



One day, Vancouver will be the healthiest, cleanest, greenest, city in the world. How will we get there?

In small steps, one day at a time...

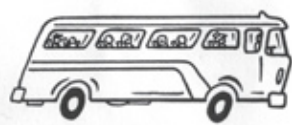
We are changing the climate

The way we live and work is changing the climate. This is a serious problem for Vancouver and the world.

Knowledge will help us face the challenges of climate change. Science, technology, and education will help us develop an environmentally sustainable lifestyle.

Sustainability means we live within the limitations of the environment. This will ensure that future generations will be born into a clean and healthy world.

Our sustainable future will be based on energy efficiency. We will be very aware of how we use energy.



What will a sustainable Vancouver be like?

In 2025, we will warm our houses with heat from the ground (geothermal heating). The sun will help us heat water.

We will drive hybrid cars, powered by electricity and fuel made from grass clippings or wood chips. Car sharing will help us save money and the environment. Commuting by bicycle will become common. Public transit will be a popular and convenient.

We will enjoy more local produce. Locally produced food requires less fuel for transportation.

Vancouver of the future will bring healthy lifestyles, clean air, and protection of natural, beautiful British Columbia. Sustainability will protect the quality of life that all of us in Vancouver enjoy.

For more information about sustainability in Vancouver, log onto www.onedayvancouver.ca.

Sign up for a monthly sustainability newsletter at www.onedayvancouver.ca/signup

Rob and Marlene



Local heroes' success stories



Carrie and Trooper



Rob shows off one of the old windows he replaced.

Rob and Marlene's house was chilly. There was a draft in the living room. They decided to test the energy efficiency of their house. They arranged for a visit from an EnerGuide For Houses inspector.

EnerGuide is a government program that helps homeowners pay for home improvements.

The first inspection

The EnerGuide report suggested insulating the main walls and replacing the furnace. For further energy savings, the report also recommended replacing the windows and insulating the basement.

Renovations

Rob and Marlene decided to insulate their house. This cost \$1500.

They also sealed some of the air leaks and the chimney vent for another \$20.

They decided not to replace the furnace because that would be too expensive, and because the furnace was still in good condition.

Rob and Marlene also replaced some old windows with double-pane, energy efficient windows.

Rob and Marlene expect that the higher EnerGuide score will earn them a grant of about \$1,130. They will also receive a \$1,300 rebate on their mortgage loan insurance.

Since Rob and Marlene used Bright Ideas financing to pay for their renovations, Vancity Credit Union will pay them \$170 to cover the cost of the EnerGuide evaluations.

Many programs help homeowners pay for energy efficient improvements. Log onto this site for more information: www.onedayathome.ca Follow the links to **financing and grants**.



Carrie is a member of the Co-operative Auto Network

Carrie Walker lives in East Vancouver with her dog, Trooper.

Carrie uses a bicycle for most of her travelling around Vancouver.

She is also a member of the Co-operative Auto Network. When she needs a car, Carrie uses a CAN car.

Car sharing

The Co-operative Auto Network is a non-profit car-sharing organization.

Car sharing is a new way to own a car. Members of the co-op share ownership of a group of cars.

When she needs to drive, Carrie goes online and reserves a CAN car.

The car co-op owns 121 cars

and trucks. They are parked at different places throughout the city.

Many benefits

Joining a car co-op is much cheaper than owning a car. Members have low-cost use of new, well-maintained cars.

Car co-ops are good for the environment. With car sharing, we have fewer cars in our community.

Fewer cars mean less traffic, less pollution, and less greenhouse gas emissions.

For more information about the Co-operative Auto Network, call (604) 685-1393 or log onto: www.cooperativeauto.net.

Our Climate is Changing *in Canada and around the world*



Since the last ice age, the average temperature of the earth increased about 5°C.

By comparison, since 1900, the earth has warmed by about 0.6°C.

That may seem like a small amount, but it is a sign of important change.

The Cause

Scientists believe that changes in climate we are experiencing today are a result of human activity.

People are disturbing the natural balance of gases in the atmosphere.

Burning fossil fuels (oil, gas, or coal) increases the greenhouse gases such

as carbon dioxide in the atmosphere.

Deforestation (cutting down forests without planting new trees) also affects the environment. Trees and plants consume carbon dioxide and produce oxygen.

The Future

We must learn to live in

a more sustainable way that uses less fossil fuel.

We cannot stop climate change, but we can slow it down. We can reduce the negative effects of climate change.

The action that we take today helps make a better, more livable world for future generations.



Photo courtesy of the Vancouver Province.

Bill Taylor is a Climatologist



Bill Taylor is a climatologist. He works for Environment Canada. He is an expert on the climate of British Columbia.

Taylor uses a computer to analyze climate records. He also develops climate change scenarios. These scenarios are predictions of what the climate will be in the future.

Taylor's research gives us an idea of how climate change is affecting us. British Columbia has warmed by at least 1°C during the 20th century. During this time, precipitation also increased by about 20 per cent in southern B.C.

Scientists predict that by the end of the century, B.C. will be 1°C to 4°C warmer than it is now. This change will drastically affect our lives.

Bill Taylor at work

How does climate change affect us?

Scientists predict what will happen in British Columbia and around the world.

Climate change will have an important impact on British Columbia. However, climate change is a greater threat to other parts of the world. Scientists have predicted how changing weather will affect us.

Wetter winters

Climate change will bring wetter winters to the Lower Mainland. Severe winter storms with extreme precipitation will be more common. This will have a serious impact on Vancouver.

In 2005, after heavy rain, a landslide caused death and serious damage in North Vancouver. We can expect to see more disasters like this in the future.

More winter and spring rain may cause floods near rivers and streams. Sewers and drainage systems may be unable to handle increased rainfall.

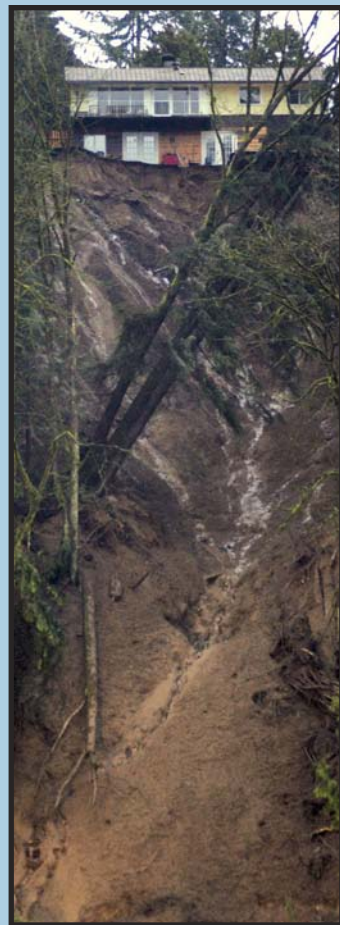


Photo courtesy of The Vancouver Province.

A woman died in this North Vancouver landslide.

Higher sea levels

Climate change is also causing higher sea levels. The Arctic and Antarctic are experiencing some of the greatest impacts of climate change. Glaciers are melting, raising sea levels.

Rising sea levels can cause serious problems in B.C. and around the world. Waves wearing away land could make areas near the sea unstable. Low-lying homes, docks and ports may be flooded. For Delta and Richmond, which are built on flood plains, this is a serious threat.

Warmer temperatures

Summer droughts will be more common. In British Columbia, drier, hotter summers will increase the risk of forest fires. In recent years, forest fires caused great damage in B.C. and they will continue to be a serious threat to life and property.

In winter, cold temperatures kill many pests, such as the Mountain Pine Beetle, which destroy B.C. forests. Warmer winters have allowed these insects to survive. This hurts B.C.'s economy and its environment.

Teachers notes and exercises:

Download exercises and activities to use with *Cool Vancouver News* at www.onedayatschool.ca.



What are Greenhouse Gases?

Greenhouse gases are a small but important part of the Earth's atmosphere.

Greenhouse gases make up less than one per cent of the total gases of the atmosphere, but they are essential for life on Earth.

By trapping some of the sun's heat in the atmosphere, greenhouse gases help keep the Earth warm enough to support life.

The average temperature of the Earth is 15°C. Without greenhouse gases, the Earth's temperature would be -18°C.

Water vapour is the most common greenhouse gas. Human activity does not have a lasting effect on water vapour in the atmosphere.

Increasing levels

Since the start of the Industrial Revolution in 1850, the amount of greenhouse gases has greatly increased.

Carbon dioxide has increased by more than 30 per cent, methane by more than 150 per cent, nitrous oxide by 17 per cent.

Human causes

The main greenhouse gases caused by human activity are:

Carbon Dioxide

Human source: Burning fossil fuels such as oil, gas and coal, also from burning forests. Carbon dioxide is the most important human-caused greenhouse gas. It is a main contributor to climate change.

Methane

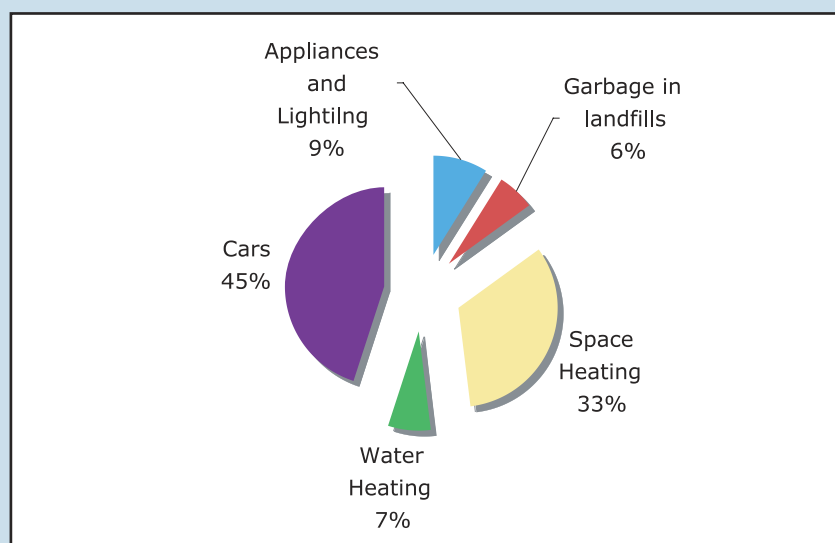
Human source: Decomposition in rice paddies, garbage dumps, from the digestive systems of animals like cows and sheep, also from burning wood or mining coal.

Nitrous Oxide

Human source: The breakdown of chemical fertilizers and manure used on fields, also from burning fossil fuels and wood.



The Greenhouse Effect: Gases in the atmosphere trap the sun's heat in the atmosphere.



Sources of greenhouse gas emissions produced by Canadians. (Source: Environment Canada)



Agricultural improvement

Climate change could also bring some economic benefits to BC. For example, in regions where irrigation is not necessary, agriculture could expand. New, higher value crops could be introduced.

Recreation

Rising sea levels will make local beaches more difficult and expensive to maintain. Warmer temperatures may affect winter recreation on North Shore mountains. This will change our quality of life and the economy.

Human health risks

Some parasites, such as those that cause diarrhea and giardiasis ("beaver fever"), thrive in a warmer climate. Fleas and mites that are now killed off completely each winter in the lower Fraser Valley will become a problem in warmer weather.

Photos courtesy of The Vancouver Province.



Climate change has serious impacts all around the world.

Global security and social justice

Countries that will experience the most serious impacts from climate change will be least able to cope with them. The world's poorest countries do not have money to import food during crop failure, or to develop new food sources.

Climate change will affect food production and water supply. Drought and rising sea levels could force many millions of people from their homes. These problems could create a threat to world peace.

In Latin America, Asia, and Africa, warmer temperatures could change forests into grassland. This would cause further decrease in rainfall. As temperatures increase and rainfall decreases, the area of deserts could also spread.

Droughts and wildfires would become serious problems. Farmers would be unable to grow food. People would face the threat of hunger. Severe storms such as hurricanes and typhoons could become more common.

Warmer polar regions will affect animal and human life in the North and around the world. Polar bears and Inuit already have trouble hunting on thin sea ice.

Countries such as Bangladesh, Tuvalu and the Maldives are situated close to sea level. These countries face grave risks from rising ocean levels.

Facing climate change requires cooperation from people and countries all around the world.

Simple, effective ways to save money and fight climate change

AT HOME

- Turn down the temperature at night, or install programmable thermostats.

Did you know?

For every 1°C you lower your thermostat, you save 2–3 per cent on your heating bill.



- Seal leaks around doors and windows.

Did you know?

The cracks and holes in the average house add up to a hole the size of a basketball. Sealing those cracks could cut your heating bill by as much as 20 per cent.



- Install a low-flow shower head.

Did you know?

Vancouver residents can get a complete water saver kit at any hardware store, or on the main floor of City Hall for only \$12.



A low-flow shower head uses 60 per cent less hot water than an ordinary shower head. It can save a family of three about \$200/year.

- Use cold water to wash clothes. Heating water uses 80–90 per cent of the energy used in doing the wash.

Did you know?

Heating water is like pouring money and energy down the drain. Heating water takes about 25 per cent of our home energy use.

- Switch to compact fluorescent light bulbs.

Did you know?

Compact fluorescent light bulbs last 10 times longer than regular incandescent light bulbs and use 25 per cent less electricity.



- Turn off the lights and appliances when you are not using them.

- Replace old appliances with new, more energy efficient models.

Did you know?

BC Hydro will pay \$30 to remove your old fridge.

For more information about BC Hydro's fridge buy-back program: www.bchydro.com/powersmart/fridge8437.html.

- If you live in an older or draftier home, get your home tested for energy efficiency.

Did you know?

The EnerGuide home improvement program offers grants to pay for energy efficient improvements. BC Hydro offers energy efficiency tips and rebates.

For more information about the EnerGuide program: <http://www.oee.nrcan.gc.ca/energuid/home.cfm>.

ON THE ROAD

- Walk, take the bus, or ride a bike once a week.
- Reduce the number of vehicles in your household by one car.



WHEN YOU DRIVE

- Turn your vehicle off while waiting.
- Accelerate and brake gradually.
- Choose a fuel-efficient vehicle.
- Make sure the tires are inflated properly.



Did you know?

Driving 120 km/h uses about 20 per cent more fuel than driving 100 km/h.

"Jack rabbit starts" increase fuel consumption by 39 per cent.

Maintaining correct tire pressure can save \$50 a year in fuel costs.

Even in cold weather, modern engines require no more than 30 seconds warm-up.

Idling too long actually damages the engine. The best way to warm up your car is by driving it.

For more information on fuel-efficient driving tips: www.oee.nrcan.gc.ca/transportation/personal.

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Teachers' Notes: www.onedayatschool.ca

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