

# Welcome to your CDP Climate Change Questionnaire 2020

## C0. Introduction

### C0.1

#### **(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 2019, Enerplus produced an average of approximately 101,042 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, 2019, Enerplus employed a total of 383 people, including full-time benefit and payroll consultants, 234 of whom were in Canada and 149 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 including an increased focus on water recycling;
- waste management and recycling programs;
- fugitive emissions management program; and
- the remediation and reclamation of decommissioned landscapes.

In 2019, Enerplus reported its key environmental and safety metrics in its fifth 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

#### **(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
Reporting year	January 1, 2019	December 31, 2019	No

## C0.3

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

- Canada
- United States of America

## C0.4

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

- CAD

## C0.5

**(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 chosen approach for consolidating your GHG inventory.**

- Operational control

## C-OG0.7

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

Row 1

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**Oil and gas value chain**

Upstream

**Other divisions**

## C1. Governance

### C1.1

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

- Yes

### C1.1a

**(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, ESG strategy and metrics and additional environmental and safety metrics.

## 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>	<p>The manager of the Safety &amp; Social Responsibility (S&amp;SR) department reports to the board on relevant matters pertaining to climate-related issues such as emissions management including methane in various changing regulatory jurisdictions.</p> <p>Board oversight of climate related issues is integrated into board governance mechanisms when reviewing and guiding strategy, performance management, action planning, managing risks, ESG strategy and validating business plans and budgets.</p>

## 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	More frequently than 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 is responsible for: reviewing legislative and regulatory changes that potentially have an impact on the corporation; understanding current and emerging sustainability and safety issues and evaluating the impact on the corporation; evaluating current or pending legal issues related to sustainability by or against the corporation; receiving 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 quarterly 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, three independent directors which are appointed annually following the annual general meeting of the corporation. The CEO is responsible for board liaison. The S&SR board committee chair 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 conducts and attends a sustainability and safety focused field trip to one of our operating areas.

## C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	In all jurisdictions in which Enerplus operates there are emissions regulations. As part of the corporate performance scorecard system, compliance metrics are factored into bonus structure. All employees, along with management and the board of directors, benefit monetarily when Enerplus operations are compliant with all emissions regulations

		and effectively manage this impact on climate change. In 2019, Enerplus laid the groundwork to publicize its first greenhouse gas emissions reduction target publicly in February 2020, which will be incentivized when achieved.
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## C1.3a

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

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Board/Executive board	Monetary reward	Other (please specify) Compliance with emissions and gas capture regulations	In all jurisdictions in which Enerplus operates there are emissions and/or gas regulations. As part of the corporate performance scorecard system, compliance metrics are factored into bonus structure. The board of directors benefits monetarily when Enerplus operations are compliant with all emissions and/or gas capture regulations.
Corporate executive team	Monetary reward	Other (please specify) Compliance with emissions and gas capture regulations	In all jurisdictions in which Enerplus operates there are emissions and/or gas capture 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 and/or gas capture regulations.
All employees	Monetary reward	Other (please specify) Compliance with emissions and gas capture regulations	In all jurisdictions in which Enerplus operates there are emissions and/or gas capture 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 and/or gas capture regulations.

## C2. Risks and opportunities

### C2.1

**(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?**

Yes

## C2.1a

**(C2.1a) How does your organization define short-, medium- and long-term time horizons?**

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

## C2.1b

**(C2.1b) How does your organization define substantive financial or strategic impact on your business?**

Substantive impact is defined as impacting the economic viability of an operational area or facility, triggering a new evaluation of whether the operational area or facility is a net asset or liability. For example, if the cash flows no longer exceed the anticipated abandonment costs 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 impacts are substantive vary by operational area.

Enerplus defines substantive as applicable to direct operations only.

## C2.2

**(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.**

### Value chain stage(s) covered

Direct operations  
Upstream

### Risk management process

Integrated into multi-disciplinary company-wide risk management process

### Frequency of assessment

More than once a year

### Time horizon(s) covered

Short-term  
Medium-term

### Description of process

During annual asset area reviews, climate-related risks (both likelihood and potential severity) are assessed using operational knowledge, current and upcoming regulatory requirements and through conversations with vendors and regulators. Risk assessments are completed annually, however additional reviews take place throughout the year as conditions change. Climate risks are evaluated based on severity and frequency to determine the appropriate risk level and to determine the controls that need to be in place to manage the climate risk.

Enerplus defines substantive impact as risks that are applicable to direct operations only. Substantive impacts affect the economic viability of an operational area or facility, triggering a new evaluation of whether the facility is a net asset or liability. For example, if the cash flows no longer exceed the anticipated abandonment costs 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 at a minimum of annually. Due to variable economic parameters, specific thresholds used to determine substantive impact vary by operational area.

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

## C2.2a

### (C2.2a) Which 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, gas capture requirements, 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. For example, Enerplus participates in several industry and trade associations (i.e.

		<p>Canadian Association of Petroleum Producers, Colorado Oil &amp; Gas Association, Montana Petroleum Association, North Dakota Petroleum Council and the Western Energy Alliance) and the Environmental Partnership 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.</p> <p>Increased potential costs of compliance with emerging regulations is included in all project planning and operational risk assessments.</p>
Technology	Relevant, always included	<p>This risk type is considered relevant as it relates to equipment and technology used for climate-related emission regulations. For example, pending emissions regulations in Canada will mandate the upgrade of several older technology equipment pieces. The costs of these technology upgrades must be factored into project planning and operational risk assessments. Another example is that we are early in our greenfield development in Colorado where we are piloting innovative technology to significantly reduce our overall carbon footprint, meet regulatory requirements and demonstrate our commitment to innovation.</p>
Legal	Relevant, always included	<p>This risk type is considered relevant but is deemed to be low risk as Enerplus is diligent in complying with all regulations, thereby limiting our exposure to climate-related legal risks.</p>
Market	Relevant, always included	<p>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.</p>
Reputation	Relevant, always included	<p>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. In addition, Enerplus reports its impacts publicly through its sustainability reporting and its external website, which is a form of reputation management.</p>
Acute physical	Relevant, always included	<p>Acute physical risks related to climate would include such things as cyclones, fires and floods. These risks are included in all project planning and operational risk assessments.</p>
Chronic physical	Relevant, always included	<p>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.</p>



## C2.3

**(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

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

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#### Identifier

Risk 1

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

Direct operations

#### Risk type & Primary climate-related risk driver

Current regulation  
Carbon pricing mechanisms

#### Primary potential financial impact

Increased indirect (operating) costs

#### 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

Long-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium-low

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

Yes, an estimated range

**Potential financial impact figure (currency)**

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

1,000,000

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

2,200,000

**Explanation of financial impact figure**

Carbon taxes in Canada are estimated at \$2.2MM in 2019 based on fuel consumption. In Alberta and Saskatchewan, the carbon tax rates must follow the federal carbon pricing at \$20/tonne for 2019 and increases by \$10/tonne each year until it reaches \$50/tonne in 2022 and beyond. In British Columbia, the carbon tax rate is \$40/tonne in 2019 and increases by \$5/tonne until it reaches \$50/tonne in 2021 and beyond.

**Cost of response to risk**

50,000

**Description of response and explanation of cost calculation**

Enerplus will manage impacts of the carbon taxes by participating in large emitter programs, where possible, that offer carbon tax exemptions for companies who commit to long term emission reduction targets. Participating in government incentive programs requires costs associated with completing annual emission reports and contracting third party emission verification work. Fuel efficient equipment retrofits and energy efficient project opportunities will also be analyzed. Carbon tax costs are included in strategic decision making.

**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**

Risk 2

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

Direct operations

**Risk type & Primary climate-related risk driver**

Chronic physical

Changes in precipitation patterns and extreme variability in weather patterns

**Primary potential financial impact**

Increased indirect (operating) costs

**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**

Low

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

No, we do not have this figure

**Potential financial impact figure (currency)**

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

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

**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 an upward limit in the range of \$500,000 is not likely to be exceeded.

**Cost of response to risk**

50,000

**Description of response and explanation of cost calculation**

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

## Comment

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### Identifier

Risk 3

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

Downstream

### Risk type & Primary climate-related risk driver

Market

Changing customer behavior

### Primary potential financial impact

Decreased revenues due to reduced demand for products and services

### Company-specific description

Changes in downstream customer behavior related to climate change could impact consumer demand for petroleum products. This is a risk to Enerplus as we may need to manage production volumes based on market supply and demand. Production curtailments mandated by regulatory bodies will also need to be considered and monitored.

### Time horizon

Long-term

### Likelihood

Likely

### Magnitude of impact

Medium

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

No, we do not have this figure

### Potential financial impact figure (currency)

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

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

### 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.

### **Cost of response to risk**

0

### **Description of response and explanation of cost calculation**

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

### **Comment**

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

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### **Identifier**

Risk 4

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

Direct operations

### **Risk type & Primary climate-related risk driver**

Current regulation

Mandates on and regulation of existing products and services

### **Primary potential financial impact**

Increased indirect (operating) costs

### **Company-specific description**

The federal government of Canada has set targets to reduce methane emissions by 45% from 2012 levels by 2025. The provinces of Alberta, British Columbia and Saskatchewan have each developed plans to help the country meet the targets by introducing programs to regulate methane emissions from industrial operators. These programs vary by province and require a reduction of emissions set by mandating venting limits, equipment specific emission limits, leak detection and repair (LDAR) requirements, in addition to penalties for excess emissions. The cost to comply with the requirements will vary based on a number of factors, including asset inventory and power grid availability in certain areas.

Regulations for the control of methane exist in the US in Colorado. These regulatory requirements have a minimal impact on Enerplus. In addition, in Colorado, Enerplus is designing a tankless gathering system that will have near zero emissions upon full development. This design will allow Enerplus to develop our assets within the stringent emission framework developing in Colorado.

### **Time horizon**

### **Likelihood**

### **Magnitude of impact**

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

No, we do not have this figure

**Potential financial impact figure (currency)**

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

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

**Explanation of financial impact figure**

**Cost of response to risk**

0

**Description of response and explanation of cost calculation**

No additional cost is currently required to manage this risk as it is being handled by existing staff.

**Comment**

## C2.4

**(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

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

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**Identifier**

Opp1

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

Direct operations

**Opportunity type**

Resource efficiency

**Primary climate-related opportunity driver**

**Primary potential financial impact**

Reduced indirect (operating) costs

**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)**

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

2,000,000

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

10,000,000

**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 in to this system, the financial impact increases to the higher end of the impact range.

**Cost to realize opportunity**

30,000,000

**Strategy to realize opportunity and explanation of cost calculation**

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 innovative 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.

## **Comment**

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### **Identifier**

Opp2

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

Direct operations

### **Opportunity type**

Resource efficiency

### **Primary climate-related opportunity driver**

### **Primary potential financial impact**

Returns on investment in low-emission technology

### **Company-specific description**

Enerplus is considering a new technology for generating power from excess gas in our Saskatchewan operating area. This power generation project utilizes excess gas that would normally be sent to flare stacks, which will then be re-routed to power gensets, creating electricity for the power grid.

### **Time horizon**

Medium-term

### **Likelihood**

More likely than not

### **Magnitude of impact**

Medium

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

Yes, an estimated range

### **Potential financial impact figure (currency)**

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

1,500,000

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

2,000,000

### **Explanation of financial impact figure**



The financial costs taken into consideration include factors for engineering, procurement of equipment, construction and installation of equipment, as well as operating and maintenance expenses.

**Cost to realize opportunity**

**Strategy to realize opportunity and explanation of cost calculation**

This project requires an application and acceptance into SaskPower's Flare Gas Power Generation Program by the provincial government. There is currently a wait list to be accepted.

**Comment**

## C3. Business Strategy

### C3.1

**(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?**

Yes

#### C3.1a

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

Yes, qualitative and quantitative

#### C3.1b

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

Climate-related scenarios and models applied	Details
<p>Other, please specify</p> <p>Our Corporate Cashflow Model is used to continuously test affordability and the corporate bottom line.</p>	<p>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 through 2023. Areas considered within the analysis include all wells, facilities, production mix, expected growth curves and acquisitions and divestments.</p> <p>The results of the analysis assign a per BOE dollar cost to comply with new and pending government policy. These costs are used</p>

	<p>throughout the operational and capital budgeting process and are factored in to the business development strategy.</p> <p>In addition, the Nationally Determined Contributions and the IPCC Special Report on 1.5 degree global warming was reviewed to further understand our future impacts and it is being determined how to integrate it in to our future planning.</p>

### C3.1d

**(C3.1d) Describe where and how climate-related risks and opportunities have influenced your strategy.**

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Not evaluated	
Supply chain and/or value chain	Not evaluated	
Investment in R&D	Not evaluated	
Operations	Yes	<p>In areas with existing borrow pits, heavy rainfall seasons can cause the pits to overflow, saturating the surrounding land and deteriorating a nearby road. Enerplus has strategically applied for approval to use the water from the borrow pits as an offset source to withdrawing water from water wells. This opportunity is beneficial to the environment as well as providing a cleaner source of water for injection purposes.</p> <p>Water availability related to drought could have future impacts in Colorado. Enerplus has recently re-designed our completions strategies which will allow the reuse of our produced water during completions. This strategy greatly reduces our reliance on freshwater withdrawals.</p>

### C3.1e

**(C3.1e) Describe where and how climate-related risks and opportunities have influenced your financial planning.**

	Financial planning elements that have been influenced	Description of influence
Row 1	Indirect costs Capital expenditures	<p>In areas with existing borrow pits, heavy rainfall seasons can cause the borrow pits to overflow, saturating the surrounding land and deteriorating the nearby road. Enerplus has strategically applied for approval to use the water from the borrow pits as an offset source to withdrawing water from water wells. This opportunity is beneficial to the environment as well as providing a cleaner source of water for injection purposes. It also reduces costs associated to drilling or acquiring additional water wells.</p> <p>Enerplus has recently re-designed our completions strategies which will allow the reuse of our produced water during completion activities. This strategy greatly reduces our reliance on freshwater withdrawals therefore decreasing the costs for water handling and trucking expenses.</p>

### C3.1f

**(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).**

In 2019 Enerplus reviewed climate-related risks and opportunities pertaining to both climate strategy management and water use management. These in depth reviews have led to the publication of management strategies, found within our public ESG IR Slide Deck dated February 2020. This work influenced our strategy and led to the development of greenhouse gas reduction and freshwater use reduction targets being enacted January 1, 2020.

## 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 did not have an 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	Our five-year forecast is to have both short and long term emissions	Enerplus published active emissions reduction targets for 2020 in February 2020. While no active emissions reduction targets were operational in

	target in the next two years	reduction targets as well as qualitative emissions reduction goals.	2019, they were in development for the following year. Emissions 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 in 2020. Enerplus spent 2019 validating inputs as we believe it is important to determine a meaningful and achievable target that aligns with the corporation's focus and direction.
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## C4.2

**(C4.2) Did you have any other climate-related targets that were active in the reporting year?**

No other climate-related targets

## C-OG4.2c

**(C-OG4.2c) Indicate which targets reported in C4.1a/b incorporate methane emissions, or if you do not have a methane-specific emissions reduction target for your oil and gas activities, please explain why not and forecast how your methane emissions will change over the next five years.**

Enerplus is in the continuous development process of setting methane emissions reduction objectives. Over the next five years, Enerplus expects methane emissions specifically to decrease due to proactive initiatives such as a comprehensive Fugitive Emissions Management Plan which increases the frequency of leak detection and repair surveys at facilities and well sites, controlling overall vent gas at facilities, limiting vent gas from pneumatic devices and compressor seals, controlling methane emissions from glycol dehydrators and the replacement of traditional thief hatches. At this time, methane emissions represent 6.5% of Enerplus' total CO2E emissions, and as we are setting corporate emissions reduction targets that became active in 2020, we will achieve a co-benefit in the reduction of methane emissions as we succeed in achieving our short and long term targets.

## 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	0	
To be implemented*	0	
Implementation commenced*	0	
Implemented*	4	33,780
Not to be implemented	0	

### C4.3b

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

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**Initiative category & Initiative type**

Energy efficiency in production processes  
Machine/equipment replacement

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

568

**Scope(s)**

Scope 1

**Voluntary/Mandatory**

Voluntary

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

100,000

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

470,000

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

11-15 years

**Comment**

Genset cooler upgrades. Gensets were overheating and were unable to run at higher load rates. Two gensets were running when only one was required, therefore this project increased efficiency.

---

**Initiative category & Initiative type**

Energy efficiency in production processes  
Product or service design

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

933

**Scope(s)**

Scope 1

**Voluntary/Mandatory**

Voluntary

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

25,000

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

110,000

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

11-15 years

**Comment**

Three-phase separation improvements. A three-phase inlet separator was currently activated as a two-phase separator due to design flaws. The separator was heating all produced water to 57 degrees Celsius in the treater. Enerplus installed an AGAR probe to detect the oil/water interface and move 80% of the produced water directly to the water tanks, therefore reducing heating costs.

---

**Initiative category & Initiative type**

Energy efficiency in production processes  
Machine/equipment replacement

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

164

**Scope(s)**

Scope 1

**Voluntary/Mandatory**

Voluntary

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

155,000

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

15,000

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

6-10 years

**Comment**

Permanent magnet top drives (4 wells). Replaced traditional top drives with PMM drives to get a calculated 14% energy savings.

---

**Initiative category & Initiative type**

Energy efficiency in production processes  
Cooling technology

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

32,117

**Scope(s)**

Scope 1

**Voluntary/Mandatory**

Voluntary

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

0

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

11,000,000

**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. In 2019, Enerplus had 13 of these mobile natural gas capture units in North Dakota and Colorado.

## 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 CO <sub>2</sub> e in 2019, increasing by \$10/tonne per year until a maximum rate of \$50/tonne is reached in 2022.
Compliance with regulatory requirements/standards	Enerplus ensures that our operations are compliant with regulatory requirements in every jurisdiction in which we operate. Equipment retrofits, leak detection and repair (LDAR) processes and controlling vent limits are some of the practices implemented to support emission reduction activities.

## 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.

## C-OG4.7

**(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.**

Enerplus' North Dakota and Montana operating facilities have LDAR survey's completed twice a year using an optical gas imaging camera; in Colorado monthly inspections are 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 an operational shut-down are fixed during the next upcoming turnaround. In 2019, Enerplus conducted 167 fugitive emissions surveys.

## 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

### 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 CO<sub>2</sub>e)**

585,905

**Comment**

NA

#### Scope 2 (location-based)

---

**Base year start**

January 1, 2010

**Base year end**

December 31, 2010

**Base year emissions (metric tons CO<sub>2</sub>e)**

197,191

**Comment**

NA

**Scope 2 (market-based)**

---

**Base year start**

**Base year end**

**Base year emissions (metric tons CO<sub>2</sub>e)**

**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 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

IPIECA's Petroleum Industry Guidelines for reporting GHG emissions, 2003

IPIECA's Petroleum Industry Guidelines for reporting GHG emissions, 2nd edition, 2011

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 CO<sub>2</sub>e?**

**Reporting year**

---

**Gross global Scope 1 emissions (metric tons CO<sub>2</sub>e)**

954,520

**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 CO<sub>2</sub>e?**

### Reporting year

---

**Scope 2, location-based**

111,734

**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 gross global Scope 3 emissions, disclosing and explaining any exclusions.**

### Purchased goods and services

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

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

## Capital goods

---

### Evaluation status

Not relevant, explanation provided

### Please explain

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

Not relevant, explanation provided

### Please explain

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

## Upstream transportation and distribution

---

### Evaluation status

Not relevant, explanation provided

### Please explain

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

### Please explain

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

## Business travel

---

### Evaluation status

Relevant, calculated

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

72.95

### Emissions calculation methodology

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

**Please explain**

Data provided by our external corporate travel agent; refers only to corporate air travel as booked by our external corporate travel agent.

**Employee commuting**

---

**Evaluation status**

Relevant, not yet calculated

**Please explain**

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

**Please explain**

This emission source is not material.

**Downstream transportation and distribution**

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

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

**Please explain**

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

**Please explain**

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 relevant, explanation provided

**Please explain**

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

**Downstream leased assets**

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

Enerplus does not have downstream leased assets.

**Franchises**

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

Enerplus does not have franchises.

**Investments**

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

This is not applicable to Enerplus.

**Other (upstream)**

---

**Evaluation status**

Not evaluated

**Please explain**

**Other (downstream)**

---

**Evaluation status**

**Please explain**

**C6.7**

**(C6.7) Are carbon dioxide emissions from biogenic 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 CO<sub>2</sub>e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.**

---

**Intensity figure**

0.000677891

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO<sub>2</sub>e)**

1,066,254

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

1,572,900,000

**Scope 2 figure used**

Location-based

**% change from previous year**

17.6

**Direction of change**

Increased

**Reason for change**

Enerplus saw an increase of 15% total emissions (Scope 1 and 2) as new wells are being brought on stream in the United States. In some areas such as North Dakota, gas takeaway pipeline capacity is limited, which results in increased flaring of associated gas.

---

**Intensity figure**

0.04

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO<sub>2</sub>e)**

1,066,254

**Metric denominator**

barrel of oil equivalent (BOE)

**Metric denominator: Unit total**

24,055,241

**Scope 2 figure used**

Location-based

**% change from previous year**

0

**Direction of change**

No change

**Reason for change**

Slight increase in emissions, however production also increased slightly resulting in no intensity change.

## C-OG6.12

**(C-OG6.12) Provide the intensity figures for Scope 1 emissions (metric tons CO<sub>2</sub>e) per unit of hydrocarbon category.**

---

**Unit of hydrocarbon category (denominator)**

Other, please specify  
Barrel of oil equivalent (BOE)

**Metric tons CO<sub>2</sub>e from hydrocarbon category per unit specified**

0.04

**% change from previous year**

0

**Direction of change**

No change

**Reason for change**

Although the Scope 1 emissions was slightly higher in 2019 than the previous year, total production also increased 8% from 2018, therefore the intensity remained unchanged.

**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**

0.44

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

0.09

**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	890,732	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	2,446	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	3.4	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**

Gas

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

220,062

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

313

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

228,600

**Comment**

---

**Emissions category**

Flaring

**Value chain**

Upstream

**Product**

Gas

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

636,958

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

1,482

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

674,329

**Comment**

---

**Emissions category**

Venting

**Value chain**

Upstream

**Product**

Oil

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

33,651

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

147

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

37,345

**Comment**

**Emissions category**

Fugitives

**Value chain**

Upstream

**Product**

Gas

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

62

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

567

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

14,246

**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	111,993
United States of America	842,527

## 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	67,851
British Columbia, Canada	26,564
Saskatchewan, Canada	17,578
North Dakota, US	784,123
Colorado, US	36,424
Montana, US	21,980

## 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	Comment
Oil and gas production activities (upstream)	954,520	
Oil and gas production activities (midstream)		
Oil and gas production activities (downstream)		

## 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 for in Scope 2 market-based approach (MWh)
Canada	93,822			
United States of America	17,912			

## 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 (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Alberta, Canada	75,599	
British Columbia, Canada	0	
Saskatchewan, Canada	18,223	
North Dakota, US	17,912	
Montana, US	6,494	
Colorado, US	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
Oil and gas production activities (upstream)	111,734		
Oil and gas production activities (midstream)			
Oil and gas production activities (downstream)			

## 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				
Other emissions reduction activities				
Divestment				
Acquisitions				
Mergers				
Change in output	137,675	Increased	15	Enerplus saw an increase of 15% total emissions (Scope 1 and 2) as new wells were brought online in the US. In some areas such as North Dakota, gas takeaway pipeline capacity is limited which results in increased flaring of associated gas.
Change in methodology				
Change in boundary				
Change in physical operating conditions				
Unidentified				
Other				

## 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 undertook this energy-related activity in the reporting year
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 (renewable and non-renewable) MWh

Consumption of fuel (excluding feedstock)	HHV (higher heating value)		1,517,891	1,517,891
Consumption of purchased or acquired electricity			145,499	145,499
Total energy consumption				

## 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	Yes
Consumption of fuel for the generation of heat	Yes
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

1,296,875

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

319,731

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



**Emission factor**

2,153

**Unit**

kg CO<sub>2</sub>e per m<sup>3</sup>

**Emissions factor source**

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

**Comment**

---

**Fuels (excluding feedstocks)**

Diesel

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

198,592

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

10,252

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

**Emission factor**

2,663

**Unit**

kg CO<sub>2</sub> per m<sup>3</sup>

**Emissions 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.

---

**Fuels (excluding feedstocks)**

Propane Gas

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

191,574

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

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

3,234

**Emission factor**

1,510

**Unit**

kg CO2e per m3

**Emissions factor source**

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

**Comment**

## C9. Additional metrics

### C9.1

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

### C-OG9.2a

**(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	14.5	
Natural gas liquids, million barrels	1.4	
Oil sands, million barrels (includes bitumen and synthetic crude)	0	
Natural gas, billion cubic feet	82.3	

### 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 December 31, 2019 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	354.9		479.4	Enerplus does not calculate 3P reserves. Net total resource base is net 2P plus Net Risked best estimate Contingent Resources.

## 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	55		51	Enerplus does not calculate 3P reserves. Net total resource base is net 2P plus Net Risked best estimate Contingent Resources.
Natural gas	45		49	Enerplus does not calculate 3P reserves. Net total resource base is net 2P plus Net Risked best estimate Contingent Resources.
Oil sands (includes bitumen and synthetic crude)	0	0	0	Enerplus does not operate or produce oil sands.

## 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 (%)

100

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

100

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

100

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

100

### Net total resource base (%)

100

### Comment

Enerplus does not calculate 3P reserves. All of Enerplus' Oil and Gas development is onshore.

---

### Development type

Tight/shale

### In-year net production (%)

87

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

89

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

90

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

90

### Net total resource base (%)

88

### Comment

The above percentages are the share of Enerplus' onshore production and reserves/resource volumes that are attributed to Tight/Shale development. Enerplus does not calculate 3P reserves.

## C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	No	

## 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.

52

## C10. Verification

### C10.1

(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)	No third-party verification or assurance
Scope 3	No third-party verification or assurance

### C10.1a

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

**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-2019-V1.pdf

**Page/ section reference**

**Relevant standard**

ISO14064-3

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

3

## C10.2

**(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, but we are actively considering verifying within the next two years

## C11. Carbon pricing

### C11.1

**(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

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

BC carbon tax

Canada federal fuel charge

### C11.1c

**(C11.1c) Complete the following table for each of the tax systems you are regulated by.**

**BC carbon tax**

---

**Period start date**

January 1, 2019

**Period end date**

December 31, 2019

**% of total Scope 1 emissions covered by tax**

3.15

**Total cost of tax paid**

660,540

**Comment**

In 2019, the carbon tax rate in BC carbon was \$40/tonne of CO<sub>2</sub>e.

**Canada federal fuel charge**

---

**Period start date**

January 1, 2019

**Period end date**

December 31, 2019

**% of total Scope 1 emissions covered by tax**

2.09

**Total cost of tax paid**

221,493

**Comment**

Under Canada's Greenhouse Gas Price Pollution Act (GHGPPA), the Federal Government has set a carbon pricing fee for fuel usage. The pricing starts at \$20/tonne of CO<sub>2</sub>e in 2019 and increases by \$10/tonne each year until it reaches the maximum of \$50/tonne in 2022 and beyond. Each province is allowed to develop their own carbon pricing program, as long as it proves to be equivalent to the federal program. Under the GHGPPA, the Federal Fuel Charge will apply to any province that does not have their own systems. In Saskatchewan, the provincial government believes that charging a carbon tax is not an effective way to respond to climate change and therefore does not have a carbon tax regulation. By not having a program, Saskatchewan becomes a "backstop" province, therefore the federal government has imposed the Federal Fuel Charge. The government of Saskatchewan is legally challenging the constitutional validity of the "backstop" imposition at the Supreme Court of Canada.

## C11.1d

**(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?**

Enerplus' strategy is to improve energy performance and efficiency to reduce emissions by participating in emission reduction programs and energy efficiency projects. Through our climate and greenhouse gas reduction strategy, Enerplus will utilize funding for energy efficiency and emission reduction projects. Where possible, voluntary participation in the emission reduction programs such as Alberta's Technology Innovation and Emissions Reduction (TIER) and Saskatchewan's Output Based Performance Standard (OBPS) may help

reduce the cost of carbon taxes payable while creating opportunities to invest in equipment or technologies to further reduce emissions. Enerplus also has an Energy Efficiency Manager to manage the energy and emissions projects for current and upcoming regulations.

## C11.2

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

No

## C11.3

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

Yes

## C11.3a

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

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### **Objective for implementing an internal carbon price**

- Navigate GHG regulations
- Stakeholder expectations
- 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 Fuel Charge 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. Until a decision has been reached for the province of Saskatchewan, the Federal Fuel Charge rates will apply in that province.

**Type of internal carbon price**

Shadow price

**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. Enerplus will be monitoring the regulations and policy developments to understand impacts.

## C12. Engagement

### C12.1

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

Yes, our suppliers

#### C12.1a

**(C12.1a) Provide details of your climate-related supplier engagement strategy.**

---

**Type of engagement**

Innovation & collaboration (changing markets)

**Details of engagement**

Other, please specify

Included climate change in supplier selection/management mechanism

**% of suppliers by number**

1

**% total procurement spend (direct and indirect)**

2

**% of supplier-related Scope 3 emissions as reported in C6.5**

0

**Rationale for the coverage of your engagement**

Although we do not have formal climate change criteria as part of our routine supplier selection process, consideration is provided to suppliers showing initiative in reducing emissions. This information is requested by the business units.

**Impact of engagement, including measures of success**

The impact of engagement is contributing to the overall objective of reducing emissions.

## Comment

### C12.3

**(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

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

Yes

### C12.3c

**(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 change is: "Canada's oil and natural gas producers are ready and willing to do their part to contribute to the overall Canadian plan on climate change. CAPP and our members have developed principles to help guide creation of effective climate change policy in Canada" which falls under the following categories: collaborative and solutions oriented ("given Canada's climate commitments and industry impacts, CAPP will proactively collaborate with governments and stakeholders towards appropriate policy solutions"); efficient, effective and predictable ("climate policy should target reductions where they are most efficient and effective right across the entire energy value chain from production to end use and considering fairly all sectors and jurisdictions"); technology and innovation focused ("considerable future emissions reductions will stem from improving the hydrocarbon energy sector requiring continuing strong innovation and policy in these areas"); and globally competitive ("Canada's climate policies must ensure our resource development is cost and carbon competitive with other jurisdictions, especially the U.S. as our largest trading partner").

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

Our CEO acts as one of 45 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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**Trade association**

Western Energy Alliance (WEA)

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

Consistent

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

The Western Energy Alliance (WEA, the Alliance) represents 300 member companies engaged in all aspects of environmentally responsible exploration and production (E&P) of oil and natural gas in the western United States. The Alliance represents independent oil and gas producers in the upstream segment of the industry, the majority of which are small businesses. The WEA are experts on federal legislative, regulatory, environmental, public lands and other policy issues affecting the oil and natural gas industry.

We support the WEA's interest in a vibrant western economy with robust job creation along with its dedication to working with regional stakeholders, including the public; federal, state, and local policy makers; regulatory agencies; the media; the business community; allied trade associations; civic organizations and others on all issues affecting the western oil and natural gas industry.

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

We are not in a position of influence within our WEA membership position.

## C12.3f

**(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 directed 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 inconsistencies are found 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 the Colorado Oil and Gas Association (COGA), the Montana Petroleum Association (MPA), the North Dakota Petroleum Council (NDPC) and the Western Energy Alliance (WEA). These groups all serve as the primary voices of the industry and are dedicated to advocating for smart and reasonable energy policy, which is aligned with our internal practices.

## C12.4

**(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).**

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### Publication

Other, please specify  
ESG Report - Data Tables

### Status

Complete

### Attach the document

 Data Tables-08132020.pdf

### Page/Section reference

Pages 4, 5 and 6

### Content elements

Emissions figures  
Other metrics

### Comment

Published July 2020

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### Publication

Other, please specify  
ESG Report

### Status

Underway – previous year attached

### Attach the document

 Enerplus\_2018\_Sustainability\_Report.pdf

### Page/Section reference

### Content elements

Strategy

Risks & opportunities  
Emissions figures  
Other metrics

**Comment**

Expect the publication of our inaugural ESG Report shortly after the submission on this questionnaire.

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**Publication**

In mainstream reports

**Status**

Complete

**Attach the document**

 2019\_Annual\_Information\_Form.pdf

**Page/Section reference**

Annual Information Form, p.32

**Content elements**

Strategy  
Risks & opportunities  
Emissions figures  
Other metrics

**Comment**

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**Publication**

In mainstream reports

**Status**

Complete

**Attach the document**

 2019\_Financial\_Summary.pdf

**Page/Section reference**

Financial Summary, p.24, p.27

**Content elements**

Governance  
Strategy

- Risks & opportunities
- Emissions figures
- Emission targets
- Other metrics

**Comment**

## C15. Signoff

### C-FI

**(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.**

While emissions intensity reduction targets were not publicly disclosed in the 2019 reporting year, they were developed through out the year for implementation commencing January 1, 2020. Please see our ESG Presentation from February 2020 for additional information.

 ERF-ESG Focus Areas-Feb 2020.pptx

### C15.1

**(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

	Job title	Corresponding job category
Row 1	Manager, Corporate Sustainability	Environment/Sustainability manager

## Submit your response

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

English

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

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

**Please confirm below**

I have read and accept the applicable Terms