

## 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 and produced an average of approximately 84,711 BOE/day, with 52% of the total production originating from natural gas, and 48% from crude oil and natural gas liquids throughout 2017.

The head office is located in Calgary, Alberta, and the United States office is located in Denver, Colorado. Enerplus has nine offices located throughout British Columbia, Alberta, Saskatchewan, Montana and North Dakota. As of December 31, 2017, Enerplus employed a total of 392 people, including full-time benefit and payroll consultants, 254 of whom were in Canada and 138 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 waste reduction programs;
- fugitive emissions management program; and
- reclamation of disturbed landscapes to equivalent land capability.

In 2017, for the third 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.

### 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 2017	December 31 2017	No	<Not Applicable>
Row 2	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 4	<Not Applicable>	<Not Applicable>	<Not Applicable>	<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

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## C1.1a

**(C1.1a) Identify the position(s) of the individual(s) on the board with responsibility for climate-related issues.**

Position of individual(s)	Please explain
Board/Executive board	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 risk management policies</li> <li>Reviewing and guiding annual budgets</li> <li>Reviewing and guiding business plans</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 S&SR Department briefs the board on relevant matters related to climate-related issues, such as potential water short areas due to regional climate trends. The Board of Directors assist with oversight and governance of the corporation's policies, initiatives and performance in the area of climate related issues.

## C1.2

**(C1.2) Below board-level, provide the highest-level management 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
Other C-Suite Officer, please specify (VP Operations)	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.**

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.**

**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 bonus system, compliance metrics are factored into bonus structure. The corporate executive team benefits monetarily when Enerplus remains 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 bonus system, compliance metrics are factored into bonus structure. The corporate executive team benefits monetarily when Enerplus remains 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 bonus system, compliance metrics are factored into bonus structure. The corporate executive team benefits monetarily when Enerplus remains 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	1	NA
Medium-term	1	3	NA
Long-term	3	10	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 ongoing basis, as risks are identified. Enerplus also 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 known to ensure compliance. Internal company knowledge includes awareness of all relevant regulations that must be complied with in all of our operating areas. The largest category of climate-related regulatory risks are emissions related: emissions limits, measurement and reporting requirements. Compliance must be 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 on operations. Enerplus sits on several industrial associations (e. g. 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 complying with emerging regulations must be 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.
Legal	Relevant, always included	This risk type is considered relevant, but deemed to be low risk, as Enerplus is diligent in complying with all regulations, limiting exposure to climate-related legal risks.
Market	Relevant, always included	This risk type is considered relevant, but 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. Market risks related to climate change would occur at a time scale outside the typical planning and operational risk assessments.
Reputation	Relevant, always included	This risk type is considered relevant, but deemed to be low risk. Local communities are included within risk assessments. Potential impacts to local communities are identified and mitigated. Enerplus proactively builds strong relationships with stakeholders in local communities.
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 the same aspects as acute, only extended of greater time periods. 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. These 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. Downstream risks would be the same as those listed in Market section above. 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. Market risks related to climate change would occur at a time scale outside the typical planning and operational risk assessments.

## C2.2d

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

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 is used to track and manage incidents, hazards and near misses. Issues are documented and corrective actions are assigned to resolve any 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, 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 to the S&SR Board of Directors Committee.

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 climate-related risks. 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 to ensure appropriate controls are in place to manage the risk.

## 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 driver**

Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

**Company- specific description**

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 2019. 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 \$20/tonne CO<sub>2</sub>e in 2019, increasing by \$10/tonne until maximum rate of \$50/tonne is reached in 2022.

**Time horizon**

Medium-term

**Likelihood**

Very likely

**Magnitude of impact**

Medium

**Potential financial impact**

4000000

**Explanation of financial impact**

Based on current emissions rates, costs associated with carbon taxes have been forecast to be \$1.7 million in 2019, increasing by roughly \$1 million per year until maximum rate of \$4 million in 2022.

**Management method**

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.

**Cost of management**

50000

**Comment**

NA

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**Identifier**

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 driver**

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

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**Company- specific description**

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.

**Time horizon**

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

Medium-low

**Potential financial impact**

100000

**Explanation of financial impact**

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.

**Management method**

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.

**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 driver**

Market: Re-pricing of assets (e.g., fossil fuel reserves, land valuations, securities valuations)

**Company- specific description**

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.

**Time horizon**

Long-term

**Likelihood**

About as likely as not

**Magnitude of impact**

Medium-high

**Potential financial impact**

100000000

**Explanation of financial impact**

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.

**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**

Use of more efficient modes of transport

**Type of financial impact driver**

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

**Company- specific description**

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.

**Time horizon**

Current

**Likelihood**

Virtually certain

**Magnitude of impact**

Low

**Potential financial impact**

50000

**Explanation of financial impact**

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.

**Strategy to realize opportunity**

Enerplus continues to look for opportunities across all operations to improve energy performance especially in areas where carbon taxes are increasing operational costs.

**Cost to realize opportunity**

0

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**Comment**

The decision to purchase new fleet trucks has already been finalized therefore to the cost to use more fuel efficient fleet trucks is at no additional cost.

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**Identifier**

Opp2

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

Direct operations

**Opportunity type**

Energy source

**Primary climate-related opportunity driver**

Use of supportive policy incentives

**Type of financial impact driver**

Reduced operational costs (e.g., through use of lowest cost abatement)

**Company- specific description**

Emission reporting obligations have increased in the number and complexity over the last several 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.

**Time horizon**

Medium-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium-low

**Potential financial impact**

200000

**Explanation of financial impact**

Obligations are not explicit. However, costs savings associated with emissions reductions thought to be in the \$100-200,000 range.

**Strategy to realize opportunity**

Enerplus continues to ensure a high level of quality assurance and checks with regard to emissions data management. This allows for regular engagement with internal employees regarding regulatory changes and preparedness.

**Cost to realize opportunity**

85000

**Comment**

Emission reports cost approximately \$85,000 annually.

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**Identifier**

Opp4

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

Direct operations

**Opportunity type**

Resource efficiency

**Primary climate-related opportunity driver**

Use of more efficient production and distribution processes

**Type of financial impact driver**

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

**Company- specific description**

21 pneumatic controllers and 37 pneumatic chemical injections pumps have been identified in Enerplus operations. Replacing these pieces of equipment with low bleed and/or electric versions would reduce emissions and produce an favorable return on investment.

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**Time horizon**

Medium-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium-low

**Potential financial impact**

1288525

**Explanation of financial impact**

Through use of Alberta carbon credit program, potential financial impact could be \$1.3M.

**Strategy to realize opportunity**

Equipment will be inventoried, and emissions rates measured where appropriate, prior to replacing with new equipment. Third party verification company will be engaged to help with carbon credit process.

**Cost to realize opportunity**

486000

**Comment**

It may be decided that some pneumatic devices are not economical to replace; devices omitted from program will slightly change the cost/benefit calculations.

**C2.5****(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 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 adaptation 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 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**

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**C3.1**

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

Yes

**C3.1a**

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**(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.**

(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 Teams. We have a strong value of corporate social responsibility and strive to continually 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 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.

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, and recovery of vapours during processing. These measures include the use of 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 units have increased and allowed us to better understand the GHG inventory, and the parameters in which we can target to reduce GHG emissions. In addition, we have refined a primary database to track fugitive emissions information.

(iv) On a long term scale (i.e., 5 to 10 years) we are continually increasing the accuracy of our data collection 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. GHG reductions initiatives have helped to strengthen communication and action on climate change issues both for our internal and external stakeholders.. Additionally, reducing operational costs through energy performance initiatives will deliver financial value to our shareholders and engage our employees.

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### **C3.1d**

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

Climate-related scenarios	Details
Other, please specify (Government Policy Economic Analysis)	In depth reviews of all new, pending and announced government climate-related policies are conducted annually. These policies include carbon taxes and emissions regulations. Jurisdiction specific compliance cost estimates are determined, using Enerplus current asset and facility base. The most current economic policy analysis was conducted in 2017 and looks forward until 2023. Areas considered within the analysis include all wells, facilities, production mix, expected growth curves, and acquisitions/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; these costs are also factored in to business development strategy.

**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	It is expected our emissions will increase in proportion to our production increases, at approximately 10% annually. As pipeline capacity catches up to development in the US, emissions will eventually fall dramatically. This is expected to occur in 2020, at which point the emissions from our United States operations will decrease by 80%.	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. It is expected that emissions targets will be developed and announced in Q4 2019.

**C4.2**

---

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

**C-OG4.2a**

---

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

We currently do not have a methane-specific emissions reduction target. When the emissions reduction target mentioned in C4.1c above is developed, methane will be a component of the overall emissions target. Methane emissions are forecast to decrease by approximately 50% over the next five years, mostly due to compliance with new and pending government policy.

**C4.3**

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**(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 projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings.**

	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation		
To be implemented*	2	6965
Implementation commenced*		
Implemented*		
Not to be implemented		

### C4.3b

---

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

**Activity type**

Process emissions reductions

**Description of activity**

New equipment

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

4255

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

114885

**Investment required (unit currency – as specified in CC0.4)**

444000

**Payback period**

4 - 10 years

**Estimated lifetime of the initiative**

3-5 years

**Comment**

Project is the replacement of 37 pneumatic chemical injection pumps with solar powered electric chemical injection pumps.

---

**Activity type**

Process emissions reductions

**Description of activity**

New equipment

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

2710

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

73170

**Investment required (unit currency – as specified in CC0.4)**

42000

**Payback period**

<1 year

**Estimated lifetime of the initiative**

3-5 years

**Comment**

Project is the replacement of 21 high-bleed pneumatic controllers with low-bleed controllers.

---

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.

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 oil and gas production 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 our US operations all locations have a LDAR survey completed twice a year using an optical gas imaging camera. Within Canada 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 shutdown. Leaks that require a shut-down are fixed during the next turnaround. During 2017, 493 surveys were completed in the US and 11 surveys were completed in Canada.

C-OG4.8

---

**(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

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### 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)**

486275

**Comment**

NA

#### Scope 2 (location-based)

**Base year start**

January 1 2010

**Base year end**

December 31 2010

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

192847

**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.**

ISO 14064-1

## C6. Emissions data

---

### C6.1

---

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

**Row 1**

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

742810

**End-year of reporting period**

<Not Applicable>

**Comment**

NA

**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 reported as accurately as data sources allow.

**C6.3**

---

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

**Row 1**

**Scope 2, location-based**

145026

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

<Not Applicable>

**End-year of reporting period**

<Not Applicable>

**Comment**

NA

**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**

### **Emissions calculation methodology**

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

### **Explanation**

## **Capital goods**

### **Evaluation status**

Relevant, not yet calculated

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

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

### **Explanation**

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

### **Evaluation status**

Relevant, not yet calculated

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

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

### **Explanation**

## **Upstream transportation and distribution**

### **Evaluation status**

Relevant, not yet calculated

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

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

### **Explanation**

## **Waste generated in operations**

### **Evaluation status**

Relevant, not yet calculated

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

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

### **Explanation**

## Business travel

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

107

### Emissions calculation methodology

GHG Protocol's Corporate Value Chain Scope 3 Accounting and Reporting Standard

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

100

### Explanation

NA

## Employee commuting

### Evaluation status

Relevant, not yet calculated

### Metric tonnes CO2e

### Emissions calculation methodology

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

### Explanation

## Upstream leased assets

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

2281

### Emissions calculation methodology

Emission factor of 0.01079 tonnes per square feet of office space occupied.

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

100

### Explanation

NA

## Downstream transportation and distribution

### Evaluation status

Relevant, not yet calculated

### Metric tonnes CO2e

### Emissions calculation methodology

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

### Explanation

## Processing of sold products

### Evaluation status

Relevant, not yet calculated

### Metric tonnes CO2e

### Emissions calculation methodology

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

### Explanation

## Use of sold products

### Evaluation status

Relevant, not yet calculated

### Metric tonnes CO<sub>2</sub>e

### Emissions calculation methodology

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

### Explanation

## End of life treatment of sold products

### Evaluation status

Relevant, not yet calculated

### Metric tonnes CO<sub>2</sub>e

### Emissions calculation methodology

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

### Explanation

## Downstream leased assets

### Evaluation status

Relevant, not yet calculated

### Metric tonnes CO<sub>2</sub>e

### Emissions calculation methodology

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

### Explanation

## Franchises

### Evaluation status

Relevant, not yet calculated

### Metric tonnes CO<sub>2</sub>e

### Emissions calculation methodology

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

### Explanation

## Investments

### Evaluation status

Relevant, not yet calculated

### Metric tonnes CO<sub>2</sub>e

### Emissions calculation methodology

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

### Explanation



**Other (upstream)**

**Evaluation status**

Relevant, not yet calculated

**Metric tonnes CO2e**

**Emissions calculation methodology**

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

**Explanation**

**Other (downstream)**

**Evaluation status**

Relevant, not yet calculated

**Metric tonnes CO2e**

**Emissions calculation methodology**

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

**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**

0.043

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

887836

**Metric denominator**

barrel of oil equivalent (BOE)

**Metric denominator: Unit total**

20527184

**Scope 2 figure used**

Location-based

**% change from previous year**

25

**Direction of change**

Increased

**Reason for change**

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

---

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

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

36.18

**% change from previous year**

38

**Direction of change**

Increased

**Reason for change**

New wells are being brought online in the US, where gas takeaway pipeline capacity is limited.

**Comment**

NA

---

**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**

0.007

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

0.014

**Comment**

Based on best available data.

---

**C7. Emissions breakdowns**

---

**C7.1**

---

**(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?**

Yes

**C7.1a**

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**(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	671842	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	69857	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	1111	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.**

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives (Oil: Total)	43	453	11362	Based on best available data.
Fugitives (Oil: Venting)	71	53	1391	Based on best available data.
Fugitives (Oil: Flaring)	88000	30	88792	Based on best available data.
Fugitives (Oil: E&P, excluding venting and flaring)	0	0	0	Based on best available data.
Fugitives (Oil: All Other)	0	0	0	Based on best available data.
Fugitives (Gas: Total)	47	491	12308	Based on best available data.
Fugitives (Gas: Venting)	77	57	1507	Based on best available data.
Fugitives (Gas: Flaring)	373203	1222	403956	Based on best available data.
Fugitives (Gas: E&P, excluding venting and flaring)	0	0	0	Based on best available data.
Fugitives (Gas: Midstream)	0	0	0	Enerplus does not midstream.
Fugitives (Gas: All other)	0	0	0	Based on best available data.
Combustion (Oil: Upstream, excluding flaring)	95530	121	98974	Based on best available data.
Combustion (Gas: Upstream, excluding flaring)	103491	133	107221	Based on best available data.
Combustion (Refining)	0	0	0	Enerplus does not refine.
Combustion (Chemicals production)	0	0	0	Enerplus does not produce chemicals.
Combustion (Electricity generation)	0	0	0	Enerplus does not produce electricity.
Combustion (Other)	0	0	0	No combustion emissions within this category.
Process emissions	0	0	0	No emissions within this category.
Emission not elsewhere classified	0	0	0	No emissions within this category.

## 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	152310
United States of America	590501

## C7.3

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

By facility

**C7.3b**

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

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
CRANE 150-94-28 CH	14835	47.789075	-102.722167
WHOOPING 150-94-28CH TF	9814	47.789078	-102.724253
Softshell 152-94-33C-28 TF	9393	47.936097	-102.732164
Smooth Green 152-94-18A-19H	7300	47.963922	-102.752652

**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**

**(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)	742810	<Not Applicable>	Based on best available data.
Oil and gas production activities (downstream)	0	<Not Applicable>	Enerplus does not have downstream activities.
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	132996		605674	0
United States of America	12030		2267967	0

**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	5815	
North Dakota	6215	
Alberta	105786	
Saskatchewan	27210	
BC	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

**(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)	145026		Based on best available data.
Oil and gas production activities (downstream)	0		Enerplus does not have downstream activities.
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	0	No change	0	No significant change.
Other emissions reduction activities	0	No change	0	No significant change.
Divestment	0	No change	0	No significant change.
Acquisitions	0	No change	0	No significant change.
Mergers	0	No change	0	No significant change.
Change in output	181758	Increased	26	Change in gross scope 1 and 2 emissions, determined by subtracting 2016 values from 2017 values.
Change in methodology	0	No change	0	No significant change.
Change in boundary	0	No change	0	No significant change.
Change in physical operating conditions	0	No change	0	No significant change.
Unidentified	0	No change	0	No significant change.
Other	0	No change	0	No significant change.

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

### 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)	0	1327195	1327195
Consumption of purchased or acquired electricity	<Not Applicable>	0	169355	169355
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>	0	1496550	1496550

**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 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**

1327195

**MWh fuel consumed for the 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>

**C8.2d**

---

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

**Natural Gas**

**Emission factor**

2.00005

**Unit**

metric tons CO<sub>2</sub>e per m<sup>3</sup>

**Emission factor source**

The reference for the Higher Heating Value is 'Table of Physical Properties for Hydrocarbons and Other Compounds of Interest to the Oil and Gas Industry, GPA Standard 2145-09, Page 9-11'. The reference for default gas compositions is 'A Detailed Inventory of CH<sub>4</sub>, and VOC Emissions from Upstream Oil and Gas Operations in Canada, Volume 2, Tables 22-24, CAPP, 1999'. Both of these are used to calculate the default CO<sub>2</sub> emission factor which is just a mathematical formula adding the different components of the gas composition and using the Molecular weight of CO<sub>2</sub> and the Ideal Gas Constant.

**Comment**

NA

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**C8.2f**

**(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>

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

<Not Applicable>

**Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)**

<Not Applicable>

**Comment**

No significant low-carbon emission factor energy sources used.

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**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	13.07	Year end production, operated only.
Natural gas liquids, million barrels	1.23	Year end production rate.
Oil sands, million barrels (includes bitumen and synthetic crude)	0	Enerplus has no oil sands production.
Natural gas, billion cubic feet	19031.83	Year end production rate.

**C-OG9.2b****(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, 2017 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)
Row 1	278711		278711

**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 (%)
Crude oil / condensate / Natural gas liquids	49		49
Natural gas	51		51
Oil sands (includes bitumen and synthetic crude)	0	0	0

**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 (%)**

74.82

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

43.97

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

48.06

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

48.06

**Comment**

3P reserves metric not used by Enerplus

---

**Development type**

Other, please specify (NGL)

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

7.03

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

4.66

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

5.22

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

5.22

**Comment**

3P reserves metric not used by Enerplus

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**Development type**

Other, please specify (Conventional Gas)

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

3

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

6.52

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

3.24

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

3.24

**Comment**

3P reserves metric not used by Enerplus

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**Development type**

Tight/shale

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

15.15

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

44.85

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

43.48

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

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**Net total resource base (%)**

43.48

**Comment**

3P reserves metric not used by Enerplus

**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 2017

**Investment end date**

December 31 2017

**Investment area**

Equipment

**Technology area**

Methane detection and reduction

**Investment maturity**

Small scale commercial deployment

**Investment figure**

71537

**Low-carbon investment percentage**

1

**Please explain**

Pneumatic chemical injection pumps were replaced with solar powered chemical pumps.

**C-OG9.7****(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.**

27.5

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

	Verification/assurance status
Scope 1	No third-party verification or assurance
Scope 2 (location-based or market-based)	No third-party verification or assurance
Scope 3	No third-party verification or assurance

## 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.**

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.**

**BC carbon tax**

**Period start date**

January 1 2017

**Period end date**

December 31 2017

**% of emissions covered by tax**

4.77

**Total cost of tax paid**

701229.36

**Comment**

Total carbon tax paid in 2017.

### 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 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.

## 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

**GHG Scope**

Scope 1

**Application**

Corporate structure that price is applied to (i.e. business units, corporate divisions, facilities) in Canada operations.

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

20

**Variance of price(s) used**

Evolutionary pricing: a price that develops over time

**Type of internal carbon price**

Please select

**Impact & implication**

The internal price on carbon is used to project future compliance costs associated with announced carbon tax in Canada.

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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?**

No

**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. The communication path between industry and government runs through Canadian Association of Petroleum Producers (CAPP), the main trade association for our industry. CAPP collates conversations from individual companies and compiles response letters that go to 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.

**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 mainstream reports in accordance with TCFD recommendations

**Status**

Complete

**Attach the document**

2017 AIF.pdf

**Content elements**

Governance

Risks & opportunities

Emissions figures

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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

(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 and Social Responsibility	Environmental, health and safety manager

### Submit your response

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

Please confirm below

I have read and accept the applicable Terms