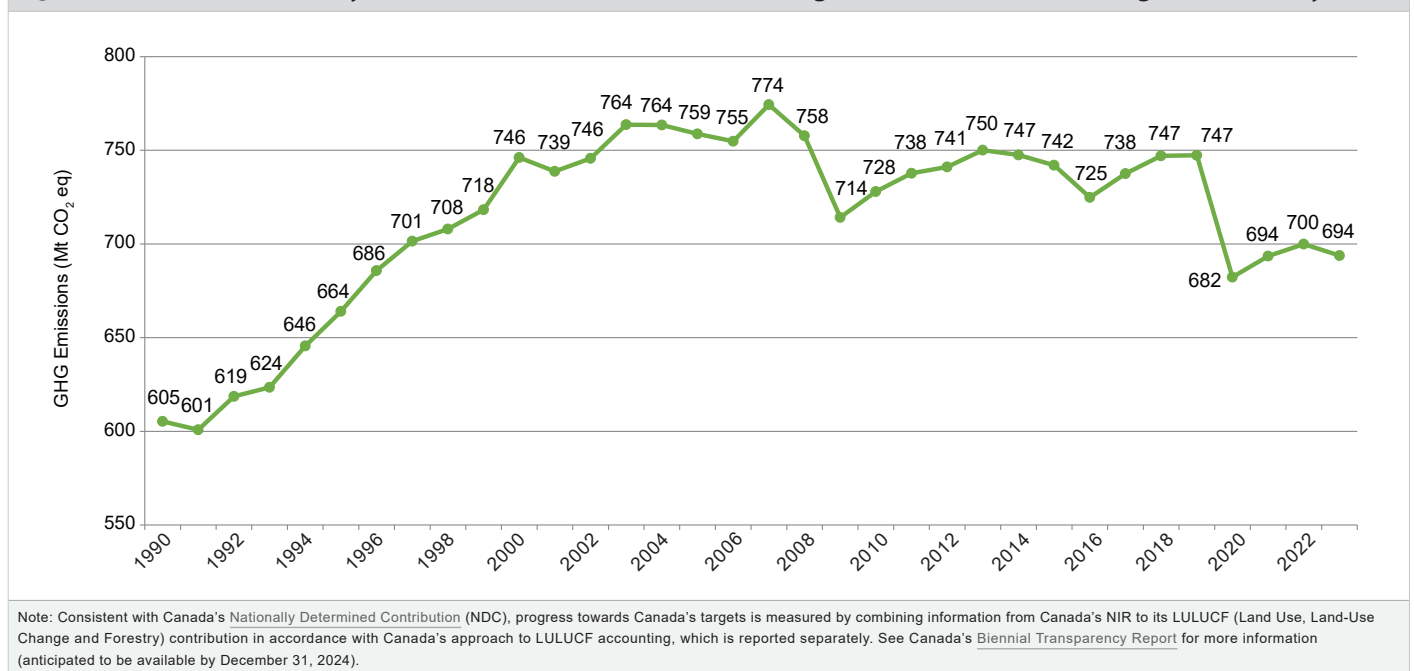


# CANADA'S PRELIMINARY GREENHOUSE GAS EMISSIONS (1990–2023)

As a signatory to the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement, Canada is required to prepare an annual national inventory of anthropogenic greenhouse gas (GHG) emissions by sources and removals by sinks, by April 15 every year. The following represents preliminary, national-level GHG emissions information from the anticipated 2025 edition of Canada's National Inventory Report (NIR). The emissions data presented here may be revised for the final 2025 NIR, which will represent Canada's official GHG estimates.

The full NIR is anticipated to be published by April 15, 2025 and will supersede this preliminary information. For any questions, contact us at [ges-ghg@ec.gc.ca](mailto:ges-ghg@ec.gc.ca).

Figure 1 **Canada's Preliminary GHG Emissions, 1990–2023 (Excluding Land Use, Land-Use Change and Forestry)**



## Key Points

- In 2023, Canada's GHG emissions (excluding Land Use, Land-Use Change and Forestry) were 694 megatonnes of carbon dioxide equivalent (Mt CO<sub>2</sub> eq), a decrease of 65 Mt (-8.5%) from 2005, and a decrease of 6 Mt (-0.9%) from revised 2022 emissions.
- The most notable trends in Canada's emission profile between 2005 and 2023 were from electricity as well as oil and gas sources. Emissions from electricity decreased by 67 Mt (-58%) over this period driven by the phase-out of coal-fired electricity generation. Oil and gas emissions increased by 13 Mt (7%), although emissions peaked in 2014 at 228 Mt and have since decreased by 20 Mt (-9%) to 208 Mt in 2023, consistent with measured decreases of fugitive methane sources in recent years.
- The emissions intensity for the entire Canadian economy (GHG per gross domestic product [GDP]) has continued to decline; in 2023 it had declined by 45% since 1990 and by 34% since 2005.
- As with every NIR publication, improvements have been implemented resulting in revisions to previously published data. Overall, this preliminary edition of the inventory shows downward revisions of 2.8 Mt in 2005 and 7.9 Mt in 2022, compared with the previously published inventory in 2024.
- Canada's NIR is a scientific report representing Canada's historical emissions since 1990, which, along with other publications such as Canada's Biennial Transparency Report and Canada's 2030 Emissions Reduction Plan, informs and supports decision-making to reduce Canada's GHG emissions and combat climate change.

# Annex – Greenhouse Gas emissions Data Tables

Greenhouse Gas Categories	2005	2017	2018	2019	2020	2021	2022	2023
	Mt CO <sub>2</sub> eq							
<b>TOTAL<sup>a</sup></b>	<b>759</b>	<b>738</b>	<b>747</b>	<b>747</b>	<b>682</b>	<b>694</b>	<b>700</b>	<b>694</b>
<b>Energy</b>	<b>623</b>	<b>608</b>	<b>615</b>	<b>616</b>	<b>552</b>	<b>562</b>	<b>568</b>	<b>562</b>
a. Stationary Combustion Sources	331	315	316	319	296	297	300	295
b. Transport <sup>b</sup>	190	202	209	209	178	187	195	195
c. Fugitive Sources	102	91	90	88	78	78	74	72
d. CO <sub>2</sub> Transport and Storage	0	0	0	0	0	0	0	0
<b>Industrial Processes and Product Use</b>	<b>56</b>	<b>53</b>	<b>55</b>	<b>54</b>	<b>51</b>	<b>53</b>	<b>53</b>	<b>54</b>
a. Mineral Products	10	9	9	9	8	9	8	9
b. Chemical Industry	10	6	6	6	6	6	6	6
c. Metal Production	21	16	16	15	14	15	15	16
d. Production and Consumption of Halocarbons, SF <sub>6</sub> and NF <sub>3</sub> <sup>c</sup>	5	10	11	11	11	11	11	10
e. Non-Energy Products from Fuels and Solvent Use	10	11	12	12	11	12	12	12
f. Other Product Manufacture and Use	1	1	1	1	1	1	1	1
<b>Agriculture</b>	<b>56</b>	<b>53</b>	<b>54</b>	<b>54</b>	<b>56</b>	<b>55</b>	<b>56</b>	<b>55</b>
a. Enteric Fermentation	35	27	27	27	27	27	27	26
b. Manure Management	9	8	8	8	8	8	8	8
c. Agricultural Soils	12	15	16	16	18	17	18	18
d. Field Burning of Agricultural Residues	0	0	0	0	0	0	0	0
e. Liming, Urea Application and Other Carbon-Containing Fertilizers	1	2	3	3	3	3	3	3
<b>Waste</b>	<b>24</b>	<b>23</b>	<b>23</b>	<b>23</b>	<b>23</b>	<b>23</b>	<b>23</b>	<b>23</b>
a. Landfills	21	20	20	20	20	20	20	20
b. Biological Treatment of Solid Waste	0	0	0	0	0	1	1	1
c. Incineration and Open Burning of Waste	0	0	0	0	0	0	0	0
d. Wastewater Treatment and Discharge	2	3	3	3	3	3	3	3
<b>Land Use, Land-Use Change and Forestry</b>	<b>66</b>	<b>21</b>	<b>24</b>	<b>15</b>	<b>25</b>	<b>15</b>	<b>51</b>	<b>4</b>

Notes:  
 Totals may not add up due to rounding.  
 a. National totals exclude all GHGs from the Land Use, Land-Use Change and Forestry sector.  
 b. Emissions from ethanol and biodiesel are included in the Transport categories using gasoline and diesel respectively.  
 c. HFC and PFC consumption began in 1995; HFC emissions occurring as a by-product of HCFC production (HCFC-22 exclusively) only occurred in Canada from 1990–1992 and PFC emissions prior to 1995 are the result of by-product CF<sub>4</sub> emissions from the use of NF<sub>3</sub>.

Economic Sector Categories	2005	2017	2018	2019	2020	2021	2022	2023
	Mt CO <sub>2</sub> eq							
<b>NATIONAL GHG TOTAL</b>	<b>759</b>	<b>738</b>	<b>747</b>	<b>747</b>	<b>682</b>	<b>694</b>	<b>700</b>	<b>694</b>
Oil and Gas	194	216	223	222	204	211	209	208
Electricity	116	73	63	62	54	52	49	49
Transport	156	165	169	169	142	149	155	157
Heavy Industry	88	78	80	79	75	78	78	78
Buildings	85	88	92	94	88	85	88	83
Agriculture	66	67	69	69	70	69	70	69
Waste	24	23	23	23	23	23	23	23
Coal Production	3	3	3	3	3	3	3	4
Light Manufacturing, Construction and Forest Resources	27	25	25	25	22	23	24	24

Note: Totals may not add up due to rounding.

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