

CARBON FOOTPRINT CHALLENGE

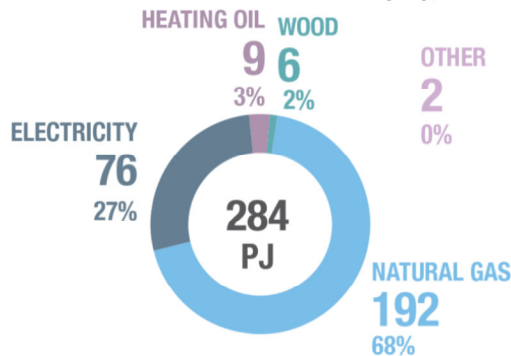


How much of an impact does it have on our carbon footprint?

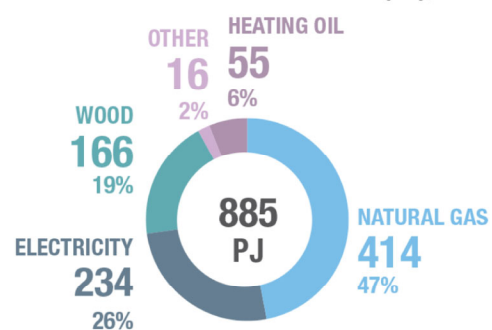
Canadian households use energy every day – to power lights and appliances, heat or cool spaces, run personal vehicles, recharge electronics, and more.

Notably, **80%** of residential energy consumption is used for **space and water heating**.¹

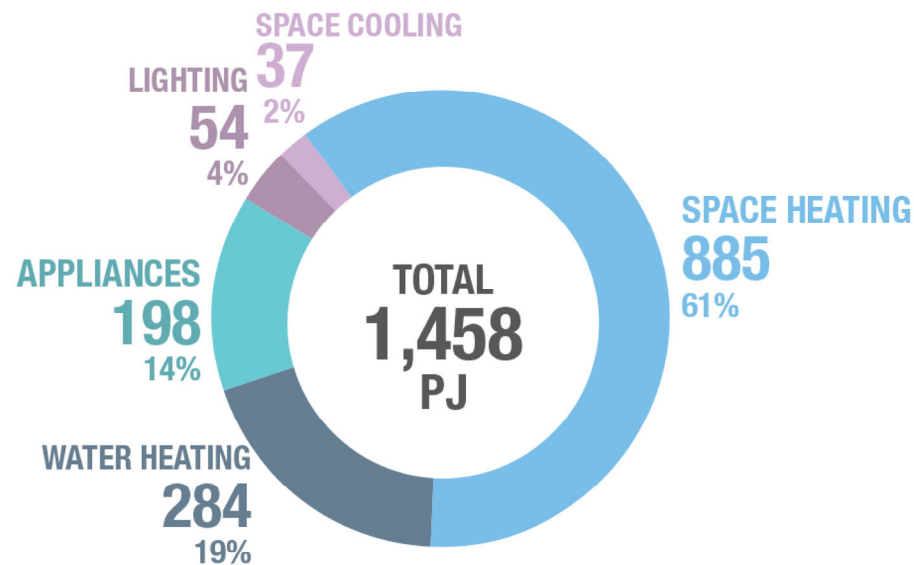
WATER-HEATING ENERGY USE (PJ), 2016



SPACE-HEATING ENERGY USE (PJ), 2016



RESIDENTIAL APPLIANCES ENERGY USE (PJ), 2016



Smaller homes use less energy. Average household energy use is highest in houses (82.3 million BTU), followed by mobile homes (59.8 million BTU), apartments with 2-4 units (53.5 million BTU), and apartments with 5+ units in the building (34.2 million BTU).²

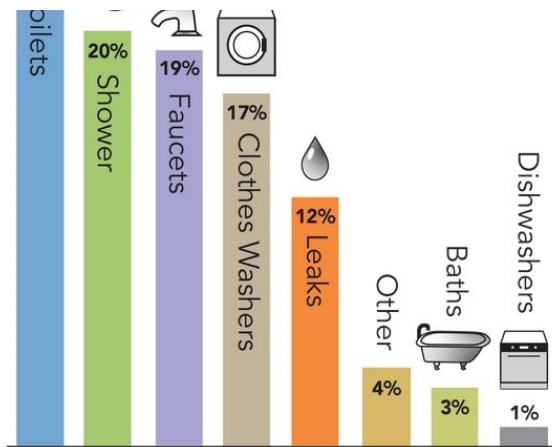
Residential energy efficiency improved by 51% between 1990 and 2016, saving 721 PJ of energy and \$15 billion in energy costs.

Residential energy use increased 2.4% since 1990, but would have increased by 53% without energy efficiency improvements¹

WATER USE



Many people think that because Vancouver is a rainy city that there is an abundance of water and therefore



From Residential End Use of Water, Version 2. Water Research Foundation, 2016.

no need to conserve it. However, diminishing snow packs and lower precipitation have led to lower reservoirs and drought conditions in recent year.⁸

Residential water use in Metro Vancouver is 270 litres per capita per day. That's less than the City of Montreal's 286 litres per capita per day, but more than Toronto's 219 per day or the 210 per day used by residents of Calgary.³

A faucet that leaks **one drip per second** will waste **21 litres** of water every day!⁷

Click the button below to find out how much water you use yourself:

WATER CONSUMPTION CALCULATOR (US)

WATER CONSUMPTION CALCULATOR (CANADA)

WAYS TO TAKE ACTION

To reduce carbon emissions in the built environment, consider:

- 1. If you have no control over your building you are still able to change behaviors!**
- 2. If you have control over your building you have the ability to make actions on renovations (large and small).**

Behaviour Changes

1. If you have a dishwasher, use it! Hand washing uses more energy and water than a machine dishwasher.
2. Unplug electronic devices when not in use, or plug them into a power strip and turn the power strip off.²
3. Do an energy audit of your home. This will show how you use or waste energy and help identify ways to be more energy efficient.
4. Change incandescent light bulbs (which waste 90 percent of their energy as heat) to light emitting diodes (LEDs). Though LEDs cost more, they use a quarter of the energy and last up to 25 times longer. They are also preferable to compact fluorescent lamp (CFL) bulbs, which emit 80 percent of their energy as heat and contain mercury. Also, remember to switch lights off when you leave the room!
5. Turn your water heater down to 120°F. This can save about 550 pounds of CO₂ a year.
6. Install a low-flow showerhead to reduce hot water use. This can save 350 pounds of CO₂ annually.⁵

7. Convert your toilet to a low flush toilet. A family of five would save up to 1325 litres every month!⁹
8. Lower your thermostat in winter and raise it in summer. Use less air conditioning in the summer; instead opt for fans, which require less electricity⁵.
9. Check for leaks. Water leaks from the average household accounts for more than 10,000 gallons of water wasted each year. Check your faucets, showers, and toilets for leaks, and you could go a long way to ensuring that our water is for drinking – not wasting.
10. Fix leaks for:
 1. Outdoor fixtures; including irrigation systems, ponds, fountains, and water features
 2. Indoor appliances and plumbing fixtures; including heating and cooling devices⁶

Renovations & Actions

Fuel-Switching

The best way to reduce the greenhouse gases (GHG) emitted by your home is to switch from a greenhouse gas intensive heating fuel to a more climate friendly fuel type: **Electricity**

Electricity has the lowest GHG emissions, as over 90% of electricity in BC is from renewable hydroelectricity and electric space and hot-water heating systems are more efficient than fossil fuel.

Upgrading

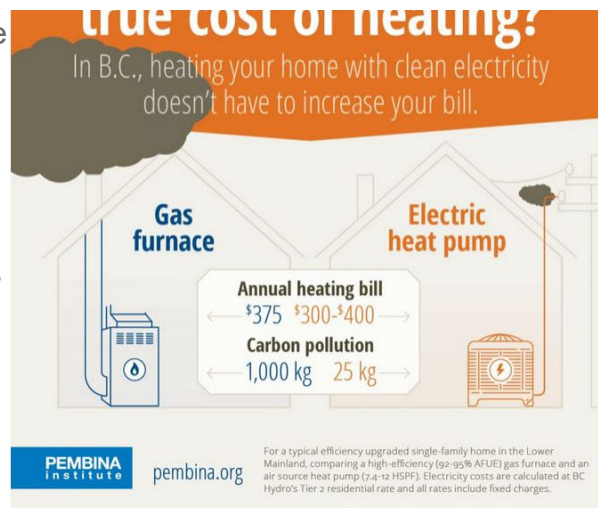
Upgrading an old heating or hot water system to a more energy-

**What's the
true cost of heating?**

efficient system of the same fuel type will also achieve GHG savings.

In all homes, when upgrading a space heating system it is wise to consider building envelope upgrades such as:

1. **draftproofing**
2. **insulation**
3. **upgrading windows**



A well-insulated, draft free building envelope may allow you to install a smaller and more efficient heating system, will further improve the overall energy efficiency of your home, reduce GHG emissions and maximize the affordability of your heating bills.⁴

Resources and extra sources:

- [FREE energy savings kit for low and moderate income](#)
- [Fortis BC Energy Saving Tips](#)
- [Indoor Water Tips](#)
- [Convert Any Toilet to a Low Flush Toilet](#)

Citations

1. <https://www.nrcan.gc.ca/science-data/data-analysis/energy-data-analysis/energy-facts/energy-and-greenhouse-gas-emissions-ghgs/20063#L5>
2. <http://css.umich.edu/factsheets/carbon-footprint-factsheet>
3. <https://www.cbc.ca/news/canada/british-columbia/vancouver-water-restrictions-1.5176561>
4. <https://betterhomesbc.ca/faqs/best-way-reduce-ghgs-emitted-home/>
5. <https://blogs.ei.columbia.edu/2018/12/27/35-ways-reduce-carbon-footprint/>

6. <https://vancouver.ca/home-property-development/how-you-can-be-water-wise.aspx>
7. <https://water.usgs.gov/edu/activity-drip.html>
8. <https://www.cbc.ca/news/canada/british-columbia/drought-bc-rivers-creeks-running-low-summer-heat-in-spring-temperature-records-1.5174220>
9. <https://www.nytimes.com/2002/04/14/realestate/your-home-reducing-water-use-in-the-home.html>

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