



CLIMATE WITNESS PROJECT

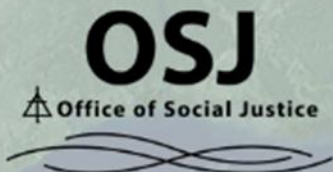
What can I do to help fight climate change?

Below are some suggestions to guide your thinking about what you can do. This list is by no means complete – add to it! As a family or a group of friends or families, discuss these tips together and set goals to make changes in your life that will reduce your contribution to climate change and improve the environment.

– Dr. Henry Brouwer, Climate Witness Project Regional Coordinator

UNDERSTANDING OUR CLIMATE CRISIS

ENERGY SAVING TIPS



TIPS FROM DR. HENRY BROUWER

Transportation

1. Walk or cycle for short trips – the exercise and fresh air are good for the body, And you observe a lot more in your community and environment!
2. When you drive to pick up groceries, for example, combine this with other errands to reduce weekly trips.
3. Carpool with others in your community whenever possible.
4. When purchasing another vehicle, assess its energy efficiency – larger vehicles generally consume more fuel. A hybrid or even an all-electric vehicle can lower your emissions significantly. Over the next 10 years or so, car manufacturers will be switching to all-electric vehicles as fossil fuel use is phased out.
5. Minimize your use of air travel, as this results in large carbon emissions, especially since air travel is over long distances. Consider “stay-cations” to explore and enjoy local areas. A little known fact is that, by international agreement, fuel for international flights is tax exempt; thus fuel costs are artificially low, subsidizing air travel.
6. Most streets and parking areas are paved with an impervious surface, resulting in water run-off during a heavy storm. If you are planning to resurface your driveway, consider an alternative, permeable surface.

Housing

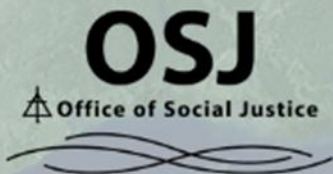
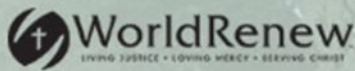
1. Most of the energy used in your home is for heating; lowering the temperature of your thermostat by a degree or two will significantly lower energy use. Use a programmable thermostat to lower the night-time temperature and if no one is home during the day, lower the temperature then as well.
2. Providing hot water (HW) requires the second-greatest amount of energy in a typical home. You can lower heat loss from the hot water tank by adding an insulating jacket (available commercially). Lowering the water temperature will also reduce heat loss from the HW heater and pipes. Ensure that HW pipes are insulated to reduce heat loss. In many parts of the world, solar water heaters are used; such heaters are also available here, but not commonly used since the price of natural gas is so low. Once fossil fuels are phased out, they will become more common.



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3. Check all doors and windows for broken/defective seals and replace as needed to reduce heat loss.
4. When replacing windows and doors, look for energy-efficient ones having a good thermal break and triple glazing. They may cost more up front but will save energy and make your home more comfortable – think long-term!
5. If possible, add extra insulation to the attic. Adding more to the walls may involve professional help. Also, don't forget the basement. In many older homes, basements are not insulated and you can lose as much as 25% of your heat.
6. If your furnace needs replacing, consider switching to a heat pump, which pumps heat from the outside air or the ground into the house (during the winter) and can cool your house in the summer. As fossil fuels are phased out, heat pumps will be the main technology for heating homes (and other buildings); they can also be used for heating water for domestic use.
7. Replace incandescent and fluorescent light bulbs with energy-efficient LEDs; these come in a wide variety of shapes and sizes. Look for ones with a light output of 100 lumens/watt or higher.
8. Install motion sensors to turn lights off when no one is in the room.
9. When replacing appliances, look for the most energy-efficient ones. When disposing of old refrigerators, AC units or freezers, be sure to bring them to a centre where the refrigerant is removed safely, as they are powerful greenhouse gases and can stay in the atmosphere for many years.
10. Install solar panels on your roof if it has a suitable orientation (and if you have the money). Net metering is now possible in many jurisdictions; this means that the surplus electricity you generate can be fed into the grid and you can then draw electricity from the grid as needed, paying only for excess energy used (your smart meter works in both directions).
11. If your property has sufficient room, plant native trees and shrubs to provide shade and a habitat for wildlife. Trees are extremely important for keeping the surroundings cool on a hot day – God's natural air conditioners!
12. Compost all your own yard and kitchen waste in a back corner of your yard. Turning the compost over on a regular basis will speed the composting operation and provide you with a rich, nutritious compost for your garden. This reduces the need for compost pick-up by the municipality, thus lowering the cost to transport it to the composting station.

Food


1. If you have space for a garden, grow your own food! It tastes great, it's easy to do, and it allows you to work outside. Plus you can engage your children in this activity. It's amazing how much food can be produced in an urban garden. If space is unavailable, consider establishing a community garden at your local church or in a nearby vacant area. This is also a good way to get to know your neighbours and share extra produce with them. Some of your excess produce can be frozen for winter use.
2. Purchase local food at a farmer's market; you get to meet the grower and the food is usually of high quality. Another option is to join a food-share organization that connects local growers with consumers and provides weekly fresh in-season fruits and vegetables.




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**ENERGY
SAVING TIPS**

 **WorldRenew**
LIVING JUSTICE • LOVING MERCY • SERVING CHRIST

OSJ
 **Office of Social Justice**


Christian Reformed
CENTRE FOR **Public Dialogue**

**TIPS FROM
DR. HENRY BROUWER**

3. Eat low on the food chain (mostly fruits, grains, beans, nuts, vegetables). Not only do these foods require less processing, they normally would be less contaminated with agricultural chemicals than meat, as animals tend to bioaccumulate toxins. When using meats consider the environmental impact of raising the animals. Industrial operations can add significantly to greenhouse gas emissions.
4. If possible, purchase food with minimal packaging to reduce single-use plastics. Bring your own containers if allowed. Request your store manager to use biodegradable packaging.

Manufactured Goods

All purchased goods contain embedded energy. They require resources in the form of minerals, metals, polymers, etc., along with energy, water, labour, packaging and so forth. Be a discerning shopper and consider such questions as: Are the goods produced ethically? Are they durable? Are they produced locally? Were the workers paid a living wage? How was the waste disposed? Is the packaging recyclable? What happens to the goods at the end of their life cycle? Whenever buying or discarding goods, consider the four R's:

Refuse – do you really need it?

Reuse – can you reuse it yourself? Or could someone else reuse it? Give it to a thrift store!

Repair – rather than throwing it out, could it be repaired (e.g. appliances, clothing)?

Recycle – can the item be recycled to recover metals or plastics, etc.? It is also very important to recycle electronic devices properly to recover the rare elements used in these devices.

Place of Employment

The places where we work, whether in industry, housing, hospitals, universities, schools, churches, etc. all use energy, variety of resources and create waste. Each place of employment will likely have many opportunities to use these resources better and more efficiently. Your place of employment could organize a group of interested individuals to spearhead a campaign to examine what can be done to lower the carbon footprint of the operation. There also may be grants available to assist with capital costs. Here are a few suggestions:

1. Encourage employees to make suggestions via a suggestion box. Acknowledge suggestions and reward those whose ideas are implemented.
2. Do an energy audit of your facilities; this can be done in-house if you have competent people, or you can ask your local utility company to do an audit.



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3. Inspect the exterior of the building(s) for any obvious gaps or openings that would let heat out.
4. Check windows and doors for broken seals and replace as needed.
5. Replace all lights with energy-efficient LED bulbs. For example, replacing the two 34W fluorescent tubes in a fixture that is on 24/7 (i.e. security lighting) with two 18W LED tubes will reduce your energy demand and save around \$40/fixture annually.
6. Install motion sensors to turn lights on and off in areas of the building not in constant use.
7. Install light sensors to turn lights on or off or to adjust the lighting intensity depending on the natural light coming into the building.
8. Electric motors are used in many operations, some of which require 24/7 operation. The common, low-cost electric motors (such as used in fans) are induction motors having an efficiency of 65-75%. Replacing these with more costly variable speed DC motors having an efficiency of 95% or better can lead to significant energy savings annually.
9. Waste heat is common in many operations; is the heat being reclaimed and used for other purposes (such as heating water)? For example, coolers or freezers often have the waste heat dumped outside where the compressor units are located. Could that heat be used to heat the building in the winter?
10. Do a waste audit to determine the different types and quantities of waste being produced. Knowing how and where those wastes are generated will allow you to take steps to lower your waste, again saving on disposal costs. All wastes contain embedded energy and resources that have been purchased for the operations in the place of employment.
11. Does your company/institution encourage cycling to work by providing a secure location to park your bicycle? Have electric vehicle (EV) charging stations been installed to encourage the use of EVs by employees?
12. If traffic congestion creates problems for employees to get to work, has the company/institution considered different starting times? What about working from home to reduce commuting time?
13. If there is space, plant native trees and shrubs on the building location. These provide a more natural setting, provide a habitat for wildlife and shade for employees. They will also give the facilities more 'curb appeal'!
14. Install solar panels on the roof to generate some of your own energy; it's also a very visible way to show that you are committed to environmental stewardship.
15. Business trips, especially by air, have a high carbon footprint. Can such trips be reduced by using electronic communication? A special seminar room having video-conferencing could reduce travel costs and time.
16. What about investments? Are you indirectly supporting the fossil fuel industry or are the investments in sustainable growth?
17. Are there other innovative ways of achieving your same goals while using less energy and resources, and creating less waste? Those who work daily at certain tasks probably would have the best insight to what can or cannot be done.