# Saving money and reducing greenhouse gas emissions

# The "one tonne challenge"

The Climate Change Plan for Canada presents a roadmap for the country to reduce our greenhouse gas emissions to meet the targets contained in Canada's

Kyoto Protocol target. The Kyoto Protocol formalized commitments that Canada originally made during the Earth Summit, held in Rio de Janeiro, Brazil in

1992. Canada's commitment is to reduce GHG emissions to a level 6% below our 1990 emissions by 2012. This reduction is a first step in an international effort aimed at stabilizing  $CO_2$  levels in the earth's atmosphere.

Every Canadian generates just over five tonnes of greenhouse gas (GHG) emissions, on average, annually. Combined, they account for more than a quarter of Canada's total greenhouse gas emissions. The pie chart on this page shows the average breakdown of these

personal emissions.

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We can live twice as well

vet use half as much.

The government of Canada is challenging individuals to reduce emissions by one tonne or 20%. When we use energy

efficiently in our homes, we save money. Sealing and insulating our homes, using energy efficient appliances, and using those appliances efficiently, keeps money in our bank accounts. The table on the back of this sheet shows how a few energy efficient actions can result in substantial savings of money, as well as greenhouse gas emission reductions.



Sources of personal greenhouse gas emissions in Canada.

SOURCE: Government of Canada Climate ChangePlan for Canada 2002

#### Other home energy savings

Landscaping can also reduce an energy bill. Densely planted evergreen trees to

the northwest of a house are effective as a windbreak. Leafy deciduous trees planted on the south side of your property

provide shade in the summer, yet allow the sun through in winter.

In addition to saving us money, trees absorb carbon dioxide, filter out pollution and increase the aesthetic value of our properties.

Reusing and recycling can earn households extra pocket money. It also

takes much less energy to reuse or recycle a product than to make a new one.

Correctly composting food and yard wastes—by regularly watering and turning them—eliminates the

methane that they would produce at a landfill. The City of Whitehorse curbside compost collection program makes household composting easy, while allowing the city to reduce the volume of waste entering the landfill and, therefore, reduce municipal

emissions of greenhouse gases. Along

with increasing our wealth, energy

efficiency also increases our health, by reducing the number of air pollutants that are generated when we burn heating oil or use diesel-generated electricity. We keep our air cleaner locally, and we reduce emissions of greenhouse gases.

We can live twice as well, yet use half as much.

Weizaker, Lovins and Lovins, Factor Four: Doubling Wealth, Halving Resource Use





### Energy efficiency savings in your home

Action	Explanation	Approximate money saved per year <sup>1</sup>	CO <sub>2</sub> reduction per year (tonnes) <sup>2</sup>
Using a more energy efficient furnace.	An oil furnace with an 86% efficiency rating that cost \$2,000 could pay for itself in about five years.	\$337	2.30
Keeping home oil or gas furnace properly tuned.	Regular maintenance includes cleaning or replacing fuel and air filters, cleaning and adjusting burners, sealing ducts, and checking combustion efficiency and duct design.	\$381	2.10
Using an indoor or outdoor clothesline instead of an electric clothes dryer.	Using an indoor clothesline can help humidify your home in the winter. In summer, your clothes dry for free.	\$113	0.32
Using a low-flow shower head.	The most expensive shower head will pay for itself in about one month. Savings here are just for the electricity saved. Savings will be greater where consumers pay for water use.	\$276	0.79
Washing laundry in cold water.	Cold water is also easier on clothes.	\$105	0.30
Lowering the thermostat on the home hot water tank.	Lower the temperature from 70°C to 55°C.	\$54	0.08
Insulating the hot water tank.	Hot water tank blankets cost approximately \$35.	\$18	0.02
Replacing one incandescent bulb with a fluorescent light bulb.	An \$8 compact fluorescent light bulb will pay for itself in less than two years and keep working for many years.	\$5	0.03
Reducing air leakage from the home.	Caulking and weather stripping can signifi- cantly reduce air loss and therefore heat loss.	\$228	1.55
Increasing the insulation in the attic from R30 to R45.	The payback period is approximately 11 years, and the insulation will be there for the life of the house, which could be well over 50 years.	\$49	0.33

1. Based on the average Yukon home-owner's electrical rate of 12.5 cents per Kwh.

2. Based on 2.3 kg CO2 emitted per litre of diesel burned to produce electricity. (Currently, Whitehorse, Aishihik, Faro (WAF) grid electricity is hydro generated, but when demand increases, diesel generators are used to meet peak loads. Yukon communities that are off the WAF grid rely on diesel-generated electricity.)

## **Additional reading**

Canada Mortgage and Housing Corporation: Ten Steps to a Cooler Planet http://www.cmhc-schl.gc.ca/publications/en/rh-pr/tech/00-146-E.htm

Natural Resources Canada: EnerGuide http://oee.nrcan.gc.ca/energuide/home.cfm

Government of Canada: What can we do about climate change at home? http://www.climatechange.gc.ca/english/issues/what\_can/athome.shtm

Energy Solutions Centre http://www.nrgsc.yk.ca

Yukon Housing Corporation http://www.housing.yk.ca/services/hrp.html SOURCES

Environment Canada A Change in our Climate: What's Going on in our Greenhouse?

Pembina Institute Taking Charge, Personal Initiatives

Environment Canada website: "What you can do" http://climatechange.gc.ca/english/issues/what\_can/index.shtml