



W i s e C h o i c e s

YOUR GARBAGE AND CLIMATE CHANGE – WHAT’S THE CONNECTION?

Climate change has become one of the greatest environmental challenges facing us today. Both the UN Intergovernmental panel on Climate Change and the US National Academy have concluded that the global climate is warming. This unnatural increase in global temperatures is putting the health of people, ecosystems and economies around the world at risk.

Most climate scientists agree that average global temperatures could rise by 1 to 3.5 degrees Celsius over this century. In Canada, annual mean temperatures could rise by 5 to 10 degrees Celsius in some regions. Rising temperatures affect precipitation levels, wind patterns and ocean circulation. Worldwide, there are impacts ranging from rising sea levels and retreating glaciers to freak storms and floods. In BC, climate change is projected to have ongoing effects on our ecosystems, communities, and economy, including fisheries, forestry and human settlements.

The greenhouse effect and climate change

Naturally occurring greenhouse gases in our atmosphere, such as water vapour, carbon dioxide, and methane, trap and release heat from the sun. They play a vital role in keeping the Earth warm enough to support life. But human activities such as burning fossil fuels (coal, oil, and gas) for electricity, heat, manufacturing and transportation has added to the



concentration of greenhouse gases in our atmosphere.

It's estimated that the worldwide use of fossil fuels releases over 20 billion tonnes of carbon dioxide, the main component of climate change, into the atmosphere every year. If we continue at our present rate, concentrations of carbon dioxide could reach three times pre-industrial levels by 2100.

WHAT'S GARBAGE GOT TO DO WITH IT?

Climate change is driven by energy use. The products we consume and then dispose of as garbage contribute to climate change. That's because of the energy required to extract, harvest, process, and transport raw materials and then the additional energy required to manufacture and transport consumer products and finally to dispose of them after use.

Why should we reduce our consumption of non-renewable energy and raw materials? Using the earth's resources at our current rate is environmentally, socially and economically unsustainable. Natural gas, oil and metallic ore supplies will diminish and rise in cost. In the long term, many generations into the future, this is an issue of staggering importance. Some claim that the magic of technology will solve all of our future problems, and undoubtedly some very clever solutions will be devised, however we can make decisions today that can put us on the path to sustainability. Use of recovered and recycled resources by industry is an important step because it saves non-renewable energy and resources and reduces greenhouse gases and other harmful air and water pollutants.

Greenhouse gas emissions are produced throughout the cradle to grave sequence of events in a product lifecycle. RDN residents have been hearing for years about the importance of practicing the 3R's Reduce, Reuse, Recycle – to prevent garbage from going to the landfill. But there are many other benefits that result from reducing the amount of waste that we generate and first among these is

the impact the 3Rs or Zero Waste practices can have on reducing the greenhouse gases you and your family generate.

Did you know?

For every can of garbage we take to the curb, another 71 cans of waste were created in making those finished products and their packaging. The most important step to reduce greenhouse gas emissions is to reduce our overall consumption of energy intensive products in the first place.

Landfill gas is one of the largest human generated sources of methane emissions to the atmosphere in Canada. Caused by decomposing garbage in landfills, methane has 21 times the global warming potential of carbon dioxide.

In 1990, we recycled less than 10% of our waste stream. In 2002, we generated 109,052 tonnes but recycled 51,972 tonnes, or 48% of the total, and through reduction and reuse programs eliminated an additional 8,700 tonnes or 8% from the waste stream. We have done very well, but there is room for much improvement.

Recycling works. Manufacturing with recycled materials uses significantly less energy than virgin resources. For example:

Carbon emissions are four to five times lower when materials are produced from recycled steel, copper, glass, and paper.

Recycling one tonne of paper saves enough energy to heat an average home for six months, saves 31,500 litres of water, 1,700 litres of oil, and 3 cubic metres of landfill space. It also saves 24 trees, which absorb 112 kilograms of carbon dioxide every year.

Using a home composter to compost fruit and vegetable scraps and yard and garden trimmings can reduce a family of four's household

waste by 20 to 30 per cent and reduce greenhouse gas emission by 800 kgs annually.

Canada and the U.S. send more paper to landfills and incinerators, than all of China, the world's second largest consumer, uses in total.

RDN TAKES LOCAL ACTION ON CLIMATE CHANGE

Local governments have jurisdiction over policies that influence up to 25 per cent of Canada's greenhouse gas emissions. Their decisions on solid and liquid waste programs, transportation, planning, zoning, and growth management all have a major impact on climate change.

In 2002, the RDN and the City of Nanaimo joined other municipalities and regional districts across the country who are working together to reduce greenhouse gas emissions through the Federation of Canadian Municipalities Partners for Climate Protection Program (PCP). PCP members commit to reducing greenhouse gas emissions within their municipal operations and communities.

With its range of region-wide initiatives, such as Zero Waste, and the Solid Waste, Liquid Waste, and Growth Management Plans the RDN is already well on its way to meeting the goals of the PCP program.

"Back in 1991, we were diverting less than 10 per cent of our solid waste and now we're at 56 per cent,"

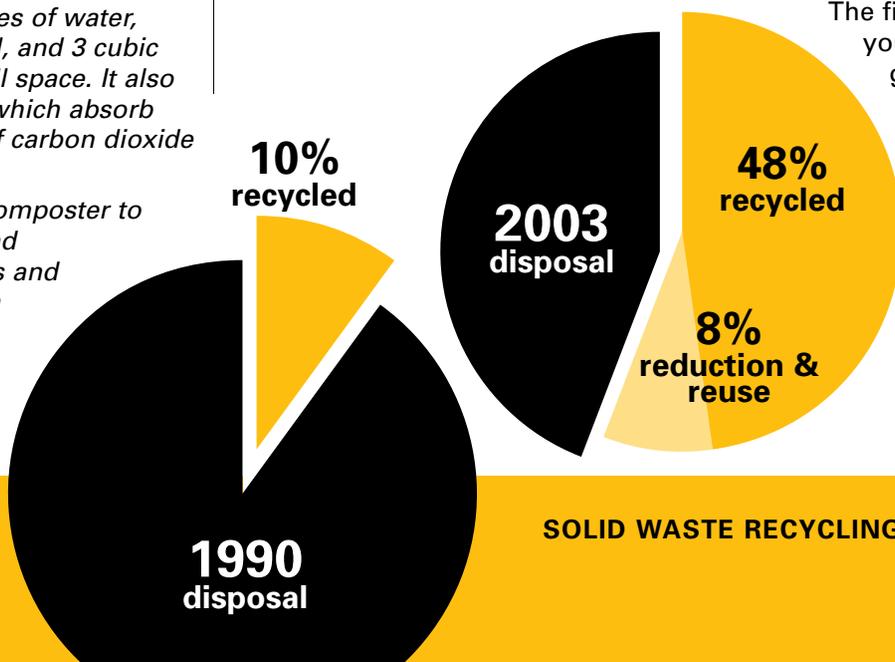
says Parksville Mayor Randy Longmuir, a member of the RDN Climate Change Standing Committee. "That's a significant improvement over the years and it shows what we can do when we make a concerted effort to do better."

CALCULATING YOUR GREENHOUSE GAS EMISSIONS

Industrial, commercial and agricultural operations generate 75 per cent of carbon emissions in Canada and are called "common emissions". The remaining 25 per cent are individual emissions. These are directly affected by choices such as whether we drive, walk or bike, how efficiently we heat our homes and how actively we participate in recycling and other waste reduction programs.

Canadians emit 21 tonnes of greenhouse gases per capita annually. We're the second largest producers of greenhouse gases in the world after the U.S. In BC, we're significantly below the national average because 85 per cent of our electricity is generated from hydro but there's still room for improvement.

The first step in reducing your personal greenhouse gas emissions is to identify their sources and see how you stack up against average emissions. In BC, the residential emissions are just over five tonnes per person. Transportation



CLIMATE CHANGE RESOURCES ON THE WEB

Information about climate change, the link between garbage and greenhouse gases, and how to calculate your personal greenhouse gas emissions is just a click away. Here are some sites to visit:

- Take the "One Tonne Challenge". Find out how at Government of Canada Website on Climate Change at www.climatechange.gc.ca
- Point your browser to www.climatechangesolutions.com to access Canada's 'megasite' of interactive tools, resources and success stories on actions to reduce greenhouse gas emissions.
- Many greenhouse gas emissions calculators are available on-line. Use the interactive climate change calculator sponsored by Canadian governments and organizations at www.climcalc.net to estimate your personal CO2 emissions and get tips on how reduce your emissions.
- Visit www.grrn.org/zerowaste/climate_change.html for information on how the Zero Waste approach and recycling reduces greenhouse gases by saving energy, increasing carbon uptake in forests and minimizing the need for landfills.

accounts for more than 50 per cent of those emissions, followed by home heating, hot water, appliances such as refrigerators, clothes washers and dryers, televisions, computers, garbage disposal and recreation. Major factors influencing your personal emissions include the number of persons in your household, the province you live in, and the type of vehicle you drive.

The easiest way to calculate your personal greenhouse emissions is to use one of the many on-line tools (see Climate Change resources above).

What you can do to reduce greenhouse gas emissions:

Transportation

The average car produces three to four times its weight in carbon dioxide emissions every year. Reducing the personal use of your car by just 16 kilometres per week using Regional Transit,

biking or walking avoids 266 kgs of greenhouse gas emissions per year.

Home Energy

Heating and cooling represents the largest portion of total home energy use. Turning down the heat thermostat by a couple of degrees is one easy way to reduce emissions and save some money.

Replacing an old refrigerator with an energy efficient new model can reduce emissions by up to 800 kgs per year.

Waste

Reducing or producing less garbage in the first place is the best way to cut your greenhouse gas emissions, but

reusing and increasing your recycling rate can have big impacts too.

A well-aerated home composter doesn't produce any methane. Composting fruit and vegetable scraps can trim your garbage by 20 to 30 per cent and reduce a family of four's greenhouse gas emissions by 800 kgs annually. Recycling saves energy and resources compared with manufacturing products from virgin materials. Increasing a

family of four's recycling rate by 10 per cent can reduce household greenhouse gas emissions by 400 kgs.

Remember our environment is interconnected. By working to reduce your greenhouse gas emissions, you're helping to solve other environmental programs.

Adopting a Zero Waste lifestyle, taking Regional Transit or a bike, or buying more efficient appliances and cars,

not only lowers carbon emissions, but reduces air and water pollution, which harm our health and our crops, forests and water.



DOES YOUR FOOD CAUSE GAS?

It used to be that most people obtained their food from local sources. Today, however, food at our table can come from as far away as New Zealand, Brazil or Thailand. Look at what's in your cupboard or fridge and try to estimate how far your food has traveled. All of this 'traffic' in food requires staggering amounts of fuel - generally by refrigerated airplanes or transport trucks.

According to the World Watch Institute, a typical Sunday meal in a mid-western U.S. state consisting of beef, potatoes, and vegetables travels an average of 2577 kilometres. Researchers estimate that this 'gassy food' requires up to 17 times the petroleum and generates as much as 17 times the transport-related carbon emissions than the same meal made from locally grown ingredients. By the time a head of lettuce grown in California reaches Toronto, the energy it took to transport it amounts to 36 times the amount of energy it provides by eating it.



Food transportation is one of the fastest growing sources of greenhouse gas emissions. The growth in the distance food travels has also corresponded with an increase in food packaging, as food products are designed for longer journeys and shelf lives. In addition, there is a large amount of food waste, which unfortunately is not always composted.

One of the best ways to help slow climate change is to eat locally or better yet - grow your own food!

For more information on local food initiatives or community gardens contact Nanaimo Foodshare at 753-9393.

HOTLINE HAS ANSWERS TO YOUR RECYCLING QUESTIONS

The RCBC Recycling Hotline is living up to its name in more ways than one. The Hotline responds to more than 50,000 calls annually throughout BC, 1500 of them from the Regional District of Nanaimo. The toll-free service operated by the Recycling Council of BC provides information on recycling, waste reduction and safe disposal alternatives.

The RCBC Recycling Hotline is staffed 9 a.m. to 4 p.m. Monday to Friday and can be reached at **1-800-667-4321**. You can also email your question to hotline@rcbc.bc.ca or check the RCBC Website at www.rcbc.bc.ca for answers to the Hotline's Most Frequently Asked Questions.

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Recycling Hotline Operators

RDN ON-LINE RECYCLING DIRECTORY

Another great way to get information on recycling is by using the RDN's comprehensive, on-line recycling directory at www.rdn.bc.ca

MEX TURNS REUSABLE "WASTE" GOODS INTO GOLD

It's called the RCBC Materials Exchange but think of it as a dating service for unwanted surplus materials and reusable wastes. Provided free-of-charge by the Recycling Council of BC, the MEX helps individuals, businesses and organizations find alternatives to sending useful household materials, industrial byproducts and surplus materials to the landfill.

In 2002, the MEX kept more than 2,500 tonnes of waste out of BC's landfills.

There are two easy ways to use the MEX. Call the toll-free RCBC Hotline at **1-800-667-4321**. You will be connected to a live operator who will enter your materials or requests into a database and see if there's a match.

Alternatively, you can browse the on-line RCBC MEX Catalogue with its catalogue of available and wanted materials ranging from appliances and building materials to plastics and textiles (follow the links at www.rcbc.bc.ca).