GHG emissions data evaluation criteria

Context

This appendix provides an overview of methodologies applied to disclose greenhouse gas (GHG) emissions for the January 1, 2024 to December 31, 2024 reporting year in accordance with:

- The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition, (WBCSD/WRI, 2015) (the "GHG Protocol")
- GHG Protocol Scope 2 Guidance, an amendment to the GHG Protocol Corporate Standard (the "GHG Scope 2 Guidance")
- Corporate Value Chain (Scope 3) Accounting and Reporting Standard, Supplement to the GHG Protocol Corporate Accounting and Reporting Standard (the "GHG Scope 3 Guidance")

Scope and boundaries

FortisBC has selected the financial control approach when consolidating GHG emissions within its organizational boundary, as defined by the GHG Protocol.

FortisBC's operational boundaries comprise FortisBC Inc. (FBC), a regulated electricity utility, and FortisBC Energy Inc. (FEI), a regulated gas utility. The two companies operate in British Columbia as FortisBC.

FortisBC reports GHG emissions generated from all known material sources associated with its facilities and operations that it exercises financial control over. For sources that can be quantified, FortisBC uses a materiality threshold of five per cent. For sources that cannot be quantified, a qualitative assessment is conducted to estimate the probable magnitude of GHG emissions to determine materiality.

FortisBC includes Scope 1 (direct) GHG emissions, Scope 2 (indirect) GHG emissions from electricity consumption and Scope 3 (other indirect) GHG emissions in the emissions inventory.

FortisBC uses the term renewable and lower carbon energy[1] to refer collectively to electricity and the lower carbon[2] gases or fuels that the utility can acquire under the Greenhouse Gas Reduction (Clean Energy) Regulation, which are: Renewable Natural Gas[3] (also called RNG or biomethane), hydrogen, synthesis gas (from wood waste) and lignin. FortisBC's renewable and lower carbon gas[4] portfolio currently includes only Renewable Natural Gas. Other gases and fuels may be added to the program over time. Depending on their source, all of these gases have differing levels of lifecycle carbon intensity. However, all of these gases are lower carbon when compared to the lifecycle carbon intensity of conventional natural gas.

GHG emissions

FortisBC reports on emissions from CO_2, CH_4, N_2O and SF_6 greenhouse gases. FortisBC has excluded hydrofluorocarbons (HFCs) as the extent of these emissions are limited to building HVAC cooling systems and are immaterial to the inventory. There are no operational activities that result in perfluorocarbons (PFCs) gases.

[1]FortisBC uses the term renewable and lower carbon energy to refer collectively to electricity and the lower carbon gases or fuels that the utility can acquire under the Greenhouse Gas Reduction (Clean Energy) Regulation, which are: Renewable Natural Gas (also called RNG or biomethane), hydrogen, synthesis gas (from wood waste) and lignin. FortisBC's renewable and lower carbon gas portfolio currently includes only Renewable Natural Gas. Other gases and fuels may be added to the program over time. Depending on their source, all of these gases have differing levels of lifecycle carbon intensity. However, all of these gases are lower carbon when compared to the lifecycle carbon intensity of conventional natural gas. The current burner tip emission factor of RNG is 0.27 grams of carbon dioxide equivalent per megajoule of energy (gCO2e/MJ) and the current renewable and lower carbon gas portfolio lifecycle emissions for stationary combustion are -22 gCO2e/MJ. This is below B.C.'s lifecycle carbon intensity threshold of 30.8 gCO2e/MJ as set out in the 2024 Greenhouse Gas Reduction Regulation amendments. [2]When compared to the lifecycle carbon intensity of conventional natural gas. The burner tip emission factor of FortisBC's current Renewable Natural Gas (also called RNG or biomethane) portfolio is 0.27 grams of carbon dioxide equivalent per megajoule of energy (gCO2e/MJ). FortisBC's current RNG portfolio lifecycle emissions for stationary combustion are -22 gCO2e/MJ. This is below B.C.'s lifecycle carbon intensity threshold of 30.8 gCO2e/MJ as set out in the 2024 Greenhouse Gas Reduction Regulation amendments. [3]Renewable Natural Gas (also called RNG or biomethane) is produced in a different manner than conventional natural gas. It is derived from biogas, which is produced from decomposing organic waste from landfills, agricultural waste and wastewater from treatment facilities. The biogas is captured and cleaned to create RNG. When RNG is added to North America's natural gas system, it mixes with conventional natural gas. This means we're unable to direct RNG to a specific customer. But the more RNG is added to the gas system, the less conventional natural gas is needed, thereby reducing the use of fossil fuels and overall greenhouse gas emissions. [4]FortisBC uses the term renewable and lower carbon gas to refer collectively to the lower carbon gases or fuels that the utility can acquire under the Greenhouse Gas Reduction (Clean Energy) Regulation, which are: Renewable Natural Gas (also called RNG or biomethane), hydrogen, synthesis gas (from wood waste) and lignin. FortisBC's renewable and lower carbon gas portfolio currently includes only Renewable Natural Gas. Other gases and fuels may be added to the program over time. Depending on their source, all of these gases have differing levels of lifecycle carbon intensity. However, all of these gases are lower carbon when compared to the lifecycle carbon intensity of conventional natural gas. The current burner tip emission factor of RNG is 0.27 grams of carbon dioxide equivalent per megajoule of energy (gCO2e/MJ) and the current renewable and lower carbon gas portfolio lifecycle emissions for stationary combustion are -22 gCO2e/MJ. This is below B.C.'s lifecycle carbon intensity threshold of 30.8 gCO2e/MJ as set out in the 2024 Greenhouse Gas Reduction Regulation amendments.

Global warming potential factors have been sourced from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) and align with Global Warming Potentials (GWPs) associated with U.S. Environmental Protection Agency (EPA), Environment and Climate Change Canada and United Nations Framework Convention on Climate Change (UNFCCC) reporting requirements.

Greenhouse gas	Formula	5th Assessment
Carbon dioxide	CO_2	1
Methane	CH_4	28
Nitrous oxide	N_2O	265
Sulphur hexafluoride	SF_6	23,500

Total Scope 1 GHG emissions (tCO_2e)

Definition

The majority of FortisBC's Scope 1 (direct) emissions occur from stationary combustion of gas-driven compressors used in natural gas operations. Vented, fugitive and flared emissions are also included.

As a regulated utility in British Columbia, operational GHG emissions are reported as part of regulatory reporting following the 2011 Western Climate Initiative (WCI) quantification methods in combination with 2012 and 2013 amendments. As a default, FortisBC applies calculation methodologies, engineering estimates and emission factors specified by regulation and aligned with the GHG Protocol.

In addition to GHG emissions subject to regulatory reporting, FortisBC includes GHG emissions from owned vehicles in Scope 1, RNG processing facilities we own and operate and facility comfort heating.

Units

Metric tonnes of CO_2 equivalent (tCO_2e).

Calculation methodology

Scope 1 GHG emissions are calculated based on activity data (e.g. natural gas consumption data, flaring metered records, system reports and fuel usage) and emission factors sourced from the following:

- 2011 WCI (with 2012 and 2013 amendments)
- equipment manufacturers
- Canadian Energy Partnership for Environmental Innovation (CEPEI), Estimation of Air Emissions from the Canadian Natural Gas Transmission, Storage and Distribution System Methodology Manual
- B.C. Best Practices Methodology for 2020

Total Scope 2 GHG emissions (tCO_2e)

Definition

Scope 2 (indirect) emissions represent a small source of GHG emissions for FortisBC. The majority of these emissions relate to line loss associated with the electricity utility.

The GHG Scope 2 Guidance specifies that Scope 2 emissions should be calculated and reported following the location-based and market-based method if FortisBC has operations in markets providing product or supplier-specific data.

For 2024, FortisBC will only report following the location-based method. This is due to there being no market-based emission factors and no Renewable Energy Certificates (RECs) purchased in the period.

Units

Metric tonnes of CO_2 equivalent (tCO_2e).

Calculation methodology

Scope 2 emissions are calculated based on activity data (e.g. electricity consumption data, invoices, power purchase agreements and bills) and emission factors sourced from the following:

- actual 2024 FortisBC grid factors
- B.C.'s integrated grid electricity GHG emission intensity factor
- Greenhouse Gas Industrial Reporting and Control Act (GGIRCA) Bulletin Energy Factor (EF) of 0.454 (generic US grid factor), which is required for regulatory purposes
- line loss value in accordance with FortisBC's 2020-2024 multi-year rate plan as submitted to the BCUC

Note: the value adopted for the calculation of Scope 2 follows the provincial methodology as required under GGIRCA as well as the B.C. Government's published integrated grid electricity GHG emission intensity factor.

Total Scope 3 GHG emissions (tCO_2e)

Definition

Scope 3 emissions include indirect emissions that are a consequence of FortisBC's activities but occur outside of sources owned and controlled by FortisBC.

FortisBC is in the process of performing a formal evaluation to assess the significance of each Scope 3 emissions category to the total inventory. Currently, FortisBC reports on Category 11: use of sold product only.

Units

Metric tonnes of CO_2 equivalent (tCO_2e).

Calculation methodology - Category 11

Category 11 emissions relate to use of sold products. GHG emissions are calculated using primary activity data obtained based on actual consumption and monthly meter readings.

The emission factors are sourced from WCI. For natural gas designated as RNG, as the CO_2 emissions from customer usage are considered biogenic, only the N_2O and CH_4 emissions from combustion are considered a source of Scope 3 GHG emissions.

Biogenic CO_2 emissions from customer use of natural gas designated as RNG (tCO_2)

Definition

Biogenic CO_2 emissions are emissions related to the natural carbon cycle and are not considered a net contributor to climate change. For FEI, biogenic CO_2 emissions represent GHG emissions from the customer usage of natural gas designated as RNG and are reported separately from Scope 1, 2 and 3 emissions in alignment with the GHG Protocol.

Units

Metric tonnes of CO_2 (tCO_2).

Calculation methodology

Biogenic GHG emissions are calculated using customer use of natural gas designated as RNG and a CO_2 emission factor sourced from WCI.

Environmental benefits

Introduction

FortisBC's 2024 Sustainability Report provides the quantity of liquefied natural gas (LNG) and compressed natural gas (CNG) provided to the transportation sector as well as reduction in Scope 3 – Category 11 GHG emissions for customers from the use of natural gas designated as RNG. This section describes the methods FortisBC uses to calculate the reduction in Scope 3 – Category 11 GHG emissions by activity type. Where applicable, FortisBC uses methodologies required by provincial or federal regulations.

Renewable Natural Gas

The reduction in Scope 3 – Category 11 GHG emissions for customers from the use of natural gas designated as RNG in comparison to conventional natural gas is based on the volume of RNG multiplied by the CO_2 emission factor as sourced from the WCI.

Pursuant to Order in Council 302, Section 8.2.2., the carbon intensity of RNG is determined on a supply-specific basis using GHGenius, which is a lifecycle analysis model referenced in the Greenhouse Gas Reduction Regulation. The emissions for the assessed product are determined by multiplying the carbon intensities by the volumes of natural gas designated as RNG acquired from specific suppliers. The reference product is determined by using the same corresponding volume multiplied by the lifecycle emission factor of natural gas as published in Environment and Climate Change Canada's Clean Fuel Regulation—openLCA library. Lifecycle GHG emissions savings associated with total supply is calculated as the differential between the assessed and reference products. This value is published as a footnote in the 2024 Sustainability Report's performance data table.

LNG and CNG fuel provided for use in the transportation sector

Volume of fuel for CNG and LNG provided for use in the transportation sector is measured through a Measurement Canada certified meter. This includes volume measurements for LNG in the marine sector as well as CNG and LNG in the on-road transportation sector.

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