

Module: Introduction**Page: Introduction**

CC0.1**Introduction**

Please give a general description and introduction to your organization.

Enerplus Corporation (Enerplus) has a diversified portfolio of oil and gas properties throughout Western Canada and the United States and produced an average of approximately 93,125 BOE/day, with 54% of the total production originating from natural gas, and 46% from crude oil and natural gas liquids throughout 2016.

The head office is located in Calgary, Alberta, and the United States office is located in Denver, Colorado. Enerplus has twelve field offices located throughout British Columbia, Alberta, Saskatchewan, Montana and North Dakota. As of December 31, 2016, Enerplus employed a total of 472 people, including full-time benefit and payroll consultants, 340 of whom were in Canada and 132 of whom were in the United States.

Enerplus strives to continuously improve the efficiency of its energy consumption, reduce our greenhouse gas emissions intensity and provide resources, training and technology to meet our environmental objectives. We have several ongoing environmental initiatives in this regard, including:

- greenhouse gas (GHG) emissions and small pneumatic venting equipment inventory
- site energy efficiency audit program;
- site environmental inspection and audit program;
- water management planning;
- waste management and waste reduction programs;
- fugitive emissions management program; and
- reclamation of disturbed landscapes to equivalent land capability.

In 2016, for the second year Enerplus reported its key environmental and safety metrics in its Sustainability Report. Enerplus' efforts in key performance indicator disclosure, stakeholder engagement, activity and culture demonstrate its commitment to responsible resource development and to continuous improvement in environment, health and safety and social performance.

CC0.2**Reporting Year**

Please state the start and end date of the year for which you are reporting data.

The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.

We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.

Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed
Fri 01 Jan 2016 - Sat 31 Dec 2016

CC0.3**Country list configuration**

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country
Canada
United States of America

CC0.4

Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

CAD (\$)

CC0.6

Modules

As part of the request for information on behalf of investors, companies in the electric utility sector, companies in the automobile and auto component manufacturing sector, companies in the oil and gas sector, companies in the information and communications technology sector (ICT) and companies in the food, beverage and tobacco sector (FBT) should complete supplementary questions in addition to the core questionnaire.

If you are in these sector groupings, the corresponding sector modules will not appear among the options of question CC0.6 but will automatically appear in the ORS navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.

If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below in CC0.6.

Further Information

Module: Management

Page: CC1. Governance

CC1.1

Where is the highest level of direct responsibility for climate change within your organization?

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a

Please identify the position of the individual or name of the committee with this responsibility

The Board of Directors Safety and Social Responsibility (S&SR) Committee was established by the Enerplus' Board of Directors to assist the Board with respect to the development and implementation of an effective S&SR management system, to ensure that Enerplus' activities are planned and executed in a safe and responsible manner, and to ensure there are adequate systems in place to support safety and environmental management, regulatory compliance, emergency response plans, and stakeholder engagement activities. The S&SR Committee reviews the Corporation's performance related to S&SR semi-annually and ensures that long-range programs are in place to limit or mitigate future liability. The S&SR Committee is comprised of at a minimum of three independent Board of Director members which are appointed annually following the annual general meeting of the Corporation. The Enerplus Chief Executive Officer is responsible for Board Liaison. The S&SR Board Committee Chairman presents verbal and/or written reports regarding the Corporation's S&SR performance, Committee meetings and discussions at scheduled meetings of the Board of Directors. The Enerplus Board of Directors annually conduct and attend a S&SR focused field trip to one of our operating areas.

CC1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

CC1.2a

Please provide further details on the incentives provided for the management of climate change issues

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
All employees	Monetary reward	Other: Compliance with all emissions regulations	In all jurisdictions in which Enerplus operates there are emission regulations; as part of the corporate performance bonus system, compliance metrics are factored into bonus structure. All employees benefit monetarily when Enerplus remains compliant with all emissions regulations.
Corporate executive team	Monetary reward	Other: Compliance with all emissions regulations	In all jurisdictions in which Enerplus operates there are emission regulations; as part of the corporate performance bonus system, compliance metrics are factored into bonus structure. The corporate executive team benefits monetarily when Enerplus remains compliant with all emissions regulations.
Board/Executive board	Monetary reward	Other: Compliance with all emissions regulations	In all jurisdictions in which Enerplus operates there are emission regulations; as part of the corporate performance bonus system, compliance metrics are factored into bonus structure board of directors benefits monetarily when Enerplus remains compliant with all emissions regulations.

Further Information

Page: CC2. Strategy

CC2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

CC2.1a

Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Annually	Board or individual/sub-set of the Board or committee appointed by the Board	All facilities in US and Canada	3 to 6 years	Risks to increased GHG and Fugitive emissions are identified and managed within our environmental management system where environmental aspects which do or can have significant impacts on the environment, including flaring, venting and air emissions are identified and managed. Within our facility licensing or amendment process and through our Fugitive Emissions Management Program and our Greenhouse Gas Management Program we create a standard to reduce emissions and exposure risk to regulations. These aspects are then used in consideration of future corporate or site-specific objectives and targets. We also invest efforts into disclose these risks and targets through our Annual Information Form and Sustainability Report, creating a channel for feedback from stakeholders through these reports.

CC2.1b**Please describe how your risk and opportunity identification processes are applied at both company and asset level**

Risk and opportunities are identified at both company and asset level

At the company level, senior management and staff identify site-specific risks and opportunities through internal and external site inspections and audits. The results are documented in our corporate database Sustainability Information Management System (SIMS) and rolled up to both the asset and company levels. SIMS tracks and manages corrective actions and compliance issues associated with environmental aspects and risks in a transparent, effective manner with timelines and direct accountability.

Annual internal and third-party Risk Assessments are completed that identify climate related risks and opportunities. These assessments include climate risks to and from Enerplus', such as:

- Forest and grass fires
- Flooding (identification of flood risks)
- Windstorm exposures
- Earthquakes
- Fugitive emissions
- Flaring events
- Venting
- Fuel gas use reductions at facilities
- Electrical and energy draws and efficiencies
- Vapour recovery units
- Refrigeration

Site-specific inspections occur regularly by our field operations staff and audits are conducted by internal regulatory and environmental staff with a predetermined schedule. Larger facilities are inspected at least once per year and approximately eight extensive audits are scheduled annually. Approximately 15 to 20 audits are conducted each year by an external third party. The results are recorded within SIMS and are reported company-wide and are available to any staff member that accesses the online system. Additionally, the Manager - S&SR regularly reviews the SIMS results and communicates the results at regular meeting of the Health, Safety, Regulatory and Environment Action and Steering committees, and also to the S&SR Board of Directors Committee.

CC2.1c**How do you prioritize the risks and opportunities identified?**

Enerplus prioritizes its identified risk and opportunities through a formal risk assessment process and maintains a EHS Risk Registry to introduce a higher level of active management and communication to all of Enerplus of our risks with regards to EHS, and their financial, regulatory, reputational and operational impacts (carbon and emissions related risks are an important section of this registry).

In addition, Enerplus uses a Process Hazard Assessment (PHA) that is a systematic and organized approach to identifying, evaluating and controlling risks specific to , These risks may be associated with events such as fires, explosions, toxic releases due to equipment failures, design errors, natural causes, or human error (e.g., H2S/SO2 exposures, LEL, benzene, NORM's, noise, heat, pressure). The Risk Assessment Matrix is used to identify each risk and to assess the risk with consideration of the severity or potential loss and the likelihood or probability of the risk to people, property, production (e.g., emissions), and environment (e.g., sound, lighting, heat, cold, ventilation, radiation). The potential risk exposure for people, property, production and environment is determined through the matrix. A risk score of one (low) to five (high) is assessed for each category and then a risk ranking is determined.

CC2.1d

Please explain why you do not have a process in place for assessing and managing risks and opportunities from climate change, and whether you plan to introduce such a process in future

Main reason for not having a process	Do you plan to introduce a process?	Comment
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CC2.2

Is climate change integrated into your business strategy?

Yes

CC2.2a

Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process

(i) Enerplus' business strategy is influenced by the discussions and commitments set forth at the Board of Directors Safety and Social Responsibility (S&SR) Committee, the S&SR Steering Committee and the Health, Safety, Regulatory and Environment Action Committee and the Environment and Sustainability Team. We have a strong value of corporate social responsibility and strive to continue to improve our governance and transparency in this area. We report our environmental performance, including GHG emissions, in our Annual Information Form, the Management and Discussion and Analysis, and voluntarily through the CDP, and the Canadian Association of Petroleum Producers Responsible Canadian Energy Stewardship Program.

The Enerplus Board of Directors, leadership, and employees, are committed not only to conducting all of our activities consistent with the environmental regulations that govern the oil and gas industry within each of our operating jurisdictions, but to proactively mitigate our impact on the environment. Our Environment Policy mandates that Enerplus' will "mitigate gas flaring and venting and work to improve the efficiency of our energy consumption and reduce greenhouse gas emissions intensity".

Enerplus' has recognized the need to integrate climate change issues into our business strategy and as a result, we have committed to engaging our internal stakeholders on such issues and ensuring that all of our activities and operations are conducted in compliance with relevant and applicable regulations and with good industry practice. The business strategy is also influenced through Enerplus' Energy Performance Working Group which is directed by a Steering Committee comprised of Executives and Senior Managers.

With respect to management of climate change risks at the operational level, Enerplus has avoidance and mitigative measures in place for the reduction of exposure to and contribution to fugitive emissions, flaring/venting, fuel gas use reductions at facilities, electrical and energy draws and efficiencies, the recovery of vapours during processing. These measures include Standards, Procedures or Process Hazard Assessment with follow through to the Management of Change Process.

(ii) Aspects of climate change that have influenced this strategy are related to regulatory and operational risk mitigation, improvements in energy performance, and value to various internal and external stakeholders.

(iii) Enerplus' has several environmental initiatives and programs; many of which either directly or indirectly affect our GHG inventory. Over the past three years, internal communication and collaboration between business unit functional groups has increased to better understand the GHG inventory, and the parameters in which we can target to reduce GHG emissions. In addition, we have refined a key information database used to track fugitive emissions information.

(iv) On a longer term scale (i.e., 5 to 10 years) we are continually increasing the accuracy of our data collection systems used to calculate the GHG emissions inventory and to implement, monitor and track the effectiveness of reduction initiatives towards proactively reducing our direct GHG emission intensity. This data accuracy initiative will be driven by the anticipated carbon regulatory requirements.

(v) The importance of these changes to the business strategy as it relates to climate change is to bring focus and drive value from implementing energy performance initiatives that consider GHG reductions and to help strengthen communication and action on climate change issues both for our internal and external stakeholders including shareholders. Additionally, reducing operational costs through energy performance initiatives will deliver financial value to our shareholders and engage our employees.

(vi) Substantial business decisions such as the creation of the internal Energy Performance Working group is highly valuable in creating focused efforts in implementing projects that will drive reductions in the GHG emissions intensity and create long term changes in how new construction or equipment retrofit decisions are made going forward.

CC2.2b

Please explain why climate change is not integrated into your business strategy

CC2.2c

Does your company use an internal price on carbon?

Yes

CC2.2d

Please provide details and examples of how your company uses an internal price on carbon

We use a long term price forecast on the price of carbon for looking at the immediate and future impact of such regulations on our operations. The price of carbon is currently under further evaluation due to the evolving regulatory constraints in the jurisdictions in which we operate, and will be an integral part of future development planning, which will enable the evaluation of more energy efficient equipment and processes within our operations. For example, the projected cost of \$30/tonne for AB of combusted fuel is considered in decisions related to development. We are already currently under a carbon tax scheme in B.C. and are integrating projected increased carbon costs and risks in many project evaluations.

CC2.3

Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

Direct engagement with policy makers
Trade associations
Funding research organizations

CC2.3a

On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Clean energy generation	Support	Members of two methane emission reduction advisory groups through CAPP	Working on identifying the most beneficial methane reduction opportunities with regards to impact and marginal abatement cost, and providing data for better evaluation of opportunities to both the Alberta and federal Canadian governments.
Mandatory carbon reporting	Support	Environment, Aboriginal Affairs and Communication Executive Policy Groups (EPGs) in Canada, and State councils in the U.S.	Support in developing clear and effective regulations around methane, flaring and fugitive reduction programs.
Energy efficiency	Support	Members of two energy efficiency/ sustainability initiatives through the Petroleum Technology Alliance of Canada and through CAPP	Working with the Canadian federal government through these associations to provide support in defining regulations for emissions from combustion sources, also known as the Multi-sector Air Pollutants Regulations

CC2.3b

Are you on the Board of any trade associations or provide funding beyond membership?

Yes

CC2.3c

Please enter the details of those trade associations that are likely to take a position on climate change legislation

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
North American Environmental Management (NAEM)	Consistent	Greenhouse Gas reduction is an ongoing priority for companies that want to be environmental and sustainability leaders. Members develop strategies for measuring, managing and reducing emissions. NAEMs solicit feedback and participation in the coordination of policy and compliance reviews. Members also are connected to the largest community of EHS and Sustainability decision-makers through peer-led	Enerplus' has seven employees that actively participate in NAEM's leadership, policy positions and events. Our Manager of Safety and Social Responsibility sits on the Board of Directors and the Board of Regents for NAEM.

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		educational conferences and a private, online knowledge-sharing network.	
Canadian Heavy Oil Association	Consistent	To support the Canadian Heavy Oil community in providing a sustainable energy source for the worlds energy needs. The CHOA provides collective member position papers on climate issues.	Our Manager of Safety and Social Responsibility is the President of this Association.
CAPP Environment Executive Policy Group	Consistent	Promote Climate policy / GHG regulation being underpinned by competitiveness and technology and innovation considerations, and aligned with a broader national policy framework. Alberta has a sound framework in place for GHG regulation. The federal regulations for the oil and gas sector should build on this foundation and be developed in a manner that addresses the competitiveness of the Canadian oil and gas sector and be compatible with the final form of the Air Quality Management System (AQMS).	Enerplus actively participates in EPG meetings and provides effective feedback for new policies and regulations are relevant, forward thinking and sustainable .Our CEO is a part of the board of Governors for CAPP.
CAPP Air Regulatory Committee	Consistent	This committee's purpose is to actively monitor, engage in and influence air initiatives affecting the oil and gas industry, and to prioritize and establish air strategies for the CAPP membership.	Enerplus actively participates in EPG meetings and provides effective feedback for new policies and regulations are relevant, forward thinking and sustainable.
CAPP Environment Executive Policy Group	Consistent	The Environment EPG addresses CAPP federal and inter-governmental environmental and regulatory policy issues for the upstream oil and gas industry.	Enerplus actively participates in EPG meetings and provides effective feedback for new policies and regulations are relevant, forward thinking and sustainable.
Fuel Gas Efficiency Benchmark group	Consistent	This committee is responsible for communicating and monitoring fuel gas efficiency/usage in Alberta and supporting the implementation of efforts to improve fuel gas efficiency and reduce fuel gas consumption.	Enerplus actively participates in EPG meetings and provides effective feedback for new policies and regulations are relevant, forward thinking and sustainable.
Alberta Executive Policy Group	Consistent	This EPG addresses Alberta environmental and regulatory policy issues for the Upstream Oil and Gas Industry in the province.	Enerplus actively participates in EPG meetings and provides effective feedback for new policies and regulations are relevant, forward thinking and sustainable.

Do you publicly disclose a list of all the research organizations that you fund?

Yes

CC2.3e

Please provide details of the other engagement activities that you undertake

CC2.3f

What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Enerplus participates with Canadian Association of Petroleum Producers (CAPP) on the Environment Executive Policy Group for Alberta, British Columbia and Saskatchewan – and Environment, Aboriginal Affairs and Communication Executive Policy Groups (EPGs) and on various working committees including the Climate Change Working Group and the National Air Issues Committee and direct engagement on approaches to reduce flaring and vented emissions within our U.S. operations. Enerplus' participation in regular CAPP committee and working group meetings allows us the opportunity to dialogue with various levels of governments and agencies (e.g., Environment Canada, Alberta Energy Regulator (AER), Alberta Energy Resources, British Columbia Ministry of Environment, and Saskatchewan Ministry of Environment) to shape the regulatory framework for climate change. Along with participating in regular meetings, we actively provide verbal and written feedback to regulators primarily through CAPP groups on new regulation or proposed changes to existing regulations. In addition, for our U.S. business unit, we join with state, regional and federal trade associations to engage and advocate for air emissions regulatory clarity. Feedback received and provided on changing climate regulations is coordinated through the Energy Performance Working Group within Enerplus where input is solicited from Executives, Facility Engineers, leadership in Operations and members from the Environment and Sustainability Team. This approach ensures that all effectual employees within Enerplus are engaged and contribute to the overall climate strategy.

CC2.3g

Please explain why you do not engage with policy makers

Further Information

Page: CC3. Targets and Initiatives

CC3.1

Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

No

CC3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment
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CC3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
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CC3.1c

Please also indicate what change in absolute emissions this intensity target reflects

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment

CC3.1d

Please provide details of your renewable energy consumption and/or production target

ID	Energy types covered by target	Base year	Base year energy for energy type covered (MWh)	% renewable energy in base year	Target year	% renewable energy in target year	Comment

CC3.1e

For all of your targets, please provide details on the progress made in the reporting year

ID	% complete (time)	% complete (emissions or renewable energy)	Comment

CC3.1f

Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years

Enerplus is in the process of developing emissions reduction goals and/or targets. Goals/targets must be achievable, for this reason it is believed strategies and quantifying achievable emission reductions aspirations should be determined prior to announcing what the goals/targets absolute values.

CC3.2

Do you classify any of your existing goods and/or services as low carbon products or do they enable a third party to avoid GHG emissions?

No

CC3.2a

Please provide details of your products and/or services that you classify as low carbon products or that enable a third party to avoid GHG emissions

Level of aggregation	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
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CC3.3

Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and/or implementation phases)

Yes

CC3.3a

Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation		
To be implemented*		
Implementation commenced*	1	973
Implemented*	1	163000
Not to be implemented		

CC3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Transportation: use	Pipeline transfer of water from source to point of use, instead of trucking water.	973	Scope 2 (location-based)	Voluntary	2080000	1440000	<1 year	1-2 years	Will be the default method of transferring water when viable.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Other	Divestment of emissions intensive assets	163000	Scope 1	Voluntary	1	1	<1 year	<1 year	One time sale of old production facilities.

CC3.3c

What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Employee engagement	The Safety and Social Responsibility team provides all employees with a channel to suggest energy efficiency and environmental improvement opportunities. Communication is performed by e-mail, intranet, presentations and lunch and learns. The development of financial, social and environmental payback tools, and the active engagement of public and private funding create the environment to facilitate a mindset of engagement towards emission reductions and rigor for tracking of financial paybacks.
Financial optimization calculations	Employees from across many business units within Enerplus' are members of the Energy Performance Working Group. These members are always working to find projects that reduce emissions and provide an ROI for Enerplus.
Internal incentives/recognition programs	A sustainability screening tool and economics evaluator looks at projects that can reduce emissions and will consider sustainability attributes along with economics for project implementation. Energy Efficiency audits are also performed in order to find opportunities at all different sites and to provide a different perspective on how to identify opportunities.
Compliance with regulatory requirements/standards	Compliance with regulatory standards is vital to Enerplus and investments are made consistently in order to ensure and surpass regulatory standards for all the applicable provincial, state and federal regulations in place.
Marginal abatement cost curve	Payback on projects and careful consideration for cost of reductions versus carbon costs related to compliance, upcoming regulation cost risk, carbon credit and emissions related funding is carefully considered by the Energy Performance Working

Method	Comment
	Group, and is a part of the Greenhouse Gas Reduction strategy in development.
Internal price on carbon	Careful consideration for cost of reductions versus carbon costs related to compliance, upcoming regulation cost risk, carbon credit and emissions related funding is carefully considered by the Energy Performance Working Group, and is a part of the Greenhouse Gas Reduction strategy in development.

CC3.3d

If you do not have any emissions reduction initiatives, please explain why not

Further Information

Page: CC4. Communication

CC4.1

Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s)

Publication	Status	Page/Section reference	Attach the document	Comment
In mainstream reports (including an integrated report) in accordance with the CDSB Framework	Complete	Pages 40 to 42		Annual Information Form
In mainstream reports (including an integrated	Complete	Data tables and miscellaneous	https://www.cdp.net/sites/2017/24/5624/Climate Change 2017/Shared Documents/Attachments/CC4.1/2015 Enerplus	Enerplus' second sustainability report was posted on our corporate

Publication	Status	Page/Section reference	Attach the document	Comment
report) but have not used the CDSB Framework		sections of report	Sustainability Report.pdf	website in 2016 as part of increased efforts to disclose our attention to emissions and energy performance.

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1

Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

- Risks driven by changes in regulation
- Risks driven by changes in physical climate parameters
- Risks driven by changes in other climate-related developments

CC5.1a

Please describe your inherent risks that are driven by changes in regulation

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Carbon taxes	Several jurisdictions within Canada have existing or proposed carbon taxes. BC has an existing carbon tax since 2008, and under newly elected government may be significantly increasing the tax rate in the short to medium term. The federal and Alberta governments have proposed carbon taxes that will apply to oil and gas production starting in 2018. The federal carbon tax will supersede provincial taxes if provincial taxes are less than the federal tax rate, and will be applicable in Alberta and Saskatchewan, at rate of \$10/tonne CO ₂ e in 2018, increasing by \$10/tonne until maximum rate of \$50/tonne is reached in 2022.	Increased operational cost	1 to 3 years	Direct	Very likely	Medium	Based on current emissions rates, costs associated with carbon taxes have been forecast to be \$1.7 million in 2018, increasing by roughly \$1 million per year until maximum rate of \$4 million in 2022.	Enerplus will manage impacts of the carbon tax by decreasing emissions rates where economically viable and by limiting exposure to the carbon tax through directed capital expenditures to jurisdictions not subject to carbon tax.	The cost associated with these actions is dependent on the specific initiative chosen but could range from a small equipment optimization project (e.g., \$50,000) to a larger scale project such as the electrification of a particular field (e.g., millions of dollars).

Please describe your inherent risks that are driven by changes in physical climate parameters

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in precipitation extremes and droughts	Extreme weather conditions such as flooding and drought from extreme changes in precipitation is a risk to Enerplus' operations. Flood conditions prevent access to our sites for normal operation or drilling and completion activities. Additionally, droughts can lead to conditions conducive to wildfires and this is a significant health and safety risk for our operations.	Increased operational cost	1 to 3 years	Direct	Likely	Low-medium	It is unknown what the financial implication of the changes in precipitation extremes and droughts will be on our operations as both the weather and activity level of the particular field will change on a daily basis, although a upward limit in the range of \$100,000 is not likely to be exceeded.	To manage this risk, Enerplus' will have to manage a more constrained schedule for service, drilling and completions activities on sites if applicable. Additionally, Enerplus has diligently updated Emergency Response Plans and is continually training corporate and field staff on emergency response procedures.	There are no costs associated with this risk at this time.

CC5.1c

Please describe your inherent risks that are driven by changes in other climate-related developments

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Changing consumer behavior	Increasing costs related to the mitigation or adaptation of climate change could impact consumer demand for petroleum products. This is a risk to Enerplus as we may need to adapt our natural gas and oil relative ratio production amounts to reflect changing consumer demand.	Reduced demand for goods/services	>6 years	Direct	About as likely as not	Medium	It is unknown what the financial implication of the changes in consumer behavior will be as it relates to climate change and petroleum product demand, however estimated to be in the range of \$10-100 million.	To manage this risk, Enerplus has formed an internal Energy Performance Working Group that is committed to generating viable Energy Performance initiatives as well as increasing communication both internally and externally to our stakeholders.	There are no costs associated with this risk at this time.

CC5.1d

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1e

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1f

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Page: CC6. Climate Change Opportunities

CC6.1

Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Opportunities driven by changes in regulation

Opportunities driven by changes in physical climate parameters

Opportunities driven by changes in other climate-related developments

CC6.1a

Please describe your inherent opportunities that are driven by changes in regulation

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Carbon taxes	Being taxed on purchased fuels in BC has prompted Enerplus' to improve fuel gas management and to look at ways in which we can reduce purchased fuel amounts or business vehicle travel. One such example is investigating the feasibility of co-generation of electricity on site. We have also replaced our truck fleet vehicles across the company to vehicles that consume less fuel.	Reduced operational costs		Direct	Virtually certain	Low	The financial benefit of generating electricity on sites in BC with a micro-turbine as opposed to utilizing fuel gas has not been quantified at this time as market conditions have changed and this project is still under consideration. However, implementing the change of the fleet vehicles has saved a significant amount of fuel cost for our operations, in the range of \$30-50,000.	Enerplus continues to look for opportunities across all operations to improve energy performance especially in areas where carbon taxes are increasing operational costs. Through the energy performance working group, we now have a systemized approach to identify, evaluate, implement and track energy performance initiatives.	There was a reduction in the cost of securing ½ ton trucks as opposed to ¾ ton trucks but this quantification isn't currently available
Emission reporting obligations	Emission reporting obligations have increased in the number and complexity over the last several	Other: Increased data quality and internal stakeholder engagement	1 to 3 years	Direct	Virtually certain	Medium	Financial benefits derived from opportunities related to emission reporting	Enerplus continues to ensure a high level of quality assurance and checks with regard to	Not including internal staff time, maintaining the emissions database and producing

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	years. This has prompted Enerplus' to invest more time and funds in a comprehensive data management system. This action has enabled increased internal awareness of climate change regulations and risks as well as transparency in data management and calculations.						obligations are not explicit. However, costs savings associated with emissions reductions thought to be in the \$100-200,000 range..	emissions data management. This allows for regular engagement with internal employees regarding regulatory changes and preparedness. In addition, as stated above, there has been a large amount of interest from various employees in participating in the energy performance working group to help drive improvement.	emission reports costs approximately \$85,000 annually.

CC6.1b

Please describe your inherent opportunities that are driven by changes in physical climate parameters

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in temperature extremes	Increased intensity and frequency of weather related issues could disrupt global supply sources and increase the value and demand of Enerplus' oil and gas production in U.S. and Canada.	Increased demand for existing products/services	>6 years	Direct	About as likely as not	Medium	Enerplus continues to look for opportunities across all operations to improve energy performance especially in areas where carbon taxes are increasing operational costs. Costs savings associated with emissions reductions thought to be in the \$100-200,000 range..	Given this macro-scale scenario, Enerplus does not currently manage this potential opportunity.	There are no costs currently associated with management of this potential opportunity.

CC6.1c

Please describe your inherent opportunities that are driven by changes in other climate-related developments

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	Enerplus is committed to the responsible development of energy resources	Wider social benefits	3 to 6 years	Direct	Very likely	Medium	Enerplus quantifies the financial benefits from an enhanced	To manage this opportunity, Enerplus is committed to continually improving both internal and	It is difficult to provide costs associated with these actions as this is mostly

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	in a way that ensures the health and safety of our workers, respects the environment, and builds positive, long-term relationships in the community. Increased awareness, communication and engagement in GHG emissions management and energy performance is received positively by our stakeholders and continues to improve Enerplus' social license to operate.						reputation in the range of \$50-100,000. Benefits from this opportunity may include enhanced employee engagement and retention, enhanced social license to operate, and value back to our shareholders.	external communication on all environmental initiatives including that of climate change. In order to increase disclosure, strengthen engagement of all stakeholders, and increase internal drivers for interdepartmental integration and forward thinking on sustainability, Enerplus launched its first ever Sustainability Report in 2015	related to the time and dedication of many individual employees and teams at Enerplus, but can be estimated in the range of 100k in time building a structure around GHG and climate change communication and tools for enabling Enerplus to prepare for climate-related developments.

CC6.1d

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1e

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1f

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: CC7. Emissions Methodology

CC7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 1	Fri 01 Jan 2010 - Fri 31 Dec 2010	486275

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 2 (location-based)	Fri 01 Jan 2010 - Fri 31 Dec 2010	192847
Scope 2 (market-based)		

CC7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use

ISO 14064-1

CC7.2a

If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

CC7.3

Please give the source for the global warming potentials you have used

Gas	Reference
CO2	IPCC Fifth Assessment Report (AR5 - 100 year)
CH4	IPCC Fifth Assessment Report (AR5 - 100 year)
N2O	

CC7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

Fuel/Material/Energy	Emission Factor	Unit	Reference
Electricity		metric tonnes CO2e per MWh	ISO 14064-1 standard for our sampling and inventory, as well as for emission factors and estimates
Natural gas		metric tonnes CO2e per m3	ISO 14064-1 standard for our sampling and inventory, as well as for emission factors and estimates
Propane		metric tonnes CO2e per m3	ISO 14064-1 standard for our sampling and inventory, as well as for emission factors and estimates
Diesel/Gas oil		metric tonnes CO2e per m3	ISO 14064-1 standard for our sampling and inventory, as well as for emission factors and estimates

Further Information

Page: **CC8. Emissions Data - (1 Jan 2016 - 31 Dec 2016)**

CC8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Operational control

CC8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e

534458

CC8.3

Please describe your approach to reporting Scope 2 emissions

Scope 2, location-based	Scope 2, market-based	Comment
We are reporting a Scope 2, location-based figure	We have no operations where we are able to access electricity supplier emissions factors or residual emissions factors and are unable to report a Scope 2, market-based figure	Scope 2 emissions are reported as accurately as data sources allow.

CC8.3a

Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
171620		Electrical Use in facilities for operations

CC8.4

Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

CC8.4a

Please provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure

Source	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded

CC8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1	More than 2% but less than or equal to 5%	Data Gaps Sampling	<ul style="list-style-type: none"> In addition to methodological uncertainty in calculating GHG emissions despite rigor in using the most up to date methodology per emissions category, a part of venting emissions remain a source of uncertainty as these volumes are often estimated from equipment specifications rather than metered flows and inventories can have some uncertainty. Also, emission factors may change due to the gathering of increasingly accurate scientific data. Significant changes to emission factors will change the overall CO2e footprint of Enerplus' operations and as such. Enerplus maintains a rigorous approach to its emissions inventory, possesses dedicated staff for assessing emissions and fulfills all regulatory requirements for its provincial, state and federal greenhouse gas emissions related reporting.
Scope 2 (location-based)	More than 2% but less than or equal to 5%		There can be some estimation required in Scope 2 emissions as the electrical consumption data may be metered at one location but consumed at several locations elsewhere. Additionally, there can be divisions necessary for non-operated and operated electrical consumption data on the same pad with one meter station.
Scope 2 (market-based)			

CC8.6

Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

Third party verification or assurance process in place

CC8.6a

Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2017/24/5624/Climate Change 2017/Shared Documents/Attachments/CC8.6a/2016 Enerplus BC GHG Methodology.pdf	BC GHG Reporting Verification Statement Scope 1 emissions are required to be verified by a third party in the province of British Columbia. Enerplus follows this process and standard where possible in its remaining corporate inventory and will fully follow this standard by 2017 as it proactively closes equipment inventory gaps within its smaller methane emitting equipment	ISO14064-3	20

CC8.6b

Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emission Monitoring Systems (CEMS)

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission

CC8.7

Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures

No third party verification or assurance

CC8.7a

Please provide further details of the verification/assurance undertaken for your location-based and/or market-based Scope 2 emissions, and attach the relevant statements

Location-based or market-based figure?	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)

CC8.8

Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
No additional data verified	On BC GHG data is verified.

CC8.9

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

CC8.9a

Please provide the emissions from biologically sequestered carbon relevant to your organization in metric tonnes CO2

Further Information

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC9.1

Do you have Scope 1 emissions sources in more than one country?

Yes

CC9.1a

Please break down your total gross global Scope 1 emissions by country/region

Country/Region	Scope 1 metric tonnes CO2e
Canada	193945
United States of America	340513

CC9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By business division

CC9.2a

Please break down your total gross global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)
British Columbia, Canada	34941
Alberta, Canada	99362
Saskatchewan, Canada	59642
Montana, USA	52773
North Dakota, USA	287740

CC9.2b

Please break down your total gross global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
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CC9.2c

Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
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CC9.2d

Please break down your total gross global Scope 1 emissions by activity

Activity	Scope 1 emissions (metric tonnes CO2e)
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Further Information

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC10.1

Do you have Scope 2 emissions sources in more than one country?

Yes

CC10.1a

Please break down your total gross global Scope 2 emissions and energy consumption by country/region

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Canada	161446		196885	0
United States of America	10174		23931	

CC10.2

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

CC10.2a

Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)

CC10.2b

Please break down your total gross global Scope 2 emissions by facility

Facility	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
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CC10.2c

Please break down your total gross global Scope 2 emissions by activity

Activity	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
----------	--	--

Further Information

Page: CC11. Energy

CC11.1

What percentage of your total operational spend in the reporting year was on energy?

More than 10% but less than or equal to 15%

CC11.2

Please state how much heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	MWh
Heat	0
Steam	0
Cooling	0

CC11.3

Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year

0

CC11.3a

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Natural gas	1060344
Diesel/Gas oil	66440
Propane	8302

CC11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure reported in CC8.3a

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Emissions factor (in units of metric tonnes CO2e per MWh)	Comment
No purchases or generation of low carbon electricity, heat, steam or cooling accounted with a low carbon emissions factor	0		

CC11.5

Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment
220816	189902	30914	0	0	Solar Panels are used to power facilities in BC, and many pumps throughout operations, however that metric is not currently tracked to a reportable level of accuracy, but is currently in inventory and methodology development for consistent reporting.

Further Information

Page: CC12. Emissions Performance

CC12.1

How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Decreased

CC12.1a

Please identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Emissions reduction activities	1	Decrease	Emission reductions attributed to pipeline transfer of water rather than trucking water; $(973/706078)*100$
Divestment	12	Decrease	Emission reduction attributed to divestment: $(93080/706078)*100$
Acquisitions			
Mergers			
Change in output			
Change in methodology			
Change in boundary			
Change in physical operating conditions			
Unidentified			
Other			

CC12.1b

Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

CC12.2

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator: Unit total revenue	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.0008	metric tonnes CO2e	902414471	Location-based	11	Decrease	Decrease emission intensity attributed to decreased revenue and decreased emissions

CC12.3

Please provide any additional intensity (normalized) metrics that are appropriate to your business operations

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.0346	metric tonnes CO2e	barrel of oil equivalent (BOE)	20416617	Location-based	10	Decrease	Decrease emission intensity attributed to decreased production and decreased emissions

Further Information

CC13.1

Do you participate in any emissions trading schemes?

No, but we anticipate doing so in the next 2 years

CC13.1a

Please complete the following table for each of the emission trading schemes in which you participate

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership

CC13.1b

What is your strategy for complying with the schemes in which you participate or anticipate participating?

Enerplus does plan on utilizing carbon credits on energy efficiency projects through its Greenhouse Gas Reduction Strategy. We plan on utilizing funding for energy efficiency projects, and utilizing carbon credit schemes where possible. Other purchasing schemes are also being evaluated and Enerplus intends on proactively utilizing carbon credit sales to benefit energy efficiency projects.

CC13.2

Has your organization originated any project-based carbon credits or purchased any within the reporting period?

No

CC13.2a

Please provide details on the project-based carbon credits originated or purchased by your organization in the reporting period

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance

Further Information

Page: **CC14. Scope 3 Emissions**

CC14.1

Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Relevant, not yet calculated				Enerplus provides its employees with glasses and mugs to promote waste reduction which relates to reduced emissions
Capital goods	Relevant, not yet calculated				Where possible, Enerplus purchases solar panels to operate infrastructure such as chemical injection pumps.
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Relevant, not yet calculated				Where possible, Enerplus purchases solar panels to operate infrastructure such as chemical injection pumps.
Upstream	Relevant, not				Difficult to obtain this data and not a big source due to the nature of

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
transportation and distribution	yet calculated				our operations.
Waste generated in operations	Relevant, not yet calculated				Enerplus audited its corporate and field operations for waste generation and has implemented a pilot recycling program in its field and corporate offices in 2014, and has plans to expand the pilot in scale across different areas.
Business travel	Relevant, calculated	82	GHG Protocol's Corporate Value Chain Scope 3 Accounting and Reporting Standard	100%	Enerplus has a Journey Management Standard for employees. Employees are encouraged to reduce travel by utilizing technologies such as webcam meetings, lync meetings, webinars and other means of communications.
Employee commuting	Relevant, not yet calculated				Enerplus' corporate office is on the City train line and employees are strongly encouraged to take transit and every employee is subsidized for the dollar amount of a monthly pass. Enerplus also subsidizes secure bike parking. Employees also participates in the Calgary Corporate Challenge, and during the competition, competitors are challenged to not use vehicles to commute to work during the event.
Upstream leased assets	Relevant, calculated		Emission factor of 0.01079 tonnes per square feet of office space occupied.		Offices Spaces are leased in Calgary and Denver corporate offices and in field offices across operating areas in the U.S. and Canada
Downstream transportation and distribution	Not relevant, explanation provided				This data would be extremely difficult to obtain and quantify.
Processing of sold products	Not relevant, explanation provided				This data would be extremely difficult to obtain and quantify. Additionally, the refinery operator would report the emissions associated with this activity.
Use of sold products	Not relevant, explanation provided				This data would be extremely difficult to obtain and quantify.

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
End of life treatment of sold products	Not relevant, explanation provided				This data would be extremely difficult to obtain and quantify. Enerplus proactively engages third parties to resell all scrap metals from equipment and storage tanks for recycling and repurposing
Downstream leased assets	Not relevant, explanation provided				We do not have downstream leased assets.
Franchises	Not relevant, explanation provided				We do not have franchises in our business
Investments	Not relevant, explanation provided				Although we have working interest in other companies, the operating company reports those emissions as emissions are a consequence of the activity of the company and due to regulatory reporting schemes in the US and Canada. These emissions are calculated and reported by the company which operates joint interest ventures.
Other (upstream)					
Other (downstream)					

CC14.2

Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

No third party verification or assurance

CC14.2a

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 3 emissions verified (%)
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CC14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a

Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Upstream leased assets	Divestment	3	Decrease	Decreased use of office space due to company downsizing
Business travel	Change in physical operating conditions		Increase	Increased corporate business travel associated with increased field activities

CC14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our suppliers

Yes, other partners in the value chain

CC14.4a

Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

Suppliers are engaged during procurement requirements scoping to discuss lower emitting equipment options, for example low-bleed pneumatic controllers may be selected as an alternative to high-bleed pneumatics. Strategies for prioritizing engagement include ranking equipment based on potential to emit (PET), and targeting higher PET equipment types for further supplier discussions regarding alternatives. Success is ultimately measured by lowering total site emissions through the use of alternative equipment.

Other partners in the value chain are engaged at project planning stage to discuss implementation options; these discussions are prioritized by potential cost savings. Implementation options that can lead to greatest cost savings often have associated emission reductions. Success is measured based on project coming in under budget; emissions reduction are a side benefit. For example the use of pipelines instead of tanker trucks to transfer water for completions. Costs saving and emissions reductions were realized through use of this option.

CC14.4b

To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

Type of engagement	Number of suppliers	% of total spend (direct and indirect)	Impact of engagement
Compliance	10	5%	Suppliers are engaged to discuss equipment options that may lead to emissions and cost savings.

CC14.4c

Please explain why you do not engage with any elements of your value chain on GHG emissions and climate change strategies, and any plans you have to develop an engagement strategy in the future

Further Information

Module: Sign Off

Page: CC15. Sign Off

CC15.1

Please provide the following information for the person that has signed off (approved) your CDP climate change response

Name	Job title	Corresponding job category
Kym Fawcett	Manager, Safety and Social Responsibility	Environment/Sustainability manager

Further Information

Module: Oil & Gas

Page: OG0. Reference information

OG0.1

Please identify the significant petroleum industry components of your business within your reporting boundary (select all that apply)

Exploration, production & gas processing

Further Information

OG1.1

Is your organization involved with oil & gas production or reserves?

Yes

OG1.2

Please provide values for annual gross and net production by hydrocarbon type (in units of BOE) for the reporting year in the following table. The values required are aggregate values for the reporting organization

Product	Gross production (BOE)	Net production (BOE)	Production consolidation boundary	Comment
Conventional non-associated natural gas	93125		Operational control and equity share	
Associated natural gas				
Natural gas condensate				
Tight gas				
Light oil				
Medium oil				
Heavy oil				

OG1.3

Please provide values for reserves by hydrocarbon type (in units of BOE) for the reporting year. Please indicate if the figures are for reserves that are proved, probable or both proved and probable. The values required are aggregate values for the reporting organization

Product	Country/region	Reserves (BOE)	Date of assessment	Proved/Probable/Proved+Probable
Conventional non-associated natural gas Associated natural gas Natural gas condensate Light oil Medium oil Heavy oil Tight oil	Canada	67196	Sat 31 Dec 2016	Proved+Probable
Conventional non-associated natural gas Associated natural gas Natural gas condensate Light oil Medium oil Heavy oil Tight oil	United States of America	244840	Sat 31 Dec 2016	Proved+Probable

OG1.4

Please explain which listing requirements or other methodologies you have used to provide reserves data in OG1.3. If your organization cannot provide data due to legal restrictions on reporting reserves figures in certain countries, please explain this

Contingent resources have been evaluated in accordance with NI 51-101 OG1.5

OG1.5

Please provide values for annual sales of hydrocarbon types (in units of BOE) for the reporting year in the following table. The values required are aggregate values for the reporting organization

Product	Sales (BOE)	Comment
Other: Crude oil	45	Weighted average price (before transportation costs, royalties, and the effects of commodity derivative instruments) of all oil types.
Natural gas liquids (NGL)	15	CAD
Conventional non-associated natural gas	2	Per Mcf, includes associated natural gas also.

OG1.6

Please provide the average breakeven cost of current production used in estimation of proven reserves

Hydrocarbon/project	Breakeven cost/BOE	Comment
WTI oil	75.80	WTI in USD Forecast Prices are highly variable, and follow NSAI methodologies among many projects, at 2020 in both USD and CAD:
Oil-Edmonton Light	86.60	CAD
Natural Gas-AB AECO	3.90	CAD
Natural Gas-UD Henry Hub	4.00	USD
Oil-Alberta Heavy	61.90	CAD
SASK Cromer Medium	80.50	CAD

OG1.7

In your economic assessment of hydrocarbon reserves, resources or assets, do you conduct scenario analysis and/or portfolio stress testing consistent with a low-carbon energy transition?

No

OG1.7a

Please describe your scenario analysis and/or portfolio stress testing, the inputs used and the implications for your capital expenditure plans and investment decisions

OG1.7b

Please explain why you have not conducted any scenario analysis and/or portfolio stress testing consistent with a low-carbon energy transition

To be studied with reserves group in future.

Further Information

Page: OG2. Emissions by segment in the O&G value chain - (1 Jan 2016 - 31 Dec 2016)

OG2.1

Please indicate the consolidation basis (financial control, operational control, equity share) used to report the Scope 1 and Scope 2 emissions by segment in the O&G value chain. Further information can be provided in the text box in OG2.2

Segment	Consolidation basis for reporting Scope 1 emissions	Consolidation basis for reporting Scope 2 emissions
Exploration, production & gas processing	Operational Control	Operational Control

OG2.2

Please provide clarification for cases in which different consolidation bases have been used and the level/focus of disclosure. For example, a reporting organization whose business is solely in storage, transportation and distribution (STD) may use the text box to explain why only the STD row has been completed

OG2.3

Please provide masses of gross Scope 1 carbon dioxide and methane emissions in units of metric tonnes CO₂ and CH₄, respectively, for the organization's owned/controlled operations broken down by value chain segment

Segment	Gross Scope 1 carbon dioxide emissions (metric tonnes CO ₂)	Gross Scope 1 methane emissions (metric tonnes CH ₄)
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OG2.4

Please provide masses of gross Scope 2 GHG emissions in units of metric tonnes CO₂e for the organization's owned/controlled operations broken down by value chain segment

Segment	Gross Scope 2 emissions (metric tonnes CO ₂ e)	Comment
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Further Information

Page: OG3. Scope 1 emissions by emissions category - (1 Jan 2016 - 31 Dec 2016)

OG3.1

Please confirm the consolidation basis (financial control, operational control, equity share) used to report Scope 1 emissions by emissions category

Segment	Consolidation basis for reporting Scope 1 emissions by emissions category
---------	---

OG3.2

Please provide clarification for cases in which different consolidation bases have been used to report by emissions categories (combustion, flaring, process emissions, vented emissions, fugitive emissions) in the various segments

OG3.3

Please provide masses of gross Scope 1 carbon dioxide and methane emissions released into the atmosphere in units of metric tonnes CO₂ and CH₄, respectively, for the whole organization broken down by emissions category

Emissions category	Gross Scope 1 carbon dioxide emissions (metric tonnes CO ₂)	Gross Scope 1 methane emissions (metric tonnes CH ₄)
Combustion		
Flaring		
Process emissions		
Vented emissions		
Fugitive emissions		

OG3.4

Please describe your organization's efforts to reduce flaring, including any flaring reduction targets set and/or its involvement in voluntary flaring reduction programs, if flaring is relevant to your operations

Further Information

Page: OG4. Transfers & sequestration of CO2 emissions - (1 Jan 2016 - 31 Dec 2016)

OG4.1

Is your organization involved in the transfer or sequestration of CO2?

OG4.2

Please indicate the consolidation basis (financial control, operational control, equity share) used to report transfers and sequestration of CO2 emissions

Activity	Consolidation basis

OG4.3

Please provide clarification for cases in which different consolidation bases have been used (e.g. for a given activity, capture, injection or storage pathway)

OG4.4

Using the units of metric tonnes of CO2, please provide gross masses of CO2 transferred in and out of the reporting organization (as defined by the consolidation basis). Please note that questions of ownership of the CO2 are addressed in OG4.6

Transfer direction	CO2 transferred – Reporting year
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OG4.5

Please provide clarification on whether any oil reservoirs and/or sequestration system (geological or oceanic) have been included within the organizational boundary of the reporting organization. Provide details, including degrees to which reservoirs are shared with other entities

OG4.6

Please explain who (e.g. the reporting organization) owns the transferred emissions and what potential liabilities are attached. In the case of sequestered emissions, please clarify whether the reporting organization or one or more third parties owns the sequestered emissions and who has potential liability for them

OG4.7

Please provide masses in metric tonnes of gross CO2 captured for purposes of carbon capture and sequestration (CCS) during the reporting year according to capture pathway. For each pathway, please provide a breakdown of the percentage of the gross captured CO2 that was transferred into the reporting organization and the percentage that was transferred out of the organization (to be stored)

Capture pathway in CCS	Captured CO2 (metric tonnes CO2)	Percentage transferred in	Percentage transferred out
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OG4.8

Please provide masses in metric tonnes of gross CO2 injected and stored for purposes of CCS during the reporting year according to injection and storage pathway

Injection and storage pathway	Injected CO2 (metric tonnes CO2)	Percentage of injected CO2 intended for long-term (>100 year) storage	Year in which injection began	Cumulative CO2 injected and stored (metric tonnes CO2)
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OG4.9

Please provide details of risk management performed by the reporting organization and/or third party in relation to its CCS activities. This should cover pre-operational evaluation of the storage (e.g. site characterization), operational monitoring, closure monitoring, remediation for CO2 leakage, and results of third party verification

Further Information

Page: OG5. Emissions intensity - (1 Jan 2016 - 31 Dec 2016)

OG5.1

Please provide estimated emissions intensities (Scope 1 + Scope 2) associated with current production and operations

Year ending	Segment	Hydrocarbon/product	Emissions intensity (metric tonnes CO2e per thousand BOE)	% change from previous year	Direction of change from previous year	Reason for change
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OG5.2

Please clarify how each of the emissions intensities has been derived and supply information on the methodology used where this differs from information already given in answer to the methodology questions in the main information request

Further Information

Page: OG6. Development strategy - (1 Jan 2016 - 31 Dec 2016)

OG6.1

For each relevant strategic development area, please provide financial information for the reporting year

Strategic development area	Describe how this relates to your business strategy	Sales generated	EBITDA	Net assets	CAPEX	OPEX	Comment

OG6.2

Please describe your future capital expenditure plans for different strategic development areas

Strategic development area	CAPEX	Total return expected from CAPEX investments	Comment

OG6.3

Please describe your current expenses in research and development (R&D) and future R&D expenditure plans for different strategic development areas

Strategic development area	R&D expenses – Reporting year	R&D expenses – Future plans	Comment

Further Information

Page: OG7. Methane from the natural gas value chain

OG7.1

Please indicate the consolidation basis (financial control, operational control, equity share) used to prepare data to answer the questions in OG7

Segment	Consolidation basis

OG7.2

Please provide clarification for cases in which different consolidation bases have been used

OG7.3

Does your organization conduct leak detection and repair (LDAR), or use other methods to find and fix fugitive methane emissions?

OG7.3a

Please describe the protocol through which methane leak detection and repair, or other leak detection methods, are conducted, including predominant frequency of inspections, estimates of assets covered, and methodologies employed

OG7.3b

Please explain why not and whether you plan on conducting leak detection and repair, or other methods to find and fix fugitive methane emissions

OG7.4

Please indicate the proportion of your organization's methane emissions inventory estimated using the following methodologies (+/- 5%)

Methodology	Proportion of total methane emissions estimated with methodology	What area of your operations does this answer relate to?
Direct detection and measurement		
Engineering calculations		
Source-specific emission factors (IPCC Tier 3)		
IPCC Tier 1 and/or Tier 2 emission factors		

OG7.5

Please use the following table to report your methane emissions rate

Year ending	Segment	Estimate total methane emitted expressed as % of natural gas production or throughput at given segment	Estimate total methane emitted expressed as % of total hydrocarbon production or throughput at given segment
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OG7.6

Does your organization participate in voluntary methane emissions reduction programs?

OG7.6a

Please describe your organization's participation in voluntary methane emissions reduction programs

OG7.7

Did you have a methane-specific emissions reduction target that was active (ongoing or reached completion) in the reporting year and/or were methane emissions incorporated into targets reported in CC3?

OG7.7a

If you have a methane-specific emissions reduction target that is not detailed as a separate target in CC3, please provide those details here, addressing all of the metrics requested in table CC3.1a or CC3.1b (for an absolute or intensity target, respectively)

OG7.7b

If methane emissions were incorporated into targets reported in CC3 (but not detailed as a separate target), please indicate which target ID(s) incorporate methane emissions, and specify the portion of those targets that is comprised of methane

OG7.7c

Please explain: (i) why you do not have a methane-specific emissions reduction target or do not incorporate methane into your targets reported in CC3; and (ii) forecast how your methane emissions will change over the next five years

Further Information

CDP 2017 Climate Change 2017 Information Request