

# Canadian System of Environmental–Economic Accounts: Intensities and demand-based measures for energy and greenhouse gas emissions, 2020

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In 2020, the average national direct plus indirect intensity of energy use of the Canadian economy as a whole was 4.69 gigajoules of energy per thousand current dollars of output. The corresponding average direct plus indirect intensity for greenhouse gas (GHG) emissions was 0.33 tonnes of carbon dioxide equivalents per thousand current dollars of output.

## **Economy-wide energy use is largely attributable to household expenditures**

In 2020, household expenditures (43.8%) continued to be the primary driver for total energy use in Canada, a slight decrease from 2019 (44.2%). Demand for international exports accounted for 39.3% of total energy use in 2020, a slight decrease from 39.6% in 2019.

## **International exports remain the largest driver of greenhouse gas emissions**

In 2020, Canada's GHG emissions were largely attributable to direct and indirect emissions resulting from the production of goods and services for international export (44.1%), with household expenditures the second-largest driver at 40.0%. Since 2012, exports have surpassed household expenditures as the main driver of GHG emissions in the country.

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## Note to readers

Statistics Canada's physical flow accounts record the annual flows of natural resources, products and residuals between the Canadian economy and the environment. Data are presented to reflect the activities of industries, households and governments. Because they follow the classification system used in Statistics Canada's supply and use tables, it is possible to link these data to gross production and final demand to produce the data presented here. These data are currently available at the national level only.

Data for 2020 from the physical flow accounts are now available for direct plus indirect energy and greenhouse gas (GHG) emissions intensity, by industry (table [38-10-0098-01](#)) and physical flows by final demand category for energy use, GHG emissions and water use (table [38-10-0010-01](#)).

Data on intensities provide a measure of the energy used and the GHGs emitted throughout the entire supply chain to produce one thousand current dollars of output from each industry. The intensities include both direct and indirect effects and thus reflect the interdependence between industries in the Canadian economy.

Direct effects measure the inputs required (e.g., energy used) or wastes produced (e.g., GHGs emitted) by an industry directly delivering output. Indirect effects measure the impacts associated with economic activity upstream in the supply chain.

An example of direct greenhouse gas emissions would be those released by the combustion of natural gas in a restaurant kitchen to cook a hamburger, while indirect emissions would include the methane released from cattle farms to produce beef for the hamburger.

Data on intensities should only be considered on a single-year basis as they are based on gross output in current dollars. It would be necessary to adjust for inflation to use these data in a time series context.

Demand-based measures allocate industrial energy inputs and residuals (wastes) to the end user of goods and services rather than to the producer. The allocation to personal expenditures by households includes both direct and indirect energy use and GHG emissions.

Environment and Climate Change Canada is responsible for producing the official [National inventory report: Greenhouse gas sources and sinks](#) in Canada. This inventory, which fulfills Canada's reporting obligations under the United Nations Framework Convention on Climate Change (UNFCCC), is consistent with guidelines published by the Intergovernmental Panel on Climate Change and is the official benchmark for GHG emissions in Canada. National inventories under the UNFCCC and the GHG accounts under the United Nations System of Environmental–Economic Accounting are based on different methodological frameworks, and this results in different GHG estimates. The sector definitions of the two products differ and should therefore not be directly compared. For more information on these differences, see the [physical flow accounts metadata page \(5115\)](#) and the [greenhouse gas webpage](#) of the [Canadian Centre for Energy Information](#).

**Available tables:** [38-10-0010-01](#) and [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; [infostats@statcan.gc.ca](mailto:infostats@statcan.gc.ca)) or Media Relations ([statcan.mediahotline-ligneinfomedias.statcan@statcan.gc.ca](mailto:statcan.mediahotline-ligneinfomedias.statcan@statcan.gc.ca)).