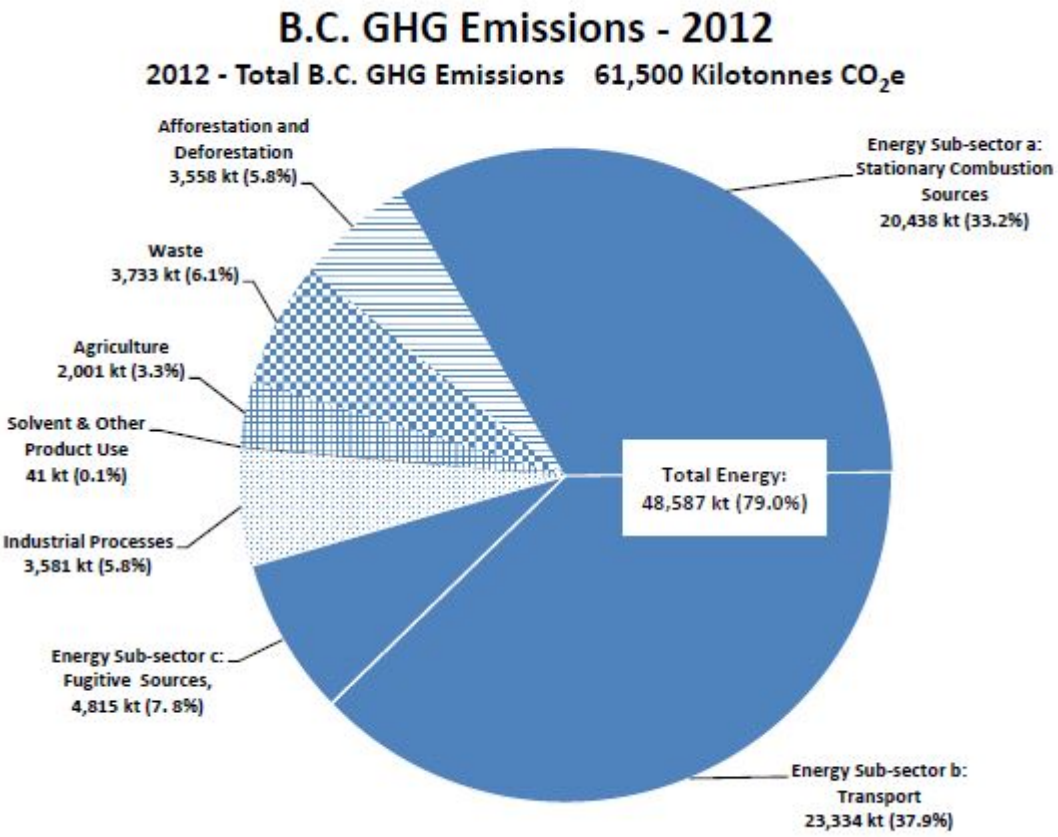
B.C. Greenhouse Gas Emissions 2012

Total GHG emissions in British Columbia in 2011 were 61.5 megatonnes carbon dioxide equivalent (Mt CO2e).

GHG emissions are attributed to six defined sectors — energy (with three sub-sectors: stationary conbustion sources, transport and fugitive emissions), industrial processes, solvents and other product use, agriculture, waste and afforestation and deforestation — following national and international reporting protocols. These sectors, and energy sub-sectors, are shown in the pie graph and described in the table below.



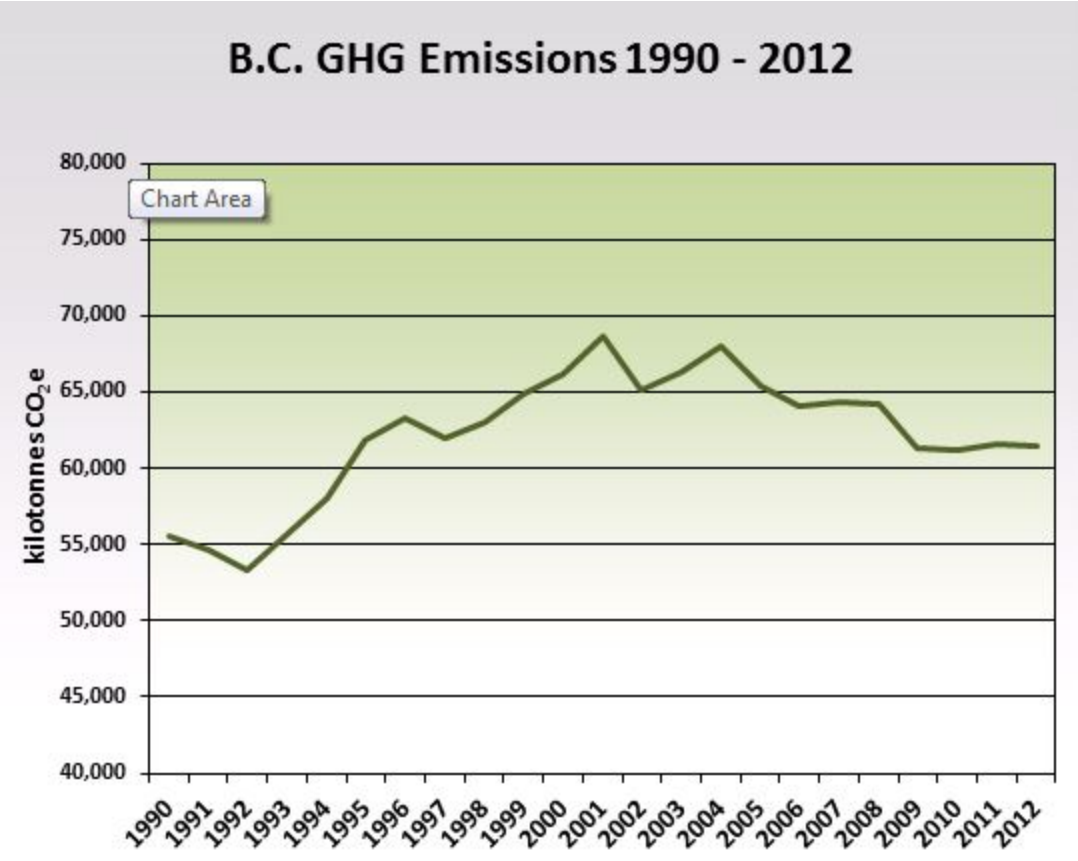
SECTOR	DESCRIPTION
ENERGY	Emissions from stationary and transport fuel combustion and fugitive emissions from the fossil fuel industry.
Sub-sector a: Stationary Combustion	Emissions from stationary devices that combust solid, liquid or gaseous fuel in order to generate useful heat or electricity. Sources include boilers, combustion turbines, engines, incinerators and process heaters. Devices used to transport oil and gas through pipelines are not included in this sub-sector.
Sub-sector b: Transport	Emissions from mobile devices that combust liquid or gaseous fuels for the purpose of generating useful energy for propulsion. Sources include road vehicles, marine and jet engines. Emissions from stationary devices used to transport oil and gas through piplines are also included in this sub-sector.
Sub-sector c: Fugitive Emissions	Unintentional emissions from the production, processing, transmission, storage and delivery of fossil fuels; as well as the intentional combustion of fossil fuels not used to generate useful heat or electricity.
INDUSTRIAL PROCESSES	Emissions from chemical reactions used in industry that physically or chemically transform materials.
SOLVENT & OTHER PRODUCT USE	Nitrous oxide when the gas is used as an anaesthetic or propellant.
AGRICULTURE	Emissions from enteric fermentation, manure management and non-CO2 emissions from agricultural soils.
WASTE	Emissions from solid waste disposal, wastewater treatment and waste incineration.
AFFORESTATION & DEFORESTATION	Emissions from deforestation and other land conversions and removals from afforestation.

B.C. GHG Emissions by Sector - 1990 to 2012

The Summary of GHG Emissions, 1990 - 2012 (XLS) provides a summary of GHG emissions for B.C. by category for the 1990 to 2012 years. Note that the table includes “Other Land Use” emissions categories. These memo items are reported for transparency and GHG accounting purposes but are not included in total British Columbia GHG emissions. Refer to Chapter 1 and 2 of the B.C. Provincial GHG Inventory Report 2012 for additional information regarding GHG emissions accounting and reporting protocols and procedures.

Trends in Emissions

Total annual GHG emissions in British Columbia decreased by 4.4 per cent between 2007 and 2012 (from 64.3 Mt in 2007) and also by 5.5 per cent (from 65.11 Mt) over the ten year period from 2002 to 2012. From 2011 to 2012 GHG emissions decreased by 0.2 per cent (from 61.6 Mt to 61.5 Mt CO2e). Note that annual emissions estimates are revised to incorporate data and methodology improvements; hence, reported emissions for previous years will change in each inventory report. Accounting for the Province's progress toward targets includes a broader scope than is included in Provincial Inventory Report totals.



SECTOR	2012 GHG Emissions (kt CO_2e)	5-Year Change (2007-2012)	10-Year Change (2002-2012)
ENERGY	48 587	-3.4%	-5.2%
INDUSTRIAL PROCESSES	3 581	-10.7%	-0.6%
SOLVENT & OTHER PRODUCT USE	41	-4.8%	-19.5%
AGRICULTURE	2 001	-15.0%	-20.0%
WASTE	3 733	-6.7%	-5.8%
AFFORESTATION & DEFORESTATION	3 558	-2.1%	-4.3%

Sector Trends

Energy Sector – Annual energy sector emissions decreased by 3.4 per cent between 2007 and 2012 and by 5.2 per cent over the ten-year period from 2002 to 2012. The short-term (2011-2012) emissions were relatively stable with a decrease of 0.3 per cent. Within the energy sector over the five-year period between 2007 and 2012, stationary and mobile (transport) combustion emissions decreased by 2.1 and 6.1 per cent respectively, while emissions from fugitive sources have increased 5.9 per cent over that period.

Industrial Process Sector – Emissions reported under the industrial process category decreased by 10.7 per cent between 2007 and 2012 and by 0.6 per cent between 2002 and 2012. Factors influencing these emissions patterns over different timescales include significant emissions growth leading up to 2007 in the mineral products sector, followed by emissions decline since then, much of which can be attributed to economic recession. Metal smelting emissions have been declining since 1998 and also contributed to reduced overall industrial process sector emissions since 2007.

Solvent and Other Product Use Sector – Emissions for this sector decreased by 4.8 per cent between 2007 and 2012 and by 19.5 per cent between 2002 and 2012. The sector only represents 0.1 per cent of the overall emissions for British Columbia.

Agriculture Sector – Annual agriculture sector emissions decreased by 15.0 per cent between 2007 and 2012, and by 20.0 per cent between 2002 and 2012. Changes can be attributed for the most part to methane (CH4) emissions from enteric fermentation (the largest source of agriculture sector emissions) and related changes in cattle populations.

Waste Sector – Waste sector emissions decreased by 6.7 per cent between 2007 and 2012 and by 5.8 per cent between 2002 and 2012. The emissions reduction measures associated with diversion of wastes and the capture, flaring and beneficial use of CH4 at landfills demonstrate the growing effectiveness of various programs.

Afforestation and Deforestation – Net emissions in the afforestation and deforestation sector were approximately 3.56 Mt CO2e in 2012, 5.8 per cent of total B.C. emissions. This included 3.58 Mt CO2e of emissions from deforestation and 0.022 Mt CO2e of removals from afforestation. Net GHG emissions from afforestation and deforestation decreased 2.1 per cent between 2007 and 2012 and by 4.3 per cent between 2002 and 2012. Net emissions are influenced primarily by the size of deforested area and forest characteristics (i.e., geographic location, growing conditions, tree species, density and age). Decreases in emissions can be attributed to decreases in the area of deforestation from year to year, particularly in the agricultural sector.

Other Land Use **(**Memo items **not included in total B.C. GHG emissions)** – Emissions associated with "other land use" categories decreased by 1.5 per cent between 2007 and 2012. From 2002 to 2012, "other land use" categories collectively changed from a net sink of GHGs (approximately 24.8 Mt CO2e removed from the atmosphere in 2002) to a net source in 2012 (approximately 39.3 Mt CO2e emitted to the atmosphere). This transition can be attributed in large part to the impacts of the mountain pine beetle (MPB) outbreak – which attacked living forests that act as a sink for GHGs and resulted in large areas of dead and decomposing trees. Net emissions associated with these categories are also influenced by wildfires, slash burning and wood harvesting. Because of the large inter-annual fluctuations in emissions from natural disturbances, and wildfires in particular, other land uses emissions are highly volatile, and an assessment of the difference in emissions from any single year to any other single year, is not a meaningful indicator of the trend in emissions from this sector.