



SCOUTS ENERGY USE AUDIT

Every time you use energy, you release greenhouse gases into the atmosphere. This is a result of what energy is made of: fossil fuels like coal, oil, or natural gas. Scientists have found that greenhouse gases are contributing to climate change. They trap the earth's heat, cause temperatures to rise and change weather patterns. There is a direct link between using less energy and reducing climate change.

Do you know how much energy you use? This audit will help you find out, and give you ideas on how to reduce it. It's easy, and it will save your family money.

Follow the instructions in each Investigate section. These will reveal common areas where your home might be using more energy than necessary. If any of the questions do not apply to you, or you can't answer it with the help of your parents, skip it. Next, take action to reduce energy by checking (✓) the things you can do. Obtain permission from your parents where requested.

Energy Use and Lighting

Lighting guzzles energy. Conserving here can make a big difference in your home's energy use.

Investigate

1. How many standard light bulbs do you have in your home? _____
2. Which lights are on for an average of 4 hours a day? These would be good candidates for compact fluorescent bulbs. Note them here:

Tip: Compact fluorescent bulbs use 1/4 to 1/3 the electricity of a regular light bulb and can last 10 times longer. Lights that have a dimmer function; have tri-level switches, timers or sensors cannot generally be used with compact fluorescent bulbs.

3. Are lights being left on when no one is in the room? On three different days, take a note of where and how the often lights are left on unnecessarily. Why are they being left on?

Day 1: _____

Day 2: _____

Day 3: _____

Tip: Do not turn off lights if you leave the room for 5 minutes or less. Motion detectors are a good way to reduce energy used by outdoor lights.

Take action to reduce energy use

- ☐ With permission from your parents, replace standard bulbs with compact fluorescent bulbs. Note how many you replaced here: _____
- ☐ Commit to turning off lights when they are not being used. Remind your family to do the same.

Energy Use and Hot Water

A hot water heater can be a huge energy drain. It stores heated water in a tank so it is ready to use at moment's notice – like when you want to take a shower.

Investigate

1. With a parent's supervision or permission, run the hot water in a sink or tub until it fully heats up. Check the temperature with a thermometer without touching the water. Record the temperature here: _____ °C.

Tip: The optimal temperature for your hot water is 55 °C. The temperature should not be set lower for health reasons.





2. How many times a week do you take:
a bath? _____ a shower? _____
3. Set a timer the next time you take a shower and record here how long you run the water: _____.

Tip: Baths use more hot water than showers, so choose them less often.

4. Have your parents installed faucet aerators and/or low-flow showerheads? _____ If not, this would save them money on hot water heating bills.
5. How many loads of laundry (on average) does your family do per week? _____
6. Approximately what percentage of these loads is washed with cold water only? _____
7. How many additional loads could be washed in cold water only? _____

Take action to reduce energy use

- ☐ If you take baths, reduce the number you take per week and limit your shower to five minutes or less to use less hot water.
- ☐ Use cold water instead of hot water for laundry by the percentage you determined in question 7.

Energy Use by Appliances and Equipment

Appliances and equipment can really eat up energy. How are yours doing?

Investigate

1. Does your home have a laundry drying rack or line in the basement or outside? _____
If so, what percentage of the time do you use it to dry laundry instead of using the dryer? _____
Could this be increased? By what percentage? _____
2. If you have a dishwasher, what percentage of the time is it run without a full load? _____
3. Does your family have second fridges or chest freezers you really don't need to use? _____

Tip: Front-loading clothes washers use about 40% less water per load and 50% less energy than top-loading ones.

Take action to reduce energy use

- ☐ Increase your use of drying racks or clotheslines to dry your laundry by the percentage you determined in question 1. This also will help your clothes last longer.
- ☐ Make a family commitment to run the dishwasher only when it is full.
- ☐ With permission from a parent, unplug the 2nd refrigerator and/or chest freezer in your house if they feel you don't really need to use it.

Energy Use for Heating and Cooling

Most of the energy we use in our homes goes to heating and cooling. Are you over-consuming in either of these areas?

Investigate

1. If you have access to the thermostat, at what temperature is it set? _____
2. At what temperature is the air conditioner normally set? _____
3. Do you have a programmable thermostat that automatically turns down the temperature at night and when no one is home during the day? Or, does anyone do this by hand? _____
4. Does your family close blinds and curtains during hot summer days to keep out solar heat? _____

Tip: Your thermostat should not be set warmer than 21°C during the winter. Your air conditioner should not be set cooler than 25°C.





Take action to reduce energy use

- ☐ With the permission and help of a parent, set the furnace thermostat to no warmer than 21°C during the winter. If you reduced the temperature, how much did you reduce it by? _____
- ☐ Agree with your parents on a temperature to have your thermostat automatically turn down to at night and when no one is at home and do so. Record those temperatures here:
night _____ - when no one is home _____

If you do not have a programmable thermostat, will someone commit to turning the temperature down by hand? _____

- ☐ With the permission and help of a parent, set the air conditioner thermostat to no cooler than 25°C. If you reduced the temperature, by how much did you reduce it? _____
- ☐ Make a family commitment to keep blinds and curtains closed during the day in the summer.

Tip: By keeping blinds or curtains closed on hot summer days, you prevent solar heat from warming up your home (and causing your air conditioner to work harder, if you have one). You will notice a difference! Do the opposite in the winter to gain from solar heat.

For every 1°C you lower your thermostat, you save 2% on your heating bill. A reduction of 3°C at night and when you are away during the day provides optimal savings. The lowest you should set the temperature at is 15°C. mould could begin to grow in your home at a lower temperature.

Energy Use for Food Packaging and Waste

Energy is the hidden ingredient in many of the items you use everyday – from producing the cereal box you ate from this morning to transporting the apple you'll eat in your lunch. How much energy are you consuming?

Investigate

1. Does your family recycle? _____
2. Do you know everything your municipality accepts for recycling? _____ Do your parents? _____
3. Does your family compost food waste? _____
4. Select three different vegetables or fruit from your fridge with stickers that say where they were grown. List those places here:
5. Are these locations near your city or town, or far away?

Tip: Recycling packaging saves a remarkable amount of energy! Energy savings for creating a new product out of recycled material are 95% for aluminum; 75% for plastic; 64% for steel; 60% for paper and 40% for glass.

Tip: The average meal has traveled 2,500 kilometres before it reaches your plate. Transportation creates tonnes of greenhouse gas emissions. By purchasing more local produce, you can really reduce greenhouse gases.

Take action to reduce energy use

- ☐ Find out everything you can recycle in your city, and make sure your family recycles these items.
- ☐ Help your family to compost everything you can.
- ☐ Buy grown locally fruits and vegetables whenever possible.





Energy Use and Transportation

About half of the greenhouse gas emissions you make comes from your transportation choices. Are you a climate-friendly traveller?

1. What type of transportation do you take to school (check as many as apply)?

In the fall and spring:	In the winter:
☐ walk/inline skate/bike	☐ walk/inline skate/bike
☐ school bus or city bus	☐ school bus or city bus
☐ city train	☐ city train
☐ car	☐ car
☐ Other	☐ Other

2. How many times a week do you use motorized transportation to get to events? _____

3. What other ways could you use to get to that destination besides using a car? _____

Take action to reduce energy use

- ☐ Make a commitment to use active transportation (biking, walking, inline skating, etc.) to get to school. How many days a week could you travel to school this way? _____. Make sure your parents agree with your decision.
- ☐ Make a commitment to get to one other destination by active transportation. What is the approximate distance you'll be travelling (one way)? _____. Make sure your parents agree with your decision.

Congratulations, you're done!

Find out how many greenhouse gases you have reduced. Go to www.scouts.ca/energy_audit/scouts/ and follow the instructions. But first, ask your parents for the following information:

1. What type of home do you live in? ☐ apartment ☐ single attached ☐ single detached
2. About how big is your home? ☐ up to 750 sq.ft. ☐ 751-1250 sq.ft. ☐ 1251 – 1750 sq.ft.
☐ 1751 - 2500 sq.ft. ☐ 2501 - 3500 sq.ft. ☐ over 3500 sq.ft.
3. About when was your home built? ☐ before 1946 ☐ 1946-1970 ☐ 1971-199 ☐ after 1990
4. What fuel heats your home? _____
5. What fuel heats your water? _____
6. About how far is your school from your home (in kilometres)? _____

If you do not have access to the internet, bring in your completed investigation to show your Scout Leader at your next Scout meeting.

Making your home really energy efficient

The investigation you just did is not a complete energy use evaluation. A professional can do an expert evaluation of your home's energy efficiency and provide numerous other energy saving suggestions. See the EnerGuide for Houses Evaluation web site for more information on this as well as government rebates your family could use toward paying for the evaluation.
(<http://oee.nrcan.gc.ca/residential/personal/index.cfm?text=N&printview=N>)

