

Handbook to save energy in the home

Handbook to save electricity and energy in the home

Non-renewable energy is usually fossil fuels such as coal, oil and natural gas. These fossil fuels took hundreds of millions of years to form and are now depleted over time. What are the benefits of saving energy? What is energy saving? How is our family consuming electricity? The following is a guide to saving electricity and energy in the home.

Energy saving

What are the benefits of saving energy?

1. Save money for you and your family.
2. Contributing to ensure the demand for electricity, gas, gasoline... for your family and your descendants.
3. Contribute to limiting rotating power cuts in your area.
4. Contributing to protecting the health of the environment - is protecting the health of you and your family.

What is energy saving?

1. Energy saving is the economical and efficient use of energy.
 2. To use sparingly is to use it at the right time and in the right place; When not in use, turn it off immediately. For example: only turn on the lights at living locations, need to light and turn on just enough, then turn them off immediately after use; or with air conditioners, only the temperature should be set between 24°C and 26°C when in use.
 3. Efficient use is using the least amount of energy and still satisfying the needs of use. For example, using economical lamps such as fluorescent lamps, compact lamps have lower power consumption than incandescent lamps even though they have the same brightness.
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1. Renewable energy is considered as an inexhaustible source of energy such as wind power (wind energy), solar energy, geothermal energy, tidal power and hydroelectric power. This is a clean energy source and very environmentally friendly.
 2. Non-renewable energy is usually fossil fuels such as coal, oil and natural gas. These fossil fuels took hundreds of millions of years to form and are now depleted over time.

How is our family consuming electricity?

STT	Device name	Quantity	Power / device (W)	Average usage time/day	Power Consumption (Wh)
first	Fluorescent	8	50	4	1,600
2	Refrigerator 150 liters	first	200 (x 0.5)	24/24	1,200
3	Television	2	250	6	3,000
4	Player	first	50	first	50
5	Fan	3	70	5	1,050
6	Electric cooker	first	500	2	1,000 yen
7	Washing machine	first	500	first	500
8	Computer	first	200	3	600
9	Iron	first	1,000 yen	0.5	500
ten	Air-conditioner	first	750 (x 0.5)	3	1,125
11	Water heater	first	1,000 yen	first	1,000 yen
twelfth	Microwave Oven	first	1,000 yen	0.5	500
Total		12.125 Wh			

1. Households in the city. Ho Chi Minh City's electricity consumption rate accounts for 35% of the city's total energy consumption.
2. In Vietnam, to produce 1 kWh of electricity will emit 0.43 kg CO₂ into the environment
3. Investment cost to produce 1 MW of electricity from large hydroelectricity (over 50 MW) is 1 million USD.
4. As long as each household (Tien Giang) reduces one 40 W light bulb, it will save about 15.4 MW/day and night, and thus, there is almost no need to cut off electricity anymore" . *Nguyen Trung Tri, Deputy Director of Tien Giang Power Company*)
5. Each Vietnamese family only needs to turn off one light bulb during peak hours (from 8am to 10pm) to save thousands of billions of dong in investment budget costs for the addition of power sources and grids.

How to effectively use the lighting system

Although the power consumption of the bulbs is not as large as that of other electrical appliances (refrigerators, air conditioners, etc.), but due to the large number of bulbs and long usage time, it accounts for a rather large expense. of your total electricity bill. The following suggestions will help us save electricity for the lighting system:

Take advantage of natural lighting by:

1. Use transparent, translucent plastic corrugated iron sheets
2. Use light-filled windows with umbrellas and skylights
3. Coordinate the light door with the ventilation door.

It is recommended to use lamps with high efficiency:

1. Incandescent lights (circular lights) are the cheapest to buy, but the most power-hungry to use. Therefore, you should choose energy-saving bulbs such as compact lamps, T5, T8 fluorescent lamps.

Compare the power consumption of the two lamps:

Lumens (Lumens) (units measure the luminous intensity of light sources, lamps)	Power Consumption (W)	
	Filament lights	Compact light
250	25	5
400	40	7
600	60	11

700	70	13
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Electronic ballast should be used:

1. Because it saves about 50% more power consumption than using traditional ballast (electronic ballast) and doubles the life of the bulb.

Other notes:

1. Reasonable installation: Reasonable design and installation of light bulbs will promote the lighting efficiency of the bulbs.
2. Clean the trough regularly: The light bulb will be effective because a thin layer of dust can reduce the brightness by 10-20%.
3. When installing lights, it is advisable to use a lamp trough / reflector to promote the lighting efficiency of the bulb.
4. Don't forget to turn off the light as soon as you leave the room.

How to effectively use the air conditioner

During the life of an air conditioner, the initial investment cost only accounts for about 4-10% of the total cost; maintenance costs, maintenance accounts for 1-2%; The remaining 90-95% is the cost of power consumption.

Therefore, in order to save this biggest cost, we should pay attention to the air conditioning system right from the beginning when we plan to use it, that is, from the design stage of the room, purchase equipment purchase and then throughout the use and maintenance of the system.

In the process of designing the space (room/area) intended to use the air conditioner, we should pay attention to the following points:

1. Avoid direct sunlight on the glass windows to limit the greenhouse effect.
2. Avoid opening windows facing east and especially west. The window area should be moderate, the ratio of window area to wall area should be less than 25% for East and West directions, and this ratio should be less than 30% for South and North direction.
3. In the case of opening windows in the East and West, it is necessary to have sun protection measures such as: using umbrellas, sunshades; use screens (curtains can be placed inside or outside, but outside will be more effective); light colored curtains should be used.
4. For east and west facing walls, it is recommended to use building materials with low heat transfer coefficient or with a layer of insulation for the wall; Buildings with a building type with external corridors will help to avoid this heat penetration.
5. The walls need to be painted in light colors.
6. The space between the ceiling and the roof needs to be ventilated, especially for the tole roof type.
7. Around the building, there should be many trees.

Here are a few notes in the process of buying and using an air conditioner:

1. Should buy a good type, should not buy an old one that has been repaired.
2. It is recommended to use a machine with a capacity that is compatible with the room. (for example, a room of 20-25m² · the used capacity is usually 1 HP)
3. No loss of cold wind: seal the windows and doors; Limit the number of times the door is opened (install a spring-loaded automatic door closer).
4. Do not leave heat sources in the room.
5. Set reasonable cold temperature: 24-25 °C during the day, 25-27 °C at night (bedroom) (priority increase fan speed)
6. Turn off the air conditioner when not in use and only use it when absolutely necessary.
7. Clean the machine periodically (3-6 months/time).
8. The outdoor unit is placed in a well-ventilated place, not exposed to direct sunlight.
9. Use a fan instead of an air conditioner.

How to effectively use the refrigerator, rice cooker and fan

Knowing how to use refrigerators and rice cookers not only makes meals more delicious, but also helps your family save a lot of money.

Fridge

Refrigerator is a device that consumes a lot of electricity compared to other appliances in the family, some of the following solutions will help us save electricity when using the refrigerator:

1. Choose a refrigerator of the right size (family of 4 choose 102-180 liters).
2. Place the cabinet in a cool place, at least 10cm away from the wall, away from sunlight or near heat sources.
3. Clean the dust on the rear outdoor unit (old type) and the outside of the case.
4. Door seals must always be sealed and not come off.
5. Set the temperature of the compartments just right, usually don't need the coldest.
6. Do not put hot food in the refrigerator.
7. Do not allow the layer of snow to adhere to the indoor unit (snow freezer) with a thickness of more than 5mm.
8. Streamline operations to reduce cabinet opening times and door opening times.
9. Buy cabinets with multiple doors.
10. Do not buy too old cabinets, have been repaired.

Electric cooker

1. Do not cook rice too early, only cook rice about 30 to 45 minutes before eating to limit the reheating time.
2. Use a rice cooker of appropriate capacity/capacity.
3. Clean the bottom of the rice cooker and the heating plate of the rice cooker for better contact.

Fan

1. Regularly clean the fan periodically.

2. Use the fan speed according to the need, if using the fan speed at the highest number will consume the most power.

How to effectively use the washing machine and iron

Clean clothes, straight pants but having to pay a lot of electricity bills, the housewives must still not be satisfied. Here are ways to use washing machines and irons reasonably and economically

Washing machine

1. Wash the amount of laundry in accordance with the machine capacity.
2. Do not choose hot water mode, if it is really not necessary.
3. Select the 'eco' mode if your washing machine has one.
4. The machine should be placed in a ventilated and ventilated place.
5. After using, should wipe the stains inside and outside the washing machine, to avoid bacteria breeding.
6. The machine should not be placed in the kitchen, because steam, greasy, slightly salty. clinging to the machine is easy to humidify, rust. washing machine.
7. Periodically, once a year, remove the wave wheel to clean the dirt that has been stuck for a long time.
8. Read the instructions for use carefully to take measures to grease specified parts such as the bearings of moving parts.
9. When using the washing machine, do not throw it away, or go to sleep. Attention should be paid to handling possible problems. If the machine is hot or makes strange noises, stop washing to check.

Iron

1. Do not iron during peak hours.
2. Gather a lot of items to iron at one time (can be ironed at the beginning of the week or at the weekend)
3. When ironing, ironing should be done in the following order: iron thin clothes, then iron thick clothes, then unplug and use the remaining heat to iron thin items.
4. When ironing, check that the iron's temperature setting is appropriate for the fabric to be ironed.
5. Do not use the iron in a room with the air conditioning on or while the clothes are still wet.
6. Cleaning the metal surface of the iron will help it work more efficiently

How to effectively use water heaters and microwaves

Water heater

1. It is advisable to arrange time for bathing with hot water of family members close to each other to save electricity.
2. Should buy a good type of water heater with an electrical safety kit, do not buy an old one that has been repaired.
3. The water temperature should not be set too hot.

4. Use a low-flow showerhead.
5. It is recommended to use direct water heater instead of indirect water heater.
6. Conditions should use solar water heater

Microwave oven

1. Before using a microwave oven, carefully review and follow the instructions for each oven.
2. Use microwave-safe food containers such as glassware, porcelain, ceramics, some plastics, and hard paper.
3. Always use cookware larger than the dish to avoid spills.
4. Do not turn on the microwave oven in an air-conditioned room, do not place it near other electrical appliances so as not to affect the functioning of these electrical appliances.
5. Porcelain with metal rims should not be used because it will cause electric shock. Metal objects attract heat, making food take longer to cook and also cause electric shocks.
6. Do not use plastic containers for ready-to-use food, styrofoam boxes, brown paper bags because toxic chemicals from these when hot can mix with food.
7. Do not use wooden containers as they will crack when heated. Do not use nylon or poly-ester containers as they may melt. Do not cover the dish too tightly because the high internal pressure will explode. Cover the cookware with a paper towel or thin piece of plastic to keep the food moist.
8. For safe cooking, we do not cook when the oven door is not closed or is warped.
9. Always have water or wet food with you when using the oven, so that the magnetron tube is not damaged. When the dish is too dry, a glass of water can be left in the oven.

How to effectively use computers, televisions, and locomotives

Computers, televisions, and locomotives are probably the most wasteful things we use, sometimes just a little laziness, or because we lack certain knowledge, such as leaving these devices at home. standby for many hours. Let's share the knowledge of using computers, televisions, and locomotives effectively.

Computer

1. Turn off the screen or select ScreenSaver mode on pause
2. Turn off the machine and unplug it when not in use
3. It is recommended to use a laptop or use an LCD computer

Televisions, locomotives. and remote control electronic devices:

1. For these devices, if turned off by remote control, the device still consumes power, so it should be turned off with the power button and unplugged from the outlet.
2. The TV screen should not be too bright to save power.
3. You should choose the right TV size for your home, because the bigger the TV, the more power it uses.

Efficient use of gas stoves, water pumps and motorbikes.

Gas stove

1. It is recommended to use a cooking pot that is slightly larger than the mouth of the stove
2. Adjust the flame to match the size of the pot: too small will take a long time to cook, too big will waste gas.
3. Cover the pot tightly while cooking. Adjust the heat to low when the food starts to boil.
4. After cooking, close the gas valve carefully
5. Avoid letting the wind blow into the flame when cooking
6. Use the microwave when cooking less food
7. Using solar hot water for cooking will help save gas.

Water pumps

1. Choose a pump with the right capacity.
2. Select a pump with technical characteristics suitable for the needs of the family.
3. Choose a pump with high efficiency (good pump)
4. It is recommended to use a pumped water tank to use water for many times, avoiding the case of using water when pumping at that time, which will easily waste electricity and water.
5. Saving water is saving electricity for the pump

Motorbike

1. Should choose to buy a car.
2. Regular vehicle maintenance and servicing.
3. Use the correct type of gasoline according to the manufacturer's instructions
4. Do not carry more than the specified number of people
5. Do not leave the car in standby mode for 30 seconds or more
6. Use reasonable numbers, low speed small numbers, high speed large numbers.
7. Walk or bike if traveling nearby
8. Use the bus if traveling long distances
9. Use email, phone to exchange work instead of commuting

Energy saving label

Currently, in order to encourage the production of energy-saving devices and guide consumers to use energy-saving devices, on November 16, 2006, the Ministry of Industry issued a circular on guiding procedures for continue to label energy-saving products for energy-using products.

Energy-saving labels are labels affixed to high-efficiency energy-consuming products to provide information to consumers when making a purchase.

Energy-saving labels include two forms:

Energy-saving product certification label	Energy-saving product comparison label
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Energy-saving product certification label is a label affixed to goods and products circulating on the market when these products have an energy use level that meets or exceeds the standards set by the Ministry of Industry from time to time. .	Energy-saving product comparison label is a label affixed to products and goods circulating in the market to provide consumers with information to compare the energy consumption of labeled products with with similar products on the market. The label clearly shows information about energy consumption and specific regulations to help users choose products with more economical energy consumption than similar products.

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