the energy. It is worth to choose a four-star boiler!

Remove air from the radiators

Each year, before starting to use the heating, you must bleed the radiators, i.e., extract the air that accumulates in the circuit and reduces their effectiveness. It is a very simple operation that improves the functioning of our heating system.

Do not forget the maintenance

Proper maintenance of the heater can result in savings of up to 15%. Do not wait for it to break to invite a technician to review it.

Useful things

Thermostats: Allows temperature regulation preventing energy waste and generation of excessive heat.

Programmable thermostats: useful for setting the temperature for different time slots and days of the week. If the house already has a conventional thermostat, replacement is very simple.

Thermostatic valves: are installed directly on radiators. The valves open or close the passage of the hot water in function of temperature that we wish to maintain.

How to save... with insulation

A poorly insulated house needs more power: in winter it cools faster and it gets hotter in summer. Small improvements in insulation may result in up to 30% in energy savings on heating and air conditioning.

Do not skimp on insulation

When building or rehabilitating a house, good insulation is the best investment. You gain in well-being and save money on air conditioning and heating.

Install double glazing or double windows

Between 25 and 30% of heat loss in a home occurs in the windows. Therefore, it is important to install double glazing or frames with double glazing and thermal break.

Become a draft hunter

In a windy day, hold a candle next to windows, doors, ducts or any place where outside air might get in. If the flame moves, you have located the point where the air enters. There are cheap means to solve this issue, such as caulking, weather-stripping or silicone.

Close blinds and curtains at night

Curtains and blinds reduce heat loss, preventing it from escaping through the windows.

How to save... on hot water

Hot water is a quarter of the total energy consumption of a home. It is the second biggest energy consumer, after the heating.

Regulate the temperature of hot water in the boiler

If your boiler allows to regulate the temperature of the hot water, adjust it so that you don't have to mix it with cold water.

Choose the shower instead of the bath

A shower consumes, on average, a quarter of the water required for the bath: you need around 200 litres of water to fill the tub, while a five-minute shower consumes around 50 litres of water.

Install a low-flow shower head

Efficient shower consumes about 6-7 litres of water per minute, compared to 12-15 litres of traditional shower head. Its installation is very simple: just unscrew the old shower head and screw the new one on the hose.

Control your shower time

It is easy to lose track of time in the shower. There are simple and inexpensive devices such as hourglasses, which let us know when you 4 or 5 minutes have passed by.

It is better to choose a tap which opens in the "cold"

In most mixer taps, when the lever is left in central position a mixture of hot water and cold water is obtained. If the tap is opened in that position for a short period of time (which is very common) the hot water does not even get to the tap. This waste of hot water mixers can be prevented by choosing taps with cold opening. In these models, the central control position is reserved for the cold water. The hot water is obtained by turning the knob to the left.

If you wash by hand ... use the plug

When washing dishes by hand you can reduce the water consumption with some simple "techniques": turn off the tap while soaping the dishes, use the sink stopper for both the washing and rinsing.

Prevent leaks and drips

Saving water, even the cold one, is also saving energy, since water is usually driven to our taps by electric pumps.

How to save... on cooling

Use awnings and blinds

Installation of awnings and closing blinds and curtains are effective systems to reduce the temperature in the house, as they prevent the sun from entering through the windows.

Ventilate when it's cool

In summer you should ventilate the house when the air is fresh on the outside (early hours of the morning and at night).

The fan, a good invention

A fan, preferably ceiling, may be sufficient to maintain adequate thermal comfort at home. The movement of air produces a feeling of temperature drop by 3 to 5 degrees and their electricity consumption is much lower than the one of air conditioner.

Plants also help

Plants on balconies and terraces improve air quality and refresh the environment.

Air conditioning

Purchase an efficient model

If you choose to buy an air conditioner, look for a high-efficiency model. Check the energy label and choose the type power according to your cooling needs.

Place it in a shady place

It is important to place the refrigeration in a place where it gets as little sun as possible and where there is a good air circulation. If condenser units are on the rooftop, they should be cover using a shading system.

Set the cooling temperature to 26° C

The adaptation of our body to summer and the wearing of less and lighter clothes explains why this is the temperature that allows us to feel comfortable inside a home.

The thermostat does not change the performance of the device

When you turn on the air conditioner, do not adjust the thermostat to a lower temperature than you really want to get: It will not cool the home faster and the drop in temperature may be excessive.

Environmental audit in household

What is it? How can I do it?

Environmental audits are an instrument that involves **environmental assessment and improvement** of housing, inviting people to reflect on the consumption of natural resources, waste production, contamination, our relationship with other living beings and spatial planning; detecting errors in management, applying corrective measures to increase and improve the environmental quality of housing and their immediate surroundings. They provide personalised information on how to save energy, water and residues at home and have more sustainable consumption and mobility habits.

We can do an environmental audit in our own house, or we can use the methodology of environmental audits to offer a service to enterprises, public buildings... as a way of saving money.

Protocol for conducting environmental audits in households

Protocol: script of key questions and tips to conduct an environmental audit in a household (we can make this questions to ourselves or to any other group, depending where we are conducting the environmental audit):

1. Kitchen / the laundry room

General questions:

- **Take a look at the lighting.** Advice using energy efficient light bulbs. LED is the best option, but fluorescent light bulbs and downlights can be used if LED are not available.
- **What do the habitants do with the leftover oil after cooking?** Advice to collect it in a closed jar and either bring it to recycling centre (if one exists) or make soap from it.
- **How do the habitants wash their fruit and vegetables?** Advice to use a bowl.
- **Important:** cover the pans and pots when cooking; adjust the size of the pot/pan to the size of the heat source.
- **Ceramic hob:** use the residual heat.

Q & A related to the dish washing:

- **Is there a dishwasher?**
 - **NO: How do they wash the dishes?** One sink for the soaping and other for rinsing (a bowl can be used as well).
 - **YES: How do they use the dishwasher?** Economic programme, fully loaded, rinse with dishwasher, not by hands, if possible (see instructions of the dishwasher), use low water temperature and let the dishes air dry.

Q & A related to the fridge:

- **Does the refrigerator form frost?** If so, defrost regularly.
- **Does it close hermetically?** If not, change the seals.
- **When placing the food inside the fridge:**
 - Cover the liquids and wrap the food (to avoid liberating moistness and overwork the fridge).
 - Allow the products to cool before putting them in the refrigerator and freezer.
 - Thaw the products by placing them in the refrigerator the night before (the cold given off is used by the fridge and in this case it is not necessary to use oven or microwave oven) or by placing them at room temperature. Never under the tap.
- **Where is it located in the kitchen?** It should be placed away from heat sources and be slightly separated from the wall to ensure aeration.
- **When buying a new fridge,** advice choosing one with automatic humidity control and energy class A+++.

Q & A related to the oven:

- **How do they check if the food is done?** Open only when absolutely necessary, because 20% of the energy is lost when the oven door is opened. Use light and the glass door instead.
- **For small amounts of food** it is better to use toaster oven or microwave oven with grill function.
- **When buying new oven or gas furnace:** advice choosing one with automatic electric ignition to save gas.

Q & A related to the washing machine:

- **How do they use the washing machine?** At full load, better with cold water, do not tumble dry, if possible.

Q & A related to the waste:

- **Do they separate the waste?** Recycling is really important and it's necessary to bring electric appliances, furniture, batteries, electronic devices, etc. to the recycling point.
- **Do they use disposable products of (paper towels, paper table covers, plastic cups and plates, etc.) often?** Change them for their reusable versions.
- **Do they think about the type and quantity of food wrapping?** It is better to buy in bulk or in recyclable wrapping, reduce the use of polystyrene, plastic bags and avoid aluminum.
- **Do they consume bottled water or use water filters?** Residues generated from buying bottled water are very high, you have different alternatives, such as tap water, jar with charcoal filter.
- **Important:** Reduce the use of batteries and use rechargeable batteries.
- **Where do they usually do their shopping?** Better buy local (less transport, more local development), ecological and fair trade.
- **Explain shortly fair trade and ecological products.**
- **Speak about composting.**

2. Bathroom

General questions:

- **Have you ever checked your household for water leaks?** Only thing you have to do is to read the metre before going to bed and in the morning.

- **Tip:** Close the stopcock slightly and always close the main stopcock when leaving your house for a trip.

Q & A related to the sink:

- **How do they brush their teeth, hands and how do they shave?** Turn off the tap; for teeth use a glass and fill the sink to shave.
- **If they are going to change the taps,** suggest choosing mono-bloc (save water and energy) with upper limitation of flow and standard opening position being “cold”. **If not, use temperature regulators with thermostat.**

Q & A related to the shower:

- **How frequently do they take a bath?** Shower is better.
- **Do they collect the cold water that comes out from the shower before showering?** Use a bucket.

Q & A related to the WC:

- **Do they have a paper bin in WC?** Throw everything possible there, including toilet paper.
- **Do they know how to check if their tank is losing water?** Put a couple of drops of ink or food coloring in the tank. If after 15 minutes the water in the accumulating in the toilet bowl has changed color, the tank is losing water.
- **Important:** use white toilet paper, without chemical substances. It is easier to treat it.

3. Living room/Dining room

Q & A related to the windows:

- **How are the windows and doors isolated?** Check for leaks.
- **If they change the windows** suggest double glazing windows.
- **How long to they open the windows for the air to change?** 10 min. are enough.
- **Do they have any element that protects the house from sun?** Install curtains and blinds or white reflective sheeting on windows and awnings on the outside. In summer, keep blinds and curtains half way down during the day and open at night; in winter do it the other way around.

Q & A related to lighting:

- **Do they clean their light bulbs?** It should be done.
- **Important:** Use the natural light any time it is possible and turn the lights off when they are not necessary.
- **Study the differences between incandescent bulbs, low consumption light bulbs and LED** and make a plan to replace them, if it's necessary.

Q & A related to heating:

- **What temperature do they keep in winter in their homes?** Between 19-21°C (in bedrooms this temperature can be 3 - 5°C lower).
- **Do they have central heating? If so,**
 - Do they bleed the radiators? You should do it.
 - Do they do the periodic maintenance? Cleaning of the filters.
- **For any type of heating:** Do not block it and clean it periodically.

Q & A related to the air conditioning:

- **Do they have air conditioning?**
 - **YES. At what temperature do they usually set it?** Between 25-26°C. Hint: Complement the air conditioning with a ventilator (better distribution of the air).
 - **NO. If they are planning to install it:** place it in shadow, preferably in the northern side, if not possible: place a small roof over it that gives it a shadow. Choose class A.

Q & A related to electronic appliances:

- **Do they turn off the stand-by?** Remember the ghost consumption, you can use power strips with switch.
- **Do they leave the mobile phone charger plugged in constantly or do they charge the phone over night?**
- **Do they leave computer and monitor turned on for a long periods of time? Do they turn off the monitor when switching off the computer?** Turn it off when it is not being used, and programme to go into hibernation after 5 minutes of inactivity.

4. Garden

- **How do they clean their garden?** Using a broom, not a hose.
- **What type of plants do they have?** Better local ones.
- **When do they water their plants?** Early in the morning or late in the evening, one can use water collected from the shower, water from cooking, etc.
- **How do they water the plants?** Better drip irrigation, there are programmable versions.
- **Tip if the garden is big with many plants.** Set up a rain water collecting cistern.
- **Do they have a pool?**
 - **YES. Do they cover it during the winter?** Cover it to protect water from getting dirty and avoid changing it in the beginning of the summer.
- **What's the lighting system used in the garden?** It can be a good idea to install solar lamps and photosensitive lamps.

5. Mobility

- **Get informed about sustainable mobility.** Compare the same using different means of transportation.
- **Get informed about low emission vehicles** found in the market.
 - **Important:** chose a vehicle adapted to the needs, taking into account the consumption and emission data.
- **Some tips for efficient driving:**
 - Circular with the highest gear possible and at low rpm.
 - Circular at moderate speed and avoid sudden braking and acceleration.
 - When slowing down, let the car roll braking only when necessary.
 - The extra weight, air conditioning, a roof rack and circulation with windows open increases fuel consumption.
 - Heat the car for more than 30 seconds is ineffective.
 - Maintenance of the vehicle.

Can environmental audits be a business?

The story of Ahmad Noubani

After attending a training course in Spain in which the protocol for environmental audits was explained, Ahmad went back to Jordan, where he knew a device that saves 20 m³ water per year in households, if it applied for the drinking water treatment systems that are used in most of Jordanian houses. Ahmad supported the inventor of this idea (as an environmental activist) and incubated the device by the **Jordan Creative Centre**.

As second step, he decided to start his own company to handle the eco-marketing for this device and he met some other eco-friendly students interested in his business model, so each one of them established his own company, working on marketing for these eco-friendly devices.

They set together and established a huge body for the environmental work, based on the concept of **Green Social Entrepreneurship**. This group of university students worked together to design environmental solutions by providing technical, marketing and funding support and develop their capacity to conduct **Environmental Audits and Communicate with the communities**.

Under the project **Petra for Green Community Enterprise** (<http://www.petragce.com/>), they established:

- **8 companies** working on developing solutions and setting social marketing plans.
- **9 water clubs** inside the universities, as university theme for this year is the water issue, due to Jordan is the second poorest country of water worldwide.

The project also aims to **analyse the environmental issues** and **make people aware** about it, (as well as to incubate the creative and innovative youth who have environmental solution ideas), with the purpose to turn it into a product or service.

Petra for Green Community Enterprise received a 1.000.000 Jordanian Dinar grant from Jordan Enterprise Development Corporation JEDCO, to establish a **Green Building Factory** for the products they invented, which will be ready in April 2016. All the products are protected by patents.

The project established several partnerships with the **Ministries of Environment and Water and Irrigation**, as well as the main water and environmental companies in Jordan.