

# Enerplus Corporation - Climate Change 2019

## C0. Introduction

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### C0.1

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**(C0.1) 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. Throughout 2018, Enerplus produced an average of approximately 93,216 BOE/day, with 54% of the total production from crude oil and natural gas liquids, and 46% of the total production originating from natural gas.

We have corporate offices located in Calgary, Alberta, and Denver, Colorado. Enerplus has nine offices located throughout Alberta, British Columbia, Saskatchewan, Colorado, Montana and North Dakota. As of December 31, 2018, Enerplus employed a total of 399 people, including full-time benefit and payroll consultants, 254 of whom were in Canada and 145 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 environmental inspection and audit program;
- water management planning;
- waste management and recycling programs;
- fugitive emissions management program; and
- the remediation and reclamation of decommissioned landscapes.

In 2018, Enerplus reported its key environmental and safety metrics in its fourth Sustainability Report. Enerplus' efforts in key performance indicator disclosure and stakeholder engagement demonstrate our commitment to responsible resource development and to continuous improvement in environment, health, safety and social performance.

### C0.2

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**(C0.2) State the start and end date of the year for which you are reporting data.**

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2018	December 31 2018	Please select	<Not Applicable>

C0.3

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**(C0.3) Select the countries/regions for which you will be supplying data.**

- Canada
- United States of America

C0.4

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**(C0.4) Select the currency used for all financial information disclosed throughout your response.**

- CAD

C0.5

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**(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.**

- Operational control

C-OG0.7

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**(C-OG0.7) Which part of the oil and gas value chain and other areas does your organization operate in?**

**Row 1**

**Oil and gas value chain**

Upstream

**Other divisions**

Please select

C1. Governance

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C1.1

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**(C1.1) Is there board-level oversight of climate-related issues within your organization?**

- Yes

C1.1a

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**(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.**

Position of individual(s)	Please explain
Board-level committee	The Board of Directors Safety and Social Responsibility (S&SR) Committee was established by the Enerplus Board of Directors and has responsibility for climate-related issues.

## C1.1b

**(C1.1b) Provide further details on the board's oversight of climate-related issues.**

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	<ul style="list-style-type: none"> <li>Reviewing and guiding strategy</li> <li>Reviewing and guiding major plans of action</li> <li>Reviewing and guiding risk management policies</li> <li>Reviewing and guiding annual budgets</li> <li>Reviewing and guiding business plans</li> <li>Setting performance objectives</li> <li>Monitoring implementation and performance of objectives</li> <li>Overseeing major capital expenditures, acquisitions and divestitures</li> <li>Monitoring and overseeing progress against goals and targets for addressing climate-related issues</li> </ul>	The Manager of the Safety & Social Responsibility Department reports to the board on relevant matters pertaining to climate-related issues such as methane emission management in various changing regulatory jurisdictions. Board oversight of climate related issues is integrated into board governance mechanisms when reviewing and guiding strategy, performance management, action planning, managing risks, and validating business plans and budgets.

## C1.2

**(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.**

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO) (SVP, Operations and People & Culture)	Both assessing and managing climate-related risks and opportunities	Quarterly

## C1.2a

**(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).**

The Board of Directors Safety and Social Responsibility (S&SR) Committee was established by the Enerplus Board of Directors to assist the Board with oversight and governance of the corporation's policies, initiatives and performance 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. This committee also reviews legislative and regulatory changes that potentially have an impact to the corporation, current and emerging S&SR issues and evaluate the impact on the corporation, current or pending legal issues related to S&SR by or against the corporation and receives an annual due diligence statement from the President and CEO of Enerplus. 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.

**C1.3**

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**(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?**

Yes

**C1.3a**

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**(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).**

**Who is entitled to benefit from these incentives?**

Board/Executive board

**Types of incentives**

Monetary reward

**Activity incentivized**

Other, please specify (Compliance with all emissions regulation)

**Comment**

In all jurisdictions in which Enerplus operates there are emission regulations. As part of the corporate performance scorecard system, compliance metrics are factored into bonus structure. The Board/Executive Board benefits monetarily when Enerplus operations are compliant with all emissions regulations.

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**Who is entitled to benefit from these incentives?**

Corporate executive team

**Types of incentives**

Monetary reward

**Activity incentivized**

Other, please specify (Compliance with all emissions regulation)

**Comment**

In all jurisdictions in which Enerplus operates there are emission regulations. As part of the corporate performance scorecard system, compliance metrics are factored into bonus structure. The Corporate executive team benefits monetarily when Enerplus operations are compliant with all emissions regulations.

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**Who is entitled to benefit from these incentives?**

All employees

**Types of incentives**

Monetary reward

**Activity incentivized**

Other, please specify (Compliance with all emissions regulation)

**Comment**

In all jurisdictions in which Enerplus operates there are emission regulations. As part of the corporate performance scorecard system, compliance metrics are factored into bonus structure. Employees benefit monetarily when Enerplus operations are compliant with all emissions regulations.

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## C2. Risks and opportunities

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### C2.1

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**(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.**

	From (years)	To (years)	Comment
Short-term	0	5	NA
Medium-term	5	10	NA
Long-term	10	30	NA

### C2.2

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**(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.**

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

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**(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.**

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Annually	>6 years	Climate-related risks are included with overall project risk assessments that are conducted on an ongoing basis, as risks are identified. Enerplus has a Risk Registry that identifies and assesses risks and controls for environmental, health and safety issues. The Risk Registry is reviewed on an annual basis.

C2.2b

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**(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.**

During annual asset area reviews, climate-related risks (likelihood and potential severity) are assessed using internal company knowledge, conversations with vendors and regulators. The primary climate-related risk identified is access to economically viable water supply; in all cases the water supply risks were deemed to be temporary in nature and limited in geographic scale. During a disruption to water supply, a contingency water source would be used. For example, fresh surface water from a river is used for one of our EOR water floods; drought conditions forced the curtailment of water withdrawals from the river, but alternative groundwater withdrawals were used to make up the water shortfall. The additional costs incurred due to temporarily switching withdrawal sources were not substantive. During the annual reviews, no risks with potential business impacts greater than the assigned thresholds were identified. Risk assessments are completed annually, climate risks are evaluated based on severity and frequency to determine the appropriate risk level and put controls in place to manage.

Substantive impact is defined as impacting the economic viability of an operational area or facility, triggering a new evaluation of whether the facility is a net asset or liability. For instance, if the cash flows no longer exceed the anticipated abandonment or the cumulative positives are less than the book value (up front capital), there may be net loss.

Metrics used to determine substantive impact include: proved reserves, annual production, net income, cashflow, fixed and variable operational costs, finding and development costs and capital efficiencies. These metrics are reviewed annually. Due to variable economic parameters, specific thresholds used to determine if substantive vary by operational area.

Enerplus defines substantive applicable to direct operation only.

One example of substantive impact considered would be the lack of economically viable fresh water for hydraulic operations. If regional water shortages led to surface water withdrawal curtailments, water may have to be purchased from alternative vendors at additional costs. At some tipping point the economics of the well might no longer make business sense. These evaluations are done throughout the project life cycle.

## C2.2c

### (C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	All regulatory frameworks must be understood to ensure compliance. Internal company knowledge includes proactive awareness of all relevant regulations that must be complied with by all of our operating areas. The largest category of climate-related regulatory risks are emissions related: emissions limits, measurement, and reporting requirements. Compliance is factored into all project planning and operational risk assessments.
Emerging regulation	Relevant, always included	All pending and published regulatory changes are reviewed to determine potential business impacts to Enerplus. Enerplus participates in several industry and trade associations (i.e. Canadian Association of Petroleum Producers (CAPP), North Dakota Petroleum Council (NDPC), Western Energy Alliance (WEA), etc.) that routinely provide feedback on pending legislation. Potential regulatory changes are summarized and disseminated internally to heighten internal company knowledge and to aid in providing informed feedback to regulators. Increased potential costs of compliance with emerging regulations is included in all project planning and operational risk assessments.
Technology	Relevant, always included	This risk type is considered as it relates to climate-related emissions regulations. For example, pending emissions regulations in Canada will force the upgrade of several old technology equipment pieces. The costs of these technology upgrades must be factored into project planning and operational risk assessments. We are early in our greenfield development in Colorado where we are testing new technology to reduce our overall carbon footprint.
Legal	Relevant, always included	This risk type is considered relevant but is deemed to be low risk as Enerplus is diligent in complying with all regulations, therefore limiting exposure to climate-related legal risks.
Market	Relevant, always included	This risk type is considered relevant but is deemed to be low risk. The customers of Enerplus' produced oil and gas are midstream and/or refining companies. Long-term sales contracts are agreed upon early in project development.
Reputation	Relevant, always included	This risk type is considered relevant but is deemed to be low risk. Potential impacts to local communities are identified and mitigated within risk assessments. Enerplus proactively builds strong relationships with stakeholders in local communities impacted by our operations.
Acute physical	Relevant, always included	Acute physical risks related to climate would include such things as fires, flooding, extreme temperatures and water scarcity. These risks are included in all project planning and operational risk assessments.
Chronic physical	Relevant, always included	Chronic physical risks related to climate would include localized risks as well as acute physical risks including fires, flooding, extreme temperatures and water scarcity, extended for greater durations of time. These risks are included in all project planning and operational risk assessments.
Upstream	Relevant, always included	As an upstream producing company, risks occurring upstream would be limited to our own infrastructure. Any pertinent upstream risks would be included in project planning and operational risk assessments.
Downstream	Relevant, always included	As an upstream producing company, downstream for us would be considered a midstream receiving company. The customers of Enerplus' produced oil and gas are midstream and/or refining companies. Long-term sales contracts are agreed upon early in project development.

## C2.2d

## **(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.**

### Managing Transitional Risks and Opportunities:

Enerplus has an enterprise risk management system, which further drills down to the environment, regulatory, and health and safety level to identify and evaluate risks and determine mitigation measures. Regulatory uncertainty accounts for a large portion of climate transitional risk and Enerplus is continuously engaged in monitoring upcoming regulatory changes and communicating these to the appropriate levels of the organization. We engage with policy makers and stay abreast of proposed regulatory changes via industry associations and engagement groups. Enerplus transparently communicates its environmental and regulatory performance through documents such as the Corporate Sustainability Report and Annual Information Form. Due to our smaller size and smaller environmental footprint, combined with our responsible operations, we do not anticipate being the focus for climate-related litigation or activism. Enerplus has made a corporate commitment to exploring new technologies and innovations and will evaluate new climate change related opportunities, including projects that reduce energy use and emissions through our corporate financial models.

### Transitional Risk example:

The Alberta government offered \$88 million in total funding during the first year (May 2018 – March 2019) of their Energy Efficiency Alberta (EEA) incentive program, the intent of which was to help companies become more energy efficient and better prepare for emission reduction regulations. Enerplus took advantage of the EEA program opportunity in 2018 by funding an in-house Energy Manager, conducting a baseline energy assessment at one of our Medicine Hat oil batteries, and conducting a Leak Detection and Repair (LDAR) study at our Ante Creek facilities. The in-house Energy Efficiency Manager identifies and prioritizes opportunities and incentives for emissions reduction projects on an ongoing basis.

### Managing Physical Risk and Opportunities:

To manage the impact of extreme weather events caused by climate change, Enerplus considers measures to prevent and respond to changing climatic conditions. Enerplus follows required standards, codes, and regulations during design, construction and maintenance to mitigate the physical impact of weather fluctuations. If an emergency weather event were to occur, we have a thorough Emergency Response program to ensure the safety of our employees and the communities in which we operate and to protect the environment. We also hold insurance to mitigate the financial impact of possible severe weather events that could cause damage to infrastructure and lost production. Enerplus also uses our Sustainability Information Management System (SIMS) to track all hazards, near misses, or incidents related to infrastructure and can analyze these for improvement opportunities.

### Physical Risk example:

In 2013, Enerplus' Calgary Office location was impacted by flood conditions. This extreme weather event triggered the activation of our Crisis Management Team (CMT). The CMT identified and ensured that key business processes remained operational, such as Information Services that enabled remote log-in for those working from home or remotely. Simultaneously, Enerplus had a core operating area that experienced the same risk. A flood mitigation plan was activated by field operations staff. The plan was communicated to surrounding neighbors and local first responders. The Emergency Response Plan was activated for 2 days with objectives of ensuring that impacted areas were constantly being monitored with mitigation resources on hand. Through real-time events like this, we are able to better equip ourselves to the physical risks that do exist and can impact our routine operations.

## **C2.3**

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### **(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?**

Yes

## **C2.3a**

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**(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.**

**Identifier**

Risk 1

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type**

Transition risk

**Primary climate-related risk driver**

Policy and legal: Increased pricing of GHG emissions

**Type of financial impact**

Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

**Company- specific description**

The federal government of Canada implemented a carbon tax program via the Greenhouse Gas Pollution Pricing Act, which became effective April 1, 2019 and applies in any province that has not implemented an equivalent carbon pricing scheme. The federal tax rate is \$20/tonne CO<sub>2</sub>e in 2019, increasing by \$10/tonne per year until a maximum rate of \$50/tonne is reached in 2022. The Saskatchewan government challenged the constitutionality of the federal carbon tax; however, in a May 3, 2019 decision, the Saskatchewan Court of Appeal ruled that the federal carbon tax is constitutional. The newly elected Alberta government repealed the previous government's carbon pricing scheme on May 30, 2019. Therefore, the federal carbon tax has been applied in Saskatchewan and will be applied in Alberta effective January 1, 2020 unless a court rules that the federal government does not have the jurisdiction to implement such a tax. BC's carbon tax has been in place since 2008 and is \$40/tonne CO<sub>2</sub>e in 2019 and \$45/tonne in 2020. In the US, there is building momentum at the federal level to implement significant climate change legislation. At this point, it is too early to determine what form climate change legislation would take. Enerplus will continue to track climate change legislation developments.

**Time horizon**

Short-term

**Likelihood**

Very likely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

900000

**Potential financial impact figure – maximum (currency)**

3100000

**Explanation of financial impact figure**

Carbon taxes in Canada are estimated at just under \$1 million in 2018, increasing by roughly \$700,000 per year to \$3 million in 2022 when the carbon tax reaches its maximum rate going forward.

**Management method**

Enerplus will manage impacts the of the carbon tax by decreasing emissions rates through equipment retrofits and energy efficient project opportunities where economically viable. Where possible, Enerplus will also opt into government incentive programs for large emitters to offset some of the carbon tax . Carbon tax costs are also included in strategic decision making.

**Cost of management**

500000

**Comment**

The cost associated with these actions is dependent on the specific initiative chosen but could range from a small equipment optimization project (i.e., \$50,000) to a larger scale project such as the electrification of a particular field (i.e., millions of dollars).

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**Identifier**

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Risk 2

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type**

Physical risk

**Primary climate-related risk driver**

Chronic: Changes in precipitation patterns and extreme variability in weather patterns

**Type of financial impact**

Increased capital costs (e.g., damage to facilities)

**Company- specific description**

Extreme weather conditions such as flooding, drought, snow/ice from extreme changes in precipitation are a risk to Enerplus' operations. Flood conditions prevent access to some of our sites for normal operations or drilling and completion activities. Droughts can lead to conditions conducive to wildfires and this is a significant health and safety risk for our operations. Additionally, extreme snow/cold conditions can also affect the operation of equipment and access to sites.

**Time horizon**

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

Medium-low

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

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 change on a daily basis, although a upward limit in the range of \$100,000 is not likely to be exceeded.

**Management method**

To manage this risk, Enerplus ensures that proactive asset integrity programs are followed, along with the diligent maintenance of area specific Emergency Response Plans and the continuous training of corporate and field staff on emergency response procedures.

**Cost of management**

50000

**Comment**

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).

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**Identifier**

Risk 3

**Where in the value chain does the risk driver occur?**

Customer

**Risk type**

Transition risk

**Primary climate-related risk driver**

Market: Changing customer behavior

**Type of financial impact**

Reduced demand for goods and/or services due to shift in consumer preferences

**Company- specific description**

Increasing costs related to the 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. Production curtailments mandated by regulatory bodies will need to be considered and monitored.

**Time horizon**

Long-term

**Likelihood**

Likely

**Magnitude of impact**

Medium-high

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

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 it can be estimated in the range of \$10-100 million.

**Management method**

To mitigate this risk, Enerplus considers alternative business models for future potential implementation.

**Cost of management**

0

**Comment**

There are no management costs associated with this risk at this time.

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C2.4

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**(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

Yes

C2.4a

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**(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.**

**Identifier**

Opp1

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Resource efficiency

**Primary climate-related opportunity driver**

Other

**Type of financial impact**

Reduced operating costs (e.g., through efficiency gains and cost reductions)

**Company-specific description**

Enerplus is engineering a state of the art "tankless" gathering system in Colorado. This system addresses methane leakage by eliminating equipment at a wellsite pad that is prone to leaking GHG pollutants. Flaring of treater gas and storage vessel "flash" emissions will be eliminated. The need for truck traffic associated with hauling is nearly eliminated with these types of facilities, therefore further reducing emissions, dust and noise.

**Time horizon**

Short-term

**Likelihood**

Very likely

**Magnitude of impact**

Medium-high

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

2000000

**Potential financial impact figure – maximum (currency)**

10000000

**Explanation of financial impact figure**

Tankless gathering eliminates the need to truck oil and water from individual pads allowing for a significant reduction in transportation costs and emissions. The need for onsite equipment such as separators, tanks and flares is also eliminated. As more wells get integrated to this system, the financial impact increases to the higher end of the impact range.

**Strategy to realize opportunity**

In Colorado, Enerplus operates in the Denver Front Range area, which is a difficult operating environment for traditional oil and gas operators due to the stringent regulatory requirements. The state-of-the-art tankless gathering system for oil, water and gas will take emissions from our facilities to below major source permitting thresholds. Enerplus is confident it will become the operator of choice when operating in a low emissions environment.

**Cost to realize opportunity**

30000000

**Comment**

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**C2.5**

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**(C2.5) Describe where and how the identified risks and opportunities have impacted your business.**

	Impact	Description
Products and services	Not yet impacted	As an upstream producing company, our product is sold directly to midstream and refining companies, usually on a multi-year contract basis. Although it is projected that consumers will eventually demand less oil and gas products, this has yet to occur and currently demand is strong.
Supply chain and/or value chain	Not yet impacted	As regulatory burden and costs within supply chain increase, it is assumed that the majority of cost increases will be passed along to Enerplus. This has not yet occurred in any significantly measurable way.
Adaptation and mitigation activities	Not yet impacted	It is expected that costs related to adaption and mitigation related to climate change will increase in the future. This has not yet occurred in any significant measurable way.
Investment in R&D	Not yet impacted	Enerplus typically depends on technological advances to be procured from service providers rather than internal company processes. Impacts related to R&D have not yet occurred.
Operations	Not yet impacted	It is expected that operating costs will increase in the future due to increased regulatory burden and carbon taxes related to climate policies. These policies have yet to be implemented, and the expected implementation year is 2019.
Other, please specify	Please select	

**C2.6**

**(C2.6) Describe where and how the identified risks and opportunities have been factored into your financial planning process.**

	Relevance	Description
Revenues	Not yet impacted	Eventually revenues may decline if demand for oil and gas decreases. This is not estimated to occur within the next ten years.
Operating costs	Not yet impacted	Eventually operating costs may increase due to climate-related risks and their mitigation costs. Budgets will have to be adjusted to incorporate increased operating costs into planning process. This is not estimated to occur prior to two years into the future.
Capital expenditures / capital allocation	Not yet impacted	Eventually capital costs may increase due to climate-related risks and their mitigation costs. Budgets will have to be adjusted to incorporate increased capital costs into planning process. This is not estimated to occur prior to two years into the future.
Acquisitions and divestments	Not yet impacted	Climate-related risks may eventually have a material impact upon acquisitions and divestment decisions, making assets in more climate impacted geographic areas less attractive than assets in less climate impacted areas. This is not estimated to occur prior to ten years into the future.
Access to capital	Not yet impacted	Eventually access to capital may decline if demand for oil and gas decreases, making investment in this sector less attractive. This is not estimated to occur prior to ten years into the future.
Assets	Not yet impacted	Eventually asset base prioritization may be shifted away from geographic areas with greater climate-related impacts, to avoid the associated mitigation costs. This is not estimated to occur prior to ten years into the future.
Liabilities	Not yet impacted	Eventually liabilities may increase if reclamation and site closure of end of life assets is impeded by climate-related conditions. This is not estimated to occur prior to ten years into the future.
Other	Please select	

**C3. Business Strategy**

**C3.1**

**(C3.1) Are climate-related issues integrated into your business strategy?**

Yes

**C3.1a**

**(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?**

Yes, qualitative and quantitative

C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b

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**(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b)**

**Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.**

No, we do not have a low-carbon transition plan

C3.1c

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### (C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

#### Managing Transitional Risks and Opportunities:

Enerplus has an enterprise risk management system, which further drills down to the environment, regulatory, and health and safety level to identify and evaluate risks and determine mitigation measures. Regulatory uncertainty accounts for a large portion of climate transitional risk and Enerplus is continuously engaged in monitoring upcoming regulatory changes and communicating these to the appropriate levels of the organization. We engage with policy makers and stay abreast of proposed regulatory changes via industry associations and engagement groups. Enerplus transparently communicates its environmental and regulatory performance through documents such as the Corporate Sustainability Report and Annual Information Form. Due to our smaller size and smaller environmental footprint, combined with our responsible operations, we do not anticipate being the focus for climate-related litigation or activism. Enerplus has made a corporate commitment to exploring new technologies and innovations and will evaluate new climate change related opportunities, including projects that reduce energy use and emissions through our corporate financial models.

#### Transitional Risk example:

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#### Managing Physical Risk and Opportunities:

To manage the impact of extreme weather events caused by climate change, Enerplus considers measures to prevent and respond to changing climatic conditions. Enerplus follows required standards, codes, and regulations during design, construction and maintenance to mitigate the physical impact of weather fluctuations. If an emergency weather event were to occur, we have a thorough Emergency Response program to ensure the safety of our employees and the communities in which we operate and to protect the environment. We also hold insurance to mitigate the financial impact of possible severe weather events that could cause damage to infrastructure and lost production. Enerplus also uses our Sustainability Information Management System (SIMS) to track all hazards, near misses, or incidents related to infrastructure and can analyze these for improvement opportunities.

#### Physical Risk example:

In 2013, Enerplus' Calgary Office location was impacted by flood conditions. This extreme weather event triggered the activation of our Crisis Management Team (CMT). The CMT identified and ensured that key business processes remained operational, such as Information Services that enabled remote log-in for those working from home or remotely. Simultaneously, Enerplus had a core operating area that experienced the same risk. A flood mitigation plan was activated by field operations staff. The plan was communicated to surrounding neighbors and local first responders. The Emergency Response Plan was activated for 2 days with objectives of ensuring that impacted areas were constantly being monitored with mitigation resources on hand. Through real-time events like this, we are able to better equip ourselves to the physical risks that do exist and can impact our routine operations.

### C3.1d

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**(C3.1d) Provide details of your organization’s use of climate-related scenario analysis.**

Climate-related scenarios	Details
Other, please specify (Corporate Cashflow Model to continuously test affordability and the corporate bottom line. )	In depth reviews of all new, pending and announced government climate-related policies are conducted on an on-going basis. These include, for example, carbon taxes and emissions regulations. Jurisdiction specific compliance cost estimates are determined using Enerplus' current asset and facility base. The most recent economic policy analysis was conducted in 2018 and looks forward until 2023. Areas considered within the analysis include all wells, facilities, production mix, expected growth curves, and acquisitions and divestments. The results of the analysis assign a per BOE dollar cost to comply with new and pending government policy. These costs are used throughout the operational and capital budgeting process and are factored in to the business development strategy.
Other, please specify	

**C4. Targets and performance**

---

**C4.1**

---

**(C4.1) Did you have an emissions target that was active in the reporting year?**

No target

**C4.1c**

---

**(C4.1c) Explain why you do not have emissions target and forecast how your emissions will change over the next five years.**

	Primary reason	Five-year forecast	Please explain
Row 1	We are planning to introduce a target in the next two years	Our emissions are expected to increase in proportion to our production increases. As pipeline capacity catches up to development in the US, emissions will eventually fall dramatically. In the US, GHG emissions are dominated by the flaring of treater gas in North Dakota where pipeline infrastructure has lagged behind oil and gas development. Enerplus sees this trend changing in the next five years as pipeline infrastructure matures on the Fort Berthold Indian Reservation.	Enerplus is in the early stages of developing emissions targets. Emission reductions will continue to advance at Enerplus through engineering design as opportunities are identified. These reductions will occur in the form of project based reductions and not as part of an overall emissions target. It is important to determine a meaningful and achievable target that aligns with the corporation's focus and direction.

**C4.2**

---

**(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.**

**C-OG4.2a**

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**(C-OG4.2a) If you do not have a methane-specific emissions reduction target for your oil and gas activities or do not incorporate methane into your target(s) reported in C4.2 please explain why not and forecast how your methane emissions will change over the next five years.**

Enerplus' methane reduction target is in-line with the current federal and provincial oil and gas regulations in Canada, which are set to meet a 40 - 45% reduction of methane emissions. Emission reductions will continue to advance at Enerplus through engineering design as opportunities are identified. These reductions will occur in the form of project based reductions and not part of an overall emissions target. In the US, GHG emissions are dominated by flaring of treater gas in North Dakota where pipeline infrastructure has lagged behind oil and gas development. Enerplus would anticipate to see methane emissions decreasing in the next five years as pipeline infrastructure matures on the Fort Berthold Indian Reservation.

### C4.3

---

**(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.**

Yes

### C4.3a

---

**(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.**

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation		
To be implemented*	4	1784
Implementation commenced*		
Implemented*	1	11975
Not to be implemented		

### C4.3b

---

**(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.**

**Initiative type**

Process emissions reductions

**Description of initiative**

Other, please specify (Refrigeration)

**Estimated annual CO2e savings (metric tonnes CO2e)**

11975

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

**Investment required (unit currency – as specified in C0.4)**

6510000

**Payback period**

No payback

**Estimated lifetime of the initiative**

11-15 years

**Comment**

Innovative natural gas capture system significantly decreases the volume of flared gas at the wellhead. Built-for-purpose equipment uses proprietary flow control, mechanical refrigeration and compression to achieve maximum NGL recovery that dramatically reduces emissions and conserves energy for later use. Enerplus has installed 10 of these mobile natural gas capture units in North Dakota.

**C4.3c**

**(C4.3c) What methods do you use to drive investment in emissions reduction activities?**

Method	Comment
Employee engagement	All employees are encouraged to bring forward efficiency and emissions reductions ideas utilizing our 'bright idea' platform.
Partnering with governments on technology development	In partnership with Energy Efficiency Alberta, Enerplus hired an onsite Energy Efficiency Manager to help identify energy-savings projects, support decision making for facility improvements and ensure continued optimization in facilities.
Internal price on carbon	Enerplus' internal price on carbon aligns with the Canadian federal tax rate of \$20/tonne CO2e in 2019, increasing by \$10/tonne per year until a maximum rate of \$50/tonne is reached in 2022.

**C4.5**

**(C4.5) 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

**C-OG4.6**

**(C-OG4.6) Describe your organization's efforts to reduce methane emissions from your activities.**

Methane emissions are reduced or eliminated in operations in all circumstances where it is economically viable and technically feasible. Leak detection programs occur at all operational locations. Vapour recovery units are installed on tanks. Methane is a marketable commodity, it is more advantageous to keep methane within the sales gas pipelines to generate revenue; there is no advantage to releasing methane to atmosphere.

**COG4.7**

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**(C-OG4.7) Does your organization conduct leak detection and repair (LDAR) or use other methods to find and fix fugitive methane emissions from oil and gas production activities?**

Yes

**C-OG4.7a**

---

**(C-OG4.7a) Describe the protocol through which methane leak detection and repair or other leak detection methods, are conducted for oil and gas production activities, including predominant frequency of inspections, estimates of assets covered, and methodologies employed.**

In 2018, Enerplus purchased a forward-looking infrared camera. Enerplus' North Dakota and Montana operating facilities have a LDAR survey completed twice a year using an optical gas imaging camera, while in Colorado where monthly inspections are being conducted. Within Canadian operations, all gas plants and gas batteries are surveyed annually, and oil batteries are surveyed every two years using a gas detection meter following US EPA method 21 protocols. All leaks detected are fixed immediately unless they require an operational shut-down. Leaks that require a shut-down are fixed during the next turnaround. In 2018, we conducted 332 fugitive emissions surveys in the US and 16 surveys were completed in Canada.

**C-OG4.8**

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**(C-OG4.8) If flaring is relevant to your oil and gas production activities, describe your organization's efforts to reduce flaring, including any flaring reduction targets.**

Flaring is relevant to Enerplus operations. Our goal is to eliminate flaring in all cases where it is economically viable and technically feasible to do so. Flaring of significant volumes of natural gas only occurs at locations that lack sufficient pipeline takeaway capacity. As pipeline infrastructure catches up to well development, pipeline capacity typically increases; this in turn decreases the overall need to flare.

**C5. Emissions methodology**

---

**C5.1**

---

**(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).**

**Scope 1**

**Base year start**

January 1 2010

**Base year end**

December 31 2010

**Base year emissions (metric tons CO2e)**

585905

**Comment**

NA

**Scope 2 (location-based)**

**Base year start**

January 1 2010

**Base year end**

December 31 2010

**Base year emissions (metric tons CO2e)**

197191

**Comment**

NA

**Scope 2 (market-based)**

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

Not available

**C5.2**

---

**(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.**

American Petroleum Institute Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry, 2009

Canadian Association of Petroleum Producers, Calculating Greenhouse Gas Emissions, 2003

ISO 14064-1

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

US EPA Mandatory Greenhouse Gas Reporting Rule

**C6. Emissions data**

---

**C6.1**

---

**(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?**

**Reporting year**

**Gross global Scope 1 emissions (metric tons CO2e)**

880197

**Start date**

January 1 2018

**End date**

December 31 2018

**Comment**

C6.2

---

**(C6.2) Describe your organization's approach to reporting Scope 2 emissions.**

**Row 1**

**Scope 2, location-based**

We are reporting a Scope 2, location-based figure

**Scope 2, market-based**

We have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

**Comment**

Scope 2 emissions are calculated based on electricity consumption.

C6.3

---

**(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?**

**Reporting year**

**Scope 2, location-based**

123331

**Scope 2, market-based (if applicable)**

<Not Applicable>

**Start date**

January 1 2018

**End date**

December 31 2018

**Comment**

Scope 2 emissions are calculated based on electricity consumption.

C6.4

---

**(C6.4) 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

C6.5

---

---

**(C6.5) Account for your organization's Scope 3 emissions, disclosing and explaining any exclusions.**

**Purchased goods and services**

**Evaluation status**

Relevant, not yet calculated

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Explanation**

This emission source is not material. Enerplus' focus is on emissions within its direct operational control.

**Capital goods**

**Evaluation status**

Relevant, not yet calculated

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Explanation**

This emission source is not material. Enerplus' focus is on emissions within its direct operational control.

**Fuel-and-energy-related activities (not included in Scope 1 or 2)**

**Evaluation status**

Relevant, not yet calculated

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Explanation**

This emission source is not material. Enerplus' focus is on emissions within its direct operational control.

**Upstream transportation and distribution**

**Evaluation status**

Relevant, not yet calculated

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Explanation**

This emission source is not material. Enerplus' focus is on emissions within its direct operational control.

## Waste generated in operations

### Evaluation status

Relevant, not yet calculated

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation

This emission source is not material. Enerplus' focus is on emissions within its direct operational control.

## Business travel

### Evaluation status

Relevant, not yet calculated

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation

This emission source is not material.

## Employee commuting

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation

This emission source is not material. Enerplus' focus is on emissions within its direct operational control.

## Upstream leased assets

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation

This emission source is not material.

## Downstream transportation and distribution

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation

This emission source is not material. Enerplus' focus is on emissions within its direct operational control.

## Processing of sold products

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation

This emission source is not material. Enerplus' focus is on emissions within its direct operational control.

## Use of sold products

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation

This emission source is not material. Enerplus' focus is on emissions within its direct operational control.

## End of life treatment of sold products

### Evaluation status

Not evaluated

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation



## Downstream leased assets

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation

Enerplus does not have downstream leased assets.

## Franchises

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation

Enerplus does not have franchises.

## Investments

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation

This is not applicable to Enerplus.

## Other (upstream)

### Evaluation status

Please select

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation

**Other (downstream)**

**Evaluation status**

Please select

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Explanation**

C6.7

---

**(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?**

No

C6.10

---

**(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.**

**Intensity figure**

0.0026528779

**Metric numerator (Gross global combined Scope 1 and 2 emissions)**

1003528

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

378279000

**Scope 2 figure used**

Location-based

**% change from previous year**

28

**Direction of change**

Decreased

**Reason for change**

Total revenues increased by 59% relative to 2017 largely due to greater production from our US assets. Enerplus saw an increase of 13% total emissions (Scope 1 and 2) as new wells are being brought online. In areas including North Dakota, gas takeaway pipeline capacity is limited resulting in more flaring of associated gas.

---

C-OG6.12

---

**(C-OG6.12) Provide the intensity figures for Scope 1 emissions (metric tons CO2e) per unit of hydrocarbon category.**

**Unit of hydrocarbon category (denominator)**

Thousand barrels of crude oil / condensate

Other, please specify (Thousand barrels of oil equivalent (BOE))

**Metric tons CO2e from hydrocarbon category per unit specified**

880197

**% change from previous year**

19

**Direction of change**

Increased

**Reason for change**

New wells are being brought online in the US while gas takeaway pipeline capacity is limited in some areas.

**Comment**

---

**C-OG6.13**

---

**(C-OG6.13) Report your methane emissions as percentages of natural gas and hydrocarbon production or throughput.**

**Oil and gas business division**

Upstream

**Estimated total methane emitted expressed as % of natural gas production or throughput at given division**

0.46

**Estimated total methane emitted expressed as % of total hydrocarbon production or throughput at given division**

0.1

**Comment**

Calculation process includes methane reported as a mass (metric tonnes), gas volumes reported in E3m3, and total Hydrocarbons based on a volumetric oil equivalent for the denominator.

---

**C7. Emissions breakdowns**

---

**C7.1**

---

**(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?**

Yes

**C7.1a**

---

**(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).**

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	815810	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	2528	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	3.9	IPCC Fourth Assessment Report (AR4 - 100 year)

---

C-OG7.1b

---

**(C-OG7.1b) Break down your total gross global Scope 1 emissions from oil and gas value chain production activities by greenhouse gas type.**

**Emissions category**

Combustion (excluding flaring)

**Value chain**

Upstream

**Product**

Oil

**Gross Scope 1 CO2 emissions (metric tons CO2)**

136831.91

**Gross Scope 1 methane emissions (metric tons CH4)**

129.61

**Total gross Scope 1 emissions (metric tons CO2e)**

140547.1

**Comment**

---

**Emissions category**

Flaring

**Value chain**

Upstream

**Product**

Oil

**Gross Scope 1 CO2 emissions (metric tons CO2)**

241267.27

**Gross Scope 1 methane emissions (metric tons CH4)**

760.7

**Total gross Scope 1 emissions (metric tons CO2e)**

260410.8

**Comment**

---

**Emissions category**

Venting

**Value chain**

Upstream

**Product**

Oil

**Gross Scope 1 CO2 emissions (metric tons CO2)**

7.84

**Gross Scope 1 methane emissions (metric tons CH4)**

29.82

**Total gross Scope 1 emissions (metric tons CO2e)**

753.37

**Comment**

---

**Emissions category**

Combustion (excluding flaring)

---

**Value chain**

Upstream

**Product**

Gas

**Gross Scope 1 CO2 emissions (metric tons CO2)**

116560.51

**Gross Scope 1 methane emissions (metric tons CH4)**

110.41

**Total gross Scope 1 emissions (metric tons CO2e)**

119725.3

**Comment**

---

**Emissions category**

Flaring

**Value chain**

Upstream

**Product**

Gas

**Gross Scope 1 CO2 emissions (metric tons CO2)**

205523.97

**Gross Scope 1 methane emissions (metric tons CH4)**

648

**Total gross Scope 1 emissions (metric tons CO2e)**

221831.4

**Comment**

---

**Emissions category**

Venting

**Value chain**

Upstream

**Product**

Gas

**Gross Scope 1 CO2 emissions (metric tons CO2)**

6.68

**Gross Scope 1 methane emissions (metric tons CH4)**

25.4

**Total gross Scope 1 emissions (metric tons CO2e)**

641.76

**Comment**

---

**Emissions category**

Fugitives

**Value chain**

Upstream

**Product**

Oil

**Gross Scope 1 CO2 emissions (metric tons CO2)**

44.86

**Gross Scope 1 methane emissions (metric tons CH4)**

---

425.35

**Total gross Scope 1 emissions (metric tons CO2e)**

10678.65

**Comment**

---

**Emissions category**

Fugitives

**Value chain**

Upstream

**Product**

Gas

**Gross Scope 1 CO2 emissions (metric tons CO2)**

38.21

**Gross Scope 1 methane emissions (metric tons CH4)**

362.34

**Total gross Scope 1 emissions (metric tons CO2e)**

9096.63

**Comment**

---

## C7.2

---

**(C7.2) Break down your total gross global Scope 1 emissions by country/region.**

Country/Region	Scope 1 emissions (metric tons CO2e)
Canada	118024
United States of America	762173

## C7.3

---

**(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.**

By business division

### C7.3a

---

**(C7.3a) Break down your total gross global Scope 1 emissions by business division.**

Business division	Scope 1 emissions (metric ton CO2e)
Alberta, Canada	64221
British Columbia, Canada	32400
Saskatchewan, Canada	21403
North Dakota, US	676120
Colorado, US	47592
Montana, US	38460

**(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization’s total gross global Scope 1 emissions by sector production activity in metric tons CO2e.**

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility generation activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	880197	<Not Applicable>	
Oil and gas production activities (downstream)		<Not Applicable>	
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

**C7.5**

**(C7.5) Break down your total gross global Scope 2 emissions by country/region.**

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons 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	118024		657684	
United States of America	16387		836399	

**C7.6**

**(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.**

By business division

**C7.6a**

**(C7.6a) Break down your total gross global Scope 2 emissions by business division.**

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Montana	5927	
North Dakota	9728	
Alberta	83088	
Saskatchewan	23856	
BC	0	
Colorado	0	

**(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.**

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	123331		
Oil and gas production activities (downstream)			
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

**C7.9**

**(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?**

Increased

**C7.9a**



**(C7.9a) 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.**

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption		<Not Applicable>		
Other emissions reduction activities		<Not Applicable>		
Divestment		<Not Applicable>		
Acquisitions		<Not Applicable>		
Mergers		<Not Applicable>		
Change in output	121299	Increased	13.75	Enerplus saw an increase of 13% total emissions (Scope 1 and 2) as new wells are being brought online in the US. In some areas such as North Dakota, gas takeaway pipeline capacity is limited resulting in increased flaring of associated gas.
Change in methodology		<Not Applicable>		
Change in boundary		<Not Applicable>		
Change in physical operating conditions		<Not Applicable>		
Unidentified		<Not Applicable>		
Other		<Not Applicable>		

### C7.9b

**(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?**

Location-based

### C8. Energy

#### C8.1

**(C8.1) What percentage of your total operational spend in the reporting year was on energy?**

More than 5% but less than or equal to 10%

#### C8.2

**(C8.2) Select which energy-related activities your organization has undertaken.**

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	No

**C8.2a**

**(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.**

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)		1345910	1345910
Consumption of purchased or acquired electricity	<Not Applicable>		148173	148173
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total energy consumption	<Not Applicable>		1494083	1494083

**C8.2b**

**(C8.2b) Select the applications of your organization's consumption of fuel.**

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	No
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

**C8.2c**

**(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.**

**Fuels (excluding feedstocks)**

Natural Gas

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

1168736

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

<Not Applicable>

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

---

**Fuels (excluding feedstocks)**

Diesel

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

156780

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

<Not Applicable>

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

---

**Fuels (excluding feedstocks)**

Propane Gas

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

20394

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

<Not Applicable>

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

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## C8.2d

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**(C8.2d) List the average emission factors of the fuels reported in C8.2c.**

### Diesel

**Emission factor**

2663

**Unit**

kg CO2e per m3

**Emission factor source**

AP-42 Fifth Edition: United States Environmental Protection Agency; British Columbia Reporting Regulation Methodology Manual, Dec. 2009, Table 20-2.

**Comment**

Emission factors are based on specific equipment type.

### Natural Gas

**Emission factor**

2153

**Unit**

kg CO2e per m3

**Emission factor source**

US EPAP42 Fifth Edition Pg 1.4-5; Enerplus facility specific gas analysis reports

**Comment**

### Propane Gas

**Emission factor**

1510

**Unit**

kg CO2e per m3

**Emission factor source**

British Columbia Reporting Regulation Methodology Manual, Dec. 2009, Table 20-2.

**Comment**

## C8.2f

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**(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.**

**Basis for applying a low-carbon emission factor**

No purchases or generation of low-carbon electricity, heat, steam or cooling accounted with a low-carbon emission factor

**Low-carbon technology type**

<Not Applicable>

**Region of consumption of low-carbon electricity, heat, steam or cooling**

<Not Applicable>

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

<Not Applicable>

**Emission factor (in units of metric tons CO2e per MWh)**

<Not Applicable>

**Comment**

## C9. Additional metrics

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### C9.1

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**(C9.1) Provide any additional climate-related metrics relevant to your business.**

### C-OG9.2a

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**(C-OG9.2a) Disclose your net liquid and gas hydrocarbon production (total of subsidiaries and equity-accounted entities).**

	In-year net production	Comment
Crude oil and condensate, million barrels	16.57	
Natural gas liquids, million barrels	1.64	
Oil sands, million barrels (includes bitumen and synthetic crude)	0	
Natural gas, billion cubic feet	94.82	

### C-OG9.2b

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**(C-OG9.2b) Explain which listing requirements or other methodologies you use to report reserves data. If your organization cannot provide data due to legal restrictions on reporting reserves figures in certain countries, please explain this.**

All reserves information presented herein has been prepared in accordance with NI 51-101 and is presented at December 31, 2018 unless otherwise stated. The Reserves Life Indices (RLI) are based upon year-end proved and proved plus probable reserves divided by the following year's proved and proved plus probable production volumes as forecast in the independent reserves engineering reports.

### C-OG9.2c

---

**(C-OG9.2c) Disclose your estimated total net reserves and resource base (million boe), including the total associated with subsidiaries and equity-accounted entities.**

	Estimated total net proved + probable reserves (2P) (million BOE)	Estimated total net proved + probable + possible reserves (3P) (million BOE)	Estimated net total resource base (million BOE)	Comment
Row 1	427.72		427.72	Enerplus does not calculate 3P reserves.

### C-OG9.2d

---

**(C-OG9.2d) Provide an indicative percentage split for 2P, 3P reserves, and total resource base by hydrocarbon categories.**

	Net proved + probable reserves (2P) (%)	Net proved + probable + possible reserves (3P) (%)	Net total resource base (%)	Comment
Crude oil / condensate / Natural gas liquids	54		54	Enerplus does not calculate 3P reserves.
Natural gas	46		46	Enerplus does not calculate or report 3P reserves.
Oil sands (includes bitumen and synthetic crude)				

**C-OG9.2e**

**(C-OG9.2e) Provide an indicative percentage split for production, 1P, 2P, 3P reserves, and total resource base by development types.**

**Development type**

Onshore

**In-year net production (%)**

16

**Net proved reserves (1P) (%)**

13

**Net proved + probable reserves (2P) (%)**

12

**Net proved + probable + possible reserves (3P) (%)**

0

**Net total resource base (%)**

12

**Comment**

Enerplus does not calculate or report 3P reserves. Risked Development Pending Contingent Resources used in percentage calculation.

**Development type**

Tight/shale (NGL)

**In-year net production (%)**

84

**Net proved reserves (1P) (%)**

88

**Net proved + probable reserves (2P) (%)**

88

**Net proved + probable + possible reserves (3P) (%)**

0

**Net total resource base (%)**

88

**Comment**

Enerplus does not calculate or report 3P reserves. Risked Development Pending Contingent Resources used in percentage calculation.

**C-CO9.6/C-EU9.6/C-OG9.6**

**(C-CO9.6/C-EU9.6/C-OG9.6) Disclose your investments in low-carbon research and development (R&D), equipment, products, and services.**

**Investment start date**

January 1 2018

**Investment end date**

December 31 2018

**Investment area**

Equipment

**Technology area**

Methane detection and reduction

**Investment maturity**

Small scale commercial deployment

**Investment figure**

100000

**Low-carbon investment percentage**

81-100%

**Please explain**

Enerplus purchased a forward-looking infrared camera to conduct fugitive emission inspections.

---

**Investment start date**

December 1 2018

**Investment end date**

December 31 2018

**Investment area**

Services

**Technology area**

Methane detection and reduction

**Investment maturity**

Full/commercial-scale demonstration

**Investment figure**

20900

**Low-carbon investment percentage**

81-100%

**Please explain**

Enerplus performed a comprehensive leak detection and repair study in its Ante Creek field.

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## C-OG9.7

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**(C-OG9.7) Disclose the breakeven price (US\$/BOE) required for cash neutrality during the reporting year, i.e. where cash flow from operations covers CAPEX and dividends paid/ share buybacks.**

52

## C10. Verification

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### C10.1

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**(C10.1) Indicate the verification/assurance status that applies to your reported emissions.**

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	No emissions data provided

**C10.1a**

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**(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 and/or Scope 2 emissions and attach the relevant statements.**

**Scope**

Scope 1

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Third party verification/assurance underway

**Attach the statement**

Ene-LFO-VS-RCE-2018-V1 - C10.1a.pdf

**Page/ section reference**

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

4

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**C10.2**

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**(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?**

No, we do not verify any other climate-related information reported in our CDP disclosure

**C11. Carbon pricing**

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**C11.1**

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**(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?**

Yes

**C11.1a**

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**(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.**

Alberta carbon tax  
BC carbon tax

**C11.1c**

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**(C11.1c) Complete the following table for each of the tax systems in which you participate.**

**Alberta carbon tax**

**Period start date**

January 1 2018

**Period end date**

January 31 2018

**% of emissions covered by tax**

6

**Total cost of tax paid**

0

**Comment**

Fuel used in a production process by conventional oil and gas producers is exempt from paying carbon tax until January 1, 2023.  
Percentage relates to AB's emissions from fuel consumption relative total CO<sub>2</sub>e.

**BC carbon tax**

**Period start date**

January 1 2018

**Period end date**

January 31 2018

**% of emissions covered by tax**

3

**Total cost of tax paid**

713991.5

**Comment**

Percentage relates to BC's emissions from fuel consumption relative total CO<sub>2</sub>e.

**C11.1d**

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**(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?**

Enerplus' strategy is to improve energy performance and efficiency to reduce emissions by participating in the carbon credit system and energy efficiency projects. Through its Greenhouse Gas Reduction Strategy, Enerplus will utilize funding for energy efficiency projects and carbon credit schemes. Where possible, voluntary participation in the large emitter programs may help reduce the cost of carbon taxes payable while creating opportunities to invest in equipment or technologies to further reduce emissions.

**C11.2**

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**(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?**

No

## C11.3

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### (C11.3) Does your organization use an internal price on carbon?

Yes

## C11.3a

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### (C11.3a) Provide details of how your organization uses an internal price on carbon.

#### Objective for implementing an internal carbon price

Navigate GHG regulations  
Change internal behavior  
Drive energy efficiency  
Drive low-carbon investment  
Identify and seize low-carbon opportunities

#### GHG Scope

Scope 1

#### Application

The internal price on carbon is used to project future compliance costs associated with carbon taxes in Canada. Enerplus' Alberta, British Columbia and Saskatchewan facilities are subject to this tax.

#### Actual price(s) used (Currency /metric ton)

20

#### Variance of price(s) used

Evolutionary pricing: a price that develops over time. The federal backstop tax rate in Canada is \$20/tonne CO<sub>2</sub>e in 2019, increasing by \$10/tonne per year until a maximum rate of \$50/tonne is reached in 2022. British Columbia's carbon tax rate in 2018 is \$35/ tonne, increasing by \$5/ tonne until it reaches \$50/tonne in 2021. In Alberta, the federal tax rate will not be in effect until January 2020. The Saskatchewan government has filed an appeal with the Supreme Court of Canada to contest the federal government's mandate to enforce the carbon tax.

#### Type of internal carbon price

Please select

#### Impact & implication

Projects including our participation in the Energy Efficiency Alberta (EEA) program are underway to reduce fuel use and emissions, thereby reducing carbon tax. The next Canadian federal election will take place in October 2019. The Conservatives have stated that if elected they will repeal much of the Liberal government's environmental legislation (i.e. Bill C-69, carbon tax, Clean Fuel Standard, methane regulations). If the Liberals retain a majority government, there are likely to be several court challenges to the environmental legislation that passed in June 2019. Enerplus will be monitoring the regulations and policy developments to understand impacts.

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## C12. Engagement

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### C12.1

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#### (C12.1) Do you engage with your value chain on climate-related issues?

No, we do not engage

### C12.1d

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**(C12.1d) Why do you not engage with any elements of your value chain on climate-related issues, and what are your plans to do so in the future?**

We do not currently engage our value chain on issues related to climate change. We will consider doing so in the next reporting period. Climate related issues within our value chain was not considered a material issue of concern at this time.

**C12.3**

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**(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?**

Trade associations

**C12.3b**

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**(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?**

Yes

**C12.3c**

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**(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.**

**Trade association**

Canadian Association of Petroleum Producers (CAPP)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

CAPP's position on Air and Climate is: "Canada's oil and natural gas industry works to reduce air emissions associated with our development activities through project design, operational excellence, innovation and technology. Air management in Canada is under the shared jurisdiction of the provincial and federal governments. The focus for air management is centered on air emissions (pollutants and greenhouse gases) and odour."

**How have you influenced, or are you attempting to influence their position?**

Our CEO acts as one of 78 volunteer Governors. As part of the Board of Governors, the role includes setting priorities for the Executive Team, staff and committees.

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**C12.3f**

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**(C12.3f) 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?**

The process used to ensure consistency between activities to influence public policy and our climate change strategy is to communicate with a single point of contact that is well versed on our climate change strategy. One communication path between industry and government runs through the Canadian Association of Petroleum Producers (CAPP), the main trade association for the Canadian industry. CAPP hosts conversations from individual companies and committees and compiles response letters that go to the government. These response letters must align with industry best practices, climate change strategy and commitments prior to being signed off on by member companies. If inconsistency between the CAPP communication to government and our own climate change strategy, the response and/or our strategy would be revised to align. In the US, we are members of both the North Dakota Petroleum Council (NDPC) and the Western Energy Alliance (WEA). Both groups serve as the primary voices of the industry and are dedicated to advocating for smart and reasonable energy policy, which is inline with our internal practices.

## C12.4

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**(C12.4) 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**

In voluntary sustainability report

**Status**

Underway – previous year attached

**Attach the document**

Enerplus-2017-Data-Tables -C12.4.pdf

**Page/Section reference**

Page 5

**Content elements**

Governance

Strategy

Risks & opportunities

Emissions figures

**Comment**

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## C14. Signoff

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### C-FI

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**(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.**

## C14.1

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**(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

	Job title	Corresponding job category
Row 1	Manager, Safety & Social Responsibility and Corporate Planning	Business unit manager

## Submit your response

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**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

	Public or Non-Public Submission	I am submitting to
I am submitting my response	Public	Investors

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**Please confirm below**

I have read and accept the applicable Terms