

# Physical flow accounts: Energy use and greenhouse gas emissions, 2016

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## Energy use and greenhouse gas emissions by industries and households

Total energy use by industries and households in Canada decreased 1.3% in 2016 following a 0.3% decline in 2015. Meanwhile, greenhouse gas (GHG) emissions declined 1.5% in 2016, following virtually no change from 2014 to 2015.

These changes took place as economic growth, as measured by gross domestic product (GDP), increased by 0.9% in 2015 and 1.2% in 2016. Canada's direct industrial energy intensity in 2016 was 5.19 terajoules per million dollars of GDP, down 2.3% from 2015, while its direct industrial GHG emissions intensity decreased 2.9% from 2015 to 0.36 kilotonnes per million dollars of GDP.

The residential sector remained the largest energy user in 2016 at 24.0% of total energy consumption in Canada, down 0.2 percentage points from 2015. This amounted to 75.8 gigajoules of household energy use per person, equivalent to the energy content in approximately 12 barrels of crude oil. While households accounted for just under one-quarter of total energy consumption, they were responsible for less than one-fifth of GHG emissions (19.1%), owing to a relatively large share of their energy use coming from electricity, which does not directly contribute to GHG emissions. In 2016, households emitted 3.9 tonnes of GHG emissions on a per capita basis.

Following a 6.5% increase in 2015, energy use in the utilities and construction industries declined by 1.9% in 2016. These industries accounted for 13.1% of total energy use in 2016, down 0.1 percentage points from 2015.

Reversing a long-term trend of annual increases in GHG emissions in the mining, quarrying, and oil and gas extraction sector, emissions in that sector decreased by 1.4% in 2016. This sector remained the largest source of GHG emissions in 2016, accounting for 22.5% of the national total. These industries are more prominent in terms of GHG emissions than energy use because of fugitive emissions from oil and gas extraction.

The agriculture, forestry, fishing and hunting industries (accounting for 11.6% of national GHG emissions) are similarly pushed higher by the contribution of methane and nitrous oxide emissions from crop and animal production.

In manufacturing and in other services and public administration, the share of GHG emissions is lower compared with the share of energy use because electricity represents a large proportion of energy use for these sectors.

### Note to readers

*Statistics Canada's Physical Flow Accounts record the annual flows of selected natural resources, products and residuals between the Canadian economy and the environment. Data are presented to reflect the activities of industries, households and governments, and follow the classification system used in Statistics Canada's supply and use tables.*

*Preliminary data for 2016 from the Physical Flow Accounts are now available for energy use and greenhouse gas (GHG) emissions. Estimates for 2009 to 2015 for energy use and GHG emissions were updated with revised source data.*

*Energy use and GHG emissions intensities per industry for 2009 to 2014 were revised to reflect the updates to energy use and GHG emissions data.*

*A revised table for 2009 to 2014 on energy use and greenhouse gas emissions by final demand category is now available, again to reflect the updates to energy use and GHG emissions data.*



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*Environment and Climate Change Canada is responsible for producing Canada's National Inventory Report on Greenhouse Gas Sources and Sinks. This inventory fulfills Canada's reporting obligations under the United Nations Framework Convention on Climate Change (UNFCCC) and is the official benchmark for GHG emissions in Canada. The reporting requirements of the UNFCCC differ from the methodological guidelines of the United Nations System of Environmental–Economic Accounting used to create the greenhouse gas account described here. For more information on these differences, see the physical flow accounts survey page ([5115](#)).*

**Table 1**  
**Energy use and greenhouse gas emissions in Canada, 2016**

	Energy use			Greenhouse gas emissions <sup>1</sup>		
	terajoules	% of total	% change from the previous year	kilotonnes	% of total	% change from the previous year
<b>Total, industries and households</b>	<b>11 446 650</b>	<b>100.0</b>	<b>-1.3</b>	<b>746 625</b>	<b>100.0</b>	<b>-1.5</b>
Agriculture, forestry, fishing and hunting	352 701	3.1	2.2	86 826	11.6	1.5
Mining, quarrying, and oil and gas extraction	2 063 974	18.0	1.8	167 745	22.5	-1.4
Utilities and construction	1 501 476	13.1	-1.9	95 368	12.8	-2.7
Manufacturing	2 300 276	20.1	-2.0	125 671	16.8	-1.3
Wholesale and retail trade	370 426	3.2	-1.7	18 780	2.5	-2.2
Transportation and warehousing	965 333	8.4	-5.0	63 718	8.5	-5.5
Other services and public administration	1 142 107	10.0	-1.2	45 781	6.1	-1.6
Households	2 750 357	24.0	-1.9	142 736	19.1	-0.8

1. Data from the physical flow accounts on greenhouse gas emissions differ from those in Environment and Climate Change Canada's *National Inventory Report on Greenhouse Gas Sources and Sinks* because of differences in the methodology used to produce them. See the Physical Flow Accounts Survey page (5115) for more information.

Source(s): Tables [38-10-0096-01](#) and [38-10-0097-01](#).

**Available tables:** [38-10-0010-01](#) and [38-10-0096-01](#) to [38-10-0098-01](#) .

**Definitions, data sources and methods:** survey number [5115](#).

For more information, or to enquire about the concepts, methods or data quality of this release, contact us (toll-free 1-800-263-1136; 514-283-8300; [STATCAN.infostats-infostats.STATCAN@canada.ca](mailto:STATCAN.infostats-infostats.STATCAN@canada.ca)) or Media Relations (613-951-4636; [STATCAN.mediahotline-ligneinfomedias.STATCAN@canada.ca](mailto:STATCAN.mediahotline-ligneinfomedias.STATCAN@canada.ca)).