Environmental Reporting BC

British Columbia | Ministry of Environment

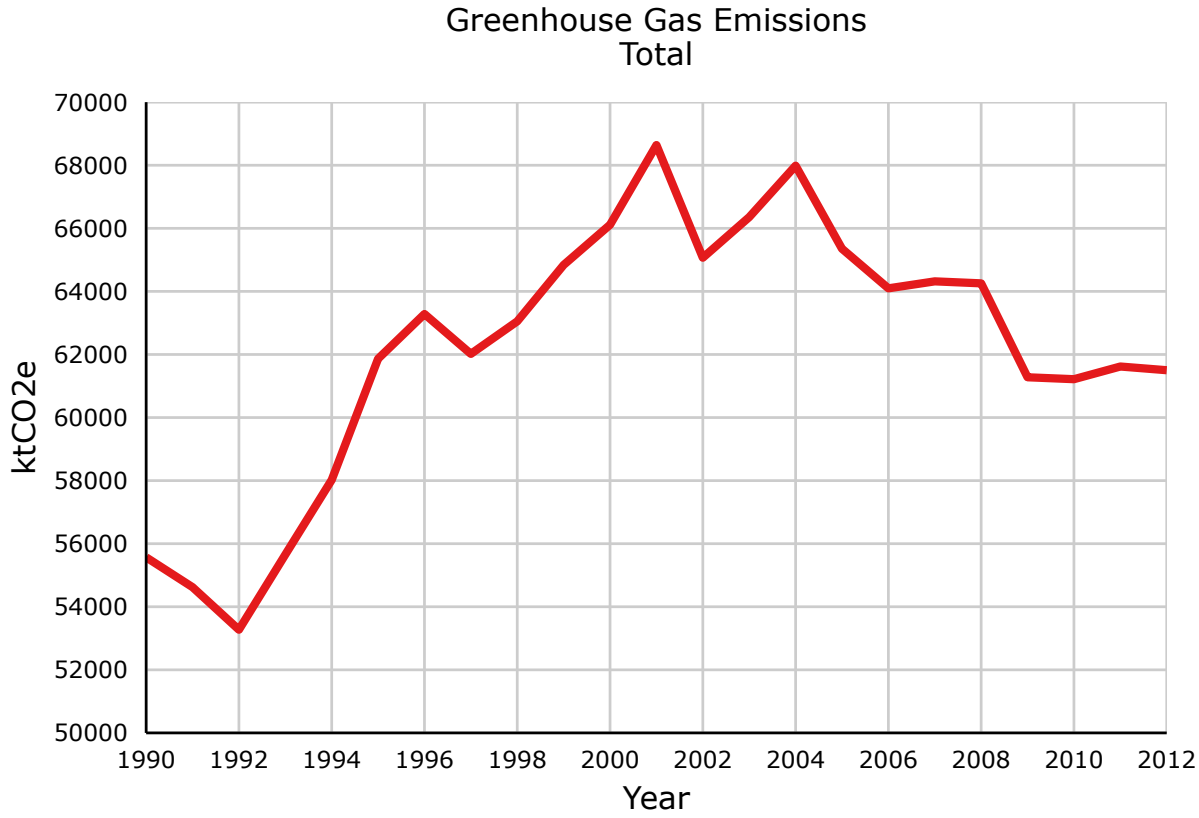
Sustainability

Trends in Greenhouse Gas Emissions in B.C. (1990-2012)

- **The climate is changing because of greenhouse gases:** Greenhouse gas emissions warm the global atmosphere and cause our climate to change. Reducing greenhouse gas emissions is a key component to limiting the increase in global average temperature and the resulting change in climate.
- **Greenhouse gas emsissions are declining in British Columbia:** Total greenhouse gas emissions in 2012 in B.C. were 61,500 kilotonnes of carbon dioxide equivilent. This a 0.2% decrease in emissions since 2011 and a 4.4% decrease in emssions since 2007.[1]
- **British Columbians are creating fewer greenhouse gases:** Greenhouse gas emissions per person and per unit gross domestic product, a measure of the size of the economy, are on the decline in B.C.
- **Most greenhouse gas emissions in B.C. come from creating and using energy:** The energy sector produces the largest amount of greenhouse gas emissions in B.C. Major energy sources include transportation and stationary combustion sources, such as heating buildings.
- **Everyone can help reduce greenhouse gas emissions in British Columbia:** LiveSmart BC (http://www.livesmartbc.ca/) can help you make 'green' choices to reduce greenhouse gas emissions and save you money at home, at work, and on the road.

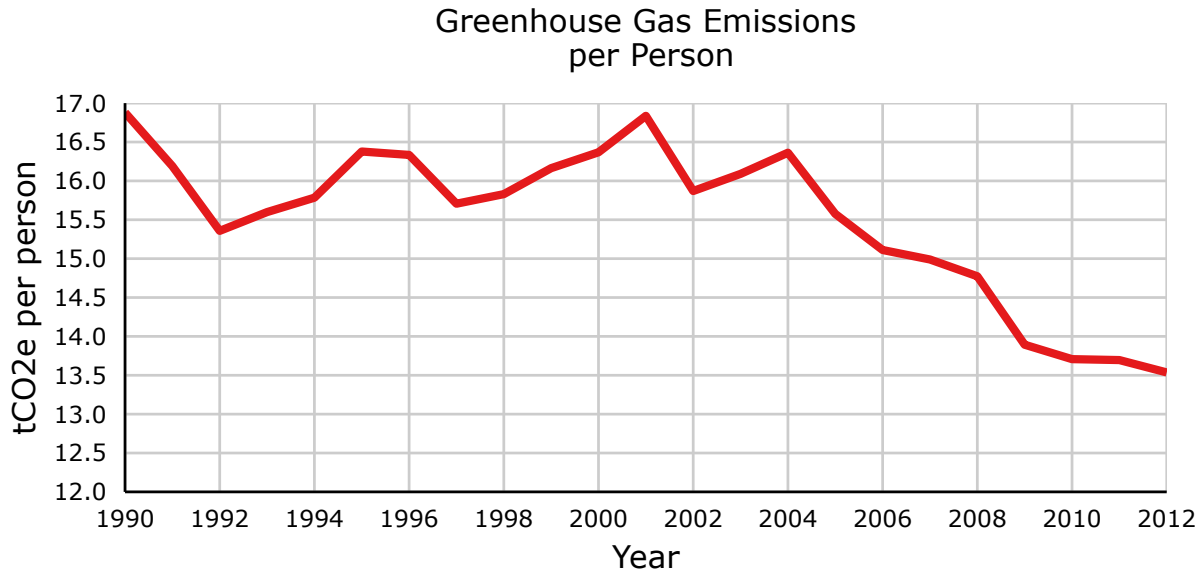
B.C.'s First Interim Target Achieved

- B.C. met its interim greenhouse gas target of a 6 percent reduction below 2007 levels by 2012. This was achieved through a reduction in total emissions together with offsets from forest management projects.
- Read about policy, legislation, and programs in British Columbia designed to tackle climate change: B.C. Environment: Climate Change Policy, Legislation and Programs

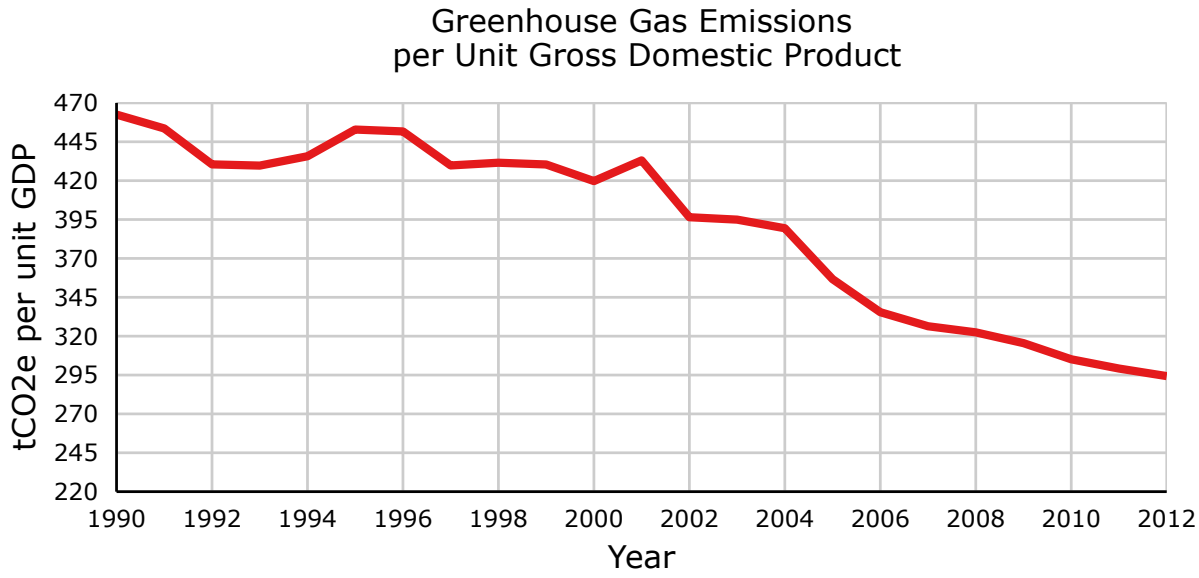


- B.C.'s total emissions are based on provincial-level sources and data collected by Environment Canada for the National Inventory Report.[3] However, B.C. includes net deforestation emissions in the provincial emissions total and makes adjustments where better data is available at the provincial level.[1]

About the above graph: Greenhouse gas emissions include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulphur hexafluoride (SF6), perfluorocarbons (PFCs) and hydrofluorocarbons (HFCs) released by human activity. These emissions are reported collectively as kilotonnes of carbon dioxide equivilent (ktCO2e) with the y-axis beginning at 50,000 ktCO2e.

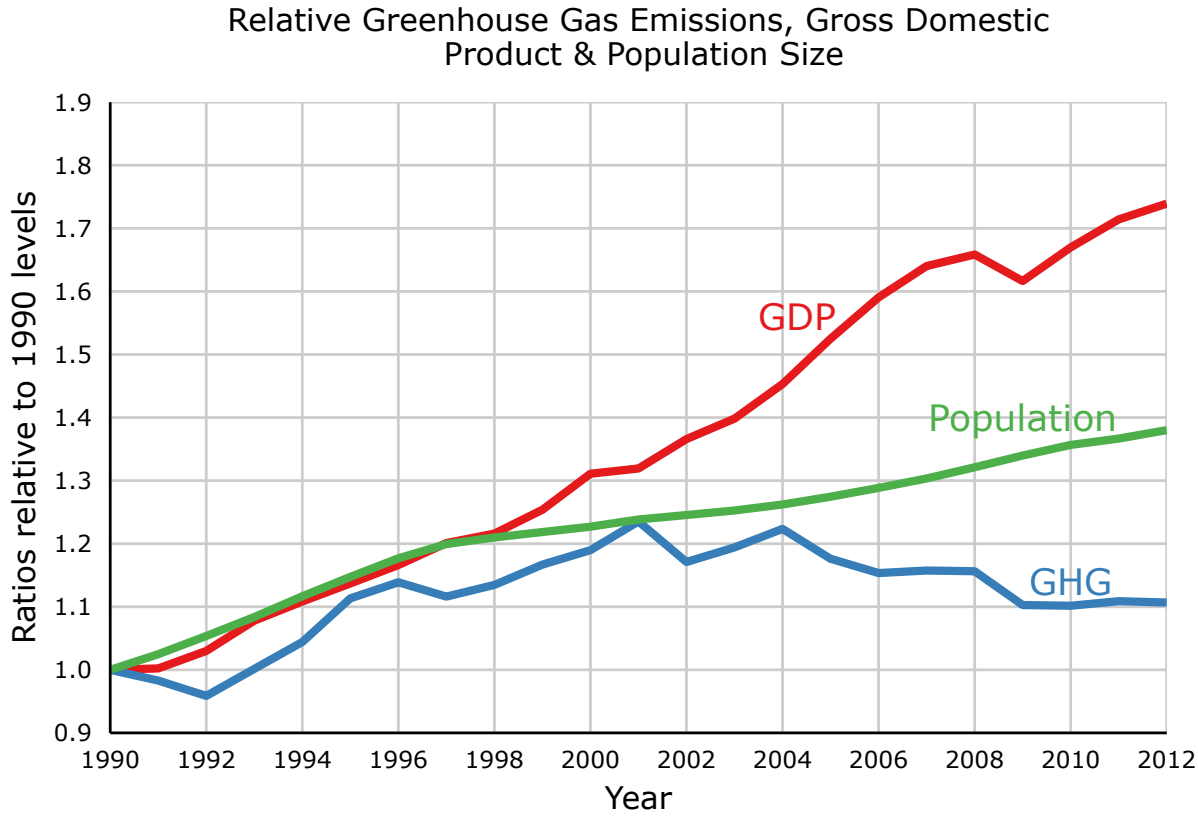


- Greenhouse gas emissions per person (also called per capita) have consistently declined since 2004 in British Columbia..



- Greenhouse gas emissions per unit gross domestic product, a measure of the size of the economy, have consisently declined since 2001 in British Columbia..

About the above graphs: Greenhouse gas emissions include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulphur hexafluoride (SF6), perfluorocarbons (PFCs) and hydrofluorocarbons (HFCs) released by human activity. These emissions are reported collectively as tonnes of carbon dioxide equivilent (tCO2e) with the y-axes beginning at 12 tCO2e and 220 tCO2e respectively . Gross domestic product (GDP) is calculated using expenditure-based GDPand reported in millions of chained 2007 dollars.



- This graph shows the relationship between greenhouse gas emissions (GHG), gross domestic product (GDP), a measure of the size of the ecomony, and population size in British Columbia.
- Both population size and gross domestic product have consistently increased in British Columbia; however, greenhouse gas emissions have generally declined through the 2000s and stabilized in recent reporting years.
- These patterns indicate that policy, behaviour change, and efficiency have had a positive impact on reducing greenhouse gas emissions in British Columbia.[2]

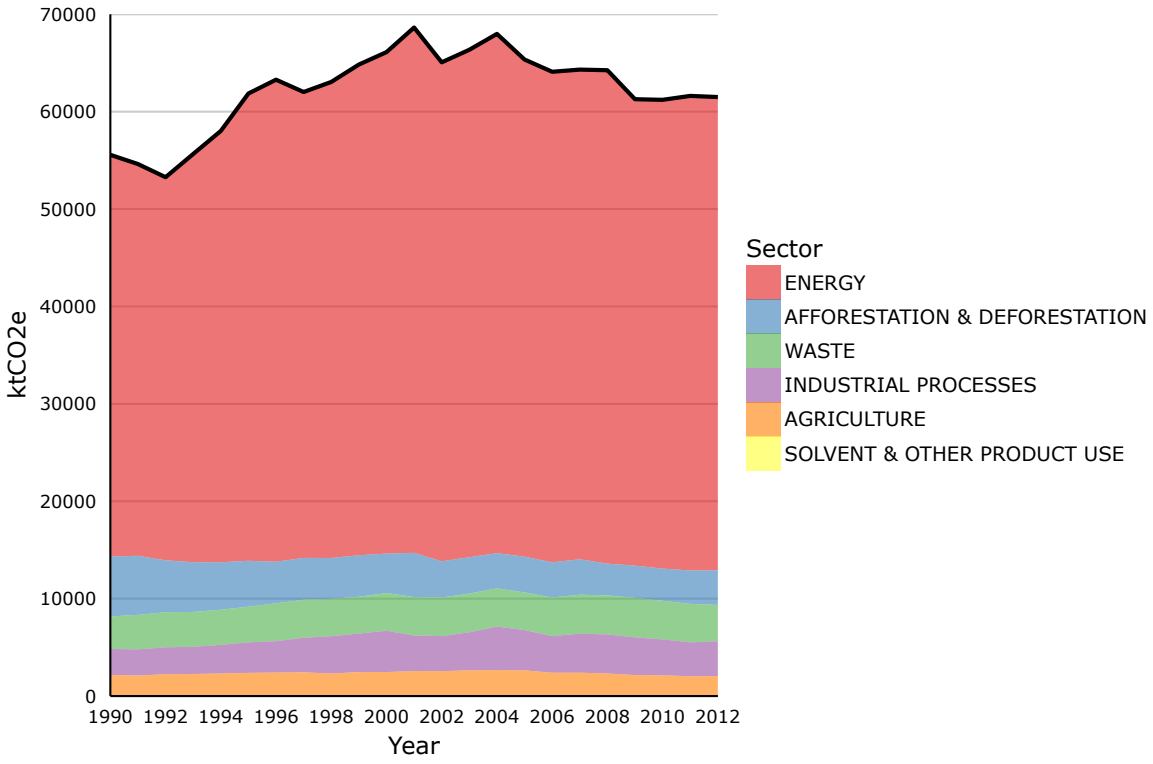
About the above graph: Greenhouse gas emissions include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulphur hexafluoride (SF6), perfluorocarbons (PFCs) and hydrofluorocarbons (HFCs) released by human activity. These emissions are reported collectively as tonnes of carbon dioxide equivilent (tCO2e). Gross domestic product (GDP) is calculated using expenditure-based GDPand reported in millions of chained 2007 dollars. Greenhouse gas emissions, gross domestic product and population size values are all indexed relative to 1990.

Greenhouse Gas Emissions by Sector

- Greenhouse gas emissions are attributed to six defined sectors: energy, industrial processes, solvents and other product use, agriculture, waste and afforestation

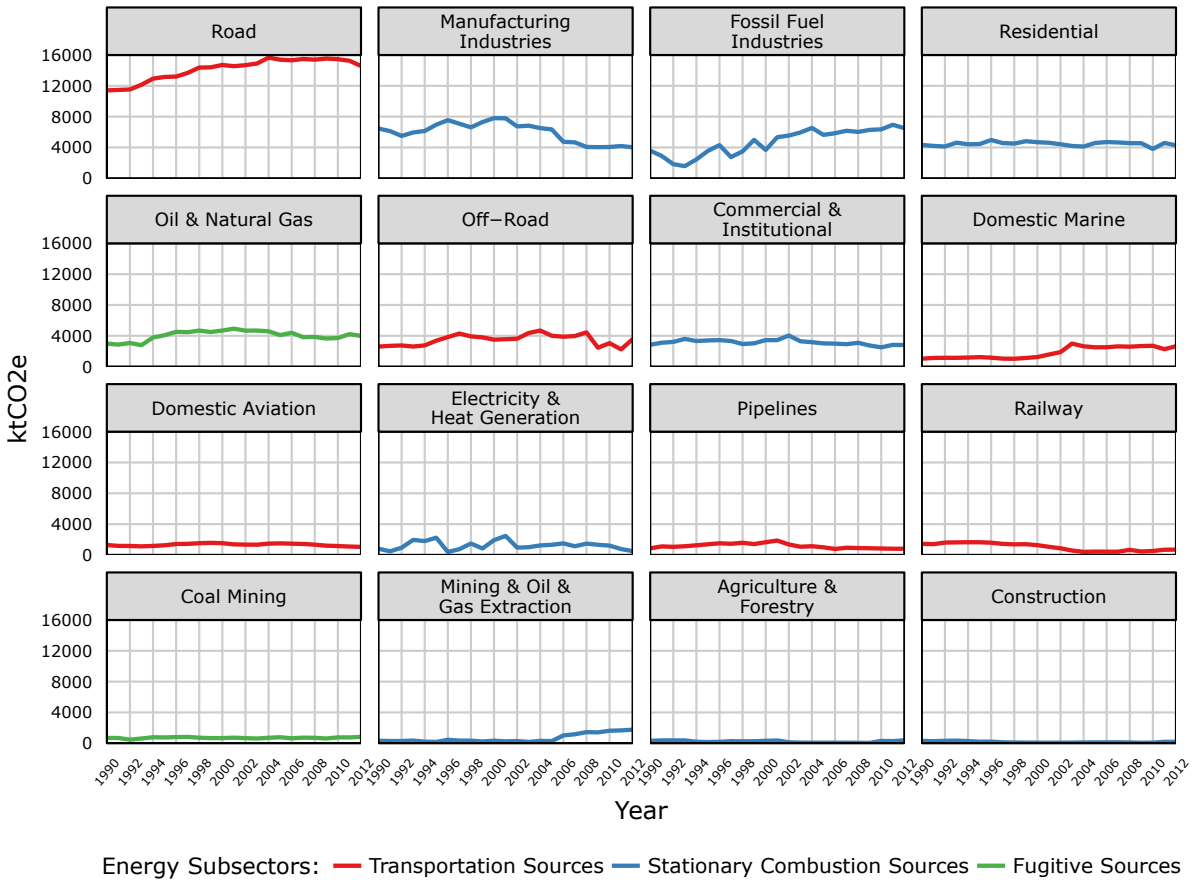
and deforestation[1].

- The energy sector, which includes numerous sources relating to energy creation, storage and use, produces the largest amount of greenhouse gas emissions in British Columbia. However, much of the reduction in greenhouse gas emissions since the 2000's in B.C. are attributed to increased energy efficiency across the various energy sources.[2]



Sources of Greenhouse Gas Emissions Within the Energy Sector

- The energy sector includes emissions grouped into three energy sub-sectors: stationary combustion sources, for example boilers, turbines, engines, heaters; transport, such as road vehicles, and marine and jet engines, and; fugitive emissions. Fugitive emissions are unintentional emissions from the processing, transmission, and storage of fossil fuels.
- A few of the larger sources of greenhouse gas emissions within the energy sector include transporatation, such as driving cars, and stationary combustion sources, such as heating buildings, from both industry and residential dwellings.



Methods

View the full **British Columbia Greenhouse Gas Emission Inventory Report (2012)** for details on the reporting methodology and more in-depth results and analyses: http://www.env.gov.bc.ca/cas/mitigation/ghg_inventory/pdf/pir-2012-full-report.pdf

References and other useful links

[1]British Columbia Greenhouse Gas Emission Inventory Report (2012): http://www.env.gov.bc.ca/cas/mitigation/ghg_inventory/pdf/pir-2012-full-report.pdf

[2]Climate Action in British Columbia 2014 Progress Report: http://www.env.gov.bc.ca/cas/pdfs/2014-Progress-to-Targets.pdf

[3]Canada's Greenhouse Gas Inventory: http://www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=83A34A7A-1

Environmental Reporting BC

BRITISH COLUMBIA | Ministry of Environment

Learn more at B.C. Environment Climate Change: http://www2.gov.bc.ca/gov/theme.page?id=4D9B65E26DFA11EF78C200B82FAD10BD

LiveSmart BC: helping British Columbians make green choices that save money at home, at work and on the road: http://www.livesmartbc.ca/

Canadian Environmental Sustainability Indicators (Air and Climate Indicators): http://www.ec.gc.ca/indicateurs-indicators/default.asp?lang=En&n=03603FB3-1

Data

*By accessing these datasets, you agree to the license associated with each file, as indicated below.

- B.C. Greehouse Gas Emissions: http://catalogue.data.gov.bc.ca/dataset/british-columbia-greenhouse-gas-emissions
  - License: B.C. OGL: http://www.data.gov.bc.ca/local/dbc/docs/license/OGL-vbc2.0.pdf
- B.C. Greenhouse Gas Related Data: http://catalogue.data.gov.bc.ca/dataset/british-columbia-greenhouse-gas-emissions
  - License: B.C. OGL: http://www.data.gov.bc.ca/local/dbc/docs/license/OGL-vbc2.0.pdf

Published and Available On-Line at Environmental Reporting BC (October 2014): http://www.env.gov.bc.ca/soe/indicators/sustainability/ghg_emissions.html

Email correspondence to: envreportbc@gov.bc.ca