

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Pembina is a leading transportation and midstream service provider that has been serving North America's energy industry for more than 65 years. Pembina owns an integrated system of pipelines that transport various hydrocarbon liquids and natural gas products produced primarily in western Canada. The Company also owns gas gathering and processing facilities; an oil and natural gas liquids infrastructure and logistics business; and is growing an export terminals business. Pembina's integrated assets and commercial operations along the majority of the hydrocarbon value chain allow it to offer a full spectrum of midstream and marketing services to the energy sector. Pembina is committed to identifying additional opportunities to connect hydrocarbon production to new demand locations through the development of infrastructure that would extend Pembina's service offering even further along the hydrocarbon value chain. These new developments will contribute to ensuring that hydrocarbons produced in the Western Canadian Sedimentary Basin and the other basins where Pembina operates can reach the highest value markets throughout the world.

Purpose of Pembina:

- To be the leader in delivering integrated infrastructure solutions connecting global markets;
- Customers choose us first for reliable and value-added services;
- Investors receive sustainable industry-leading total returns;
- Employees say we are the 'employer of choice' and value our safe, respectful, collaborative and fair work culture; and
- Communities welcome us and recognize the net positive impact of our social and environmental commitment.

This document contains certain forward-looking statements and forward-looking information (collectively, "forward-looking statements"), including forward-looking statements within the meaning of the "safe harbor" provisions of applicable securities legislation, that are based on Pembina's current expectations, estimates, projections and assumptions in light of its experiences and its perception of historical trends. In some cases, forward-looking statements can be identified by terminology such as "expect", "will", "could", "assess", "explore", "potential", "continue", "would", "may", "explore", "likely", "plan", "develop", "to be", "target" "believe" and similar expressions suggesting future events or future performance. Readers are cautioned that events or circumstances could cause results to differ materially from those predicted, forecasted or projected. The forward-looking statements contained in this document speak only as of the date of this document. For additional information on these forward-looking statements, the key assumption on which such forward-looking statements are based and certain risks that may result in actual future results differing from such forward-looking statements, please refer to the Pembina's public disclosure documents including, among other things, those detailed in the heading "Risk Factors" in Pembina's management's discussions and analysis and annual information form, each for the year ended December 31, 2020, and Pembina's management's discussion and analysis dated May 6, 2021 for the three months' ended March 31, 2021, which can all be found at www.sedar.com and with the U.S. Securities and Exchange Commission at www.sec.gov and on Pembina's website at www.pembina.com. Pembina does not undertake any obligation to publicly update or revise any forward-looking statements or information contained herein, except as required by applicable laws. The forward-looking statements contained in this document are expressly qualified by this cautionary statement.

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	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2020	December 31 2020	Yes	3 years

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

Oil and gas value chain

Midstream

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 Governance, Nominating and Corporate Social Responsibility Committee (Governance Committee) of the Board of Directors is responsible for helping the Board develop, implement and monitor Pembina's corporate governance practices. While oversight of ESG and climate-related issues is ultimately the responsibility of Pembina's Board of Directors, the Board has delegated responsibility for ESG strategy to the Governance Committee. The Safety, Environment and Operational Excellence Committee also oversees specific environment and emission-related initiatives. This year, the Governance Committee approved enhanced disclosure on the risks and opportunities for Pembina related to climate change included in our 2020 Sustainability Report. Pembina is currently finalizing our emission intensity targets which are expected to be publicly announced later in 2021. The Governance Committee and Board will approve these targets and will monitor and oversee Pembina's progress towards such intensity targets. The Governance Committee receives at least quarterly updates from management on ESG-related risks and opportunities, including emissions reduction strategies. The Board also regularly engages on ESG issues, including at strategy sessions.

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	Scope of board-level oversight	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	<Not Applicable>	In addition to the Governance Committee's oversight of ESG strategy as described in response to C1.1a above, the Safety, Environment and Operational Excellence Committee has oversight responsibility in respect of development, implementation and monitoring of environmental risks and recommending appropriate programs to manage and reduce risk. In addition, this committee oversees the development and implementation of environmental management policies, programs, systems and practices, reviews overall environmental performance and the impact of regulatory changes. The Safety, Environment and Operational Excellence Committee reports directly to the Board and at each Board meeting provides an update on safety and environment related risks, mitigation efforts in respect to such risks and Pembina's safety and environmental performance.

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)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Chief Financial Officer (CFO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Other C-Suite Officer, please specify (Senior Vice President, External Affairs and Chief Legal and Sustainability Officer)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	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 CEO is responsible for providing oversight and coordination of climate-related matters and for ensuring timely and effective reporting to the Board and our stakeholders. Specific to climate-related issues, the CEO is responsible for the oversight of our business strategies, including how Pembina will adapt to a lower carbon economy, mitigate the risks associated with climate-related issues and capitalize on potential opportunities.

The CFO is responsible for overall financial stewardship, including assessing climate-related risks and opportunities, financial reporting as well as providing timely, accurate and transparent information to our stakeholders. Specific to climate-related issues, the CFO is responsible for oversight of our capital program, which in 2020 was approximately \$1.0 billion. As we continue to integrate ESG, including climate-related initiatives, into all aspects of our business, it is becoming an increasing focus in our investment decisions. In 2020, we approved additional co-generation facilities to power our assets, invested in our Prince Rupert LPG export terminal and began investigating power purchase agreements. We conducted research and development, evaluating numerous renewable energy investments and opportunities that can reduce our overall emissions while also providing competitive returns to our shareholders.

More recently, Pembina appointed a Senior Vice President, External Affairs and Chief Legal and Sustainability Officer, responsible for overseeing Pembina's ESG Strategy, including oversight and monitoring of climate-related issues, trends and Pembina's environmental performance as well as making recommendations to the executive team on climate and environmental matters. The SVP, External Affairs and Chief Legal and Sustainability Officer provides regular updates to the Governance Committee and full Board, as well as Pembina's Enterprise Risk Committee (ERC). The ERC is made up of members of senior management who meet at least quarterly to review the performance, appropriateness and current business environment surrounding risk management activities. The ERC provides updates to the Board of Directors, outlining risk identification, management and reporting and any deficiencies identified.

Assessment, monitoring and management of climate-related issues occurs at the executive level as the entire executive team is responsible for the oversight of climate-related issues within their areas of responsibility. Each executive works with their respective teams on their designated areas of responsibility, in addition to working with the executive team and the Board as a whole to ensure a company-wide approach.

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	No, not currently but we plan to introduce them in the next two years	The Board has recently approved changes to Pembina's short term incentive plan to include ESG metrics as a significant component of compensation across the organization in 2021. Included in those metrics is meeting our year 1 targets under our Board approved 5-year emission intensity plan. Achieving this metric will have an impact on annual compensation for all employees.

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	2	
Medium-term	3	5	
Long-term	6	10	

C2.1b

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

The purpose of Pembina is to be the leader in delivering integrated infrastructure solutions connecting global markets. Pembina is exposed to a variety of financial and strategic risks and opportunities through the pursuit of our business and purpose. Some of these impacts are applicable to the oil and gas industry as a whole and others are unique to Pembina. The impact of any risk or opportunity (or any combination of risks and opportunities) may positively or negatively affect, among other things, Pembina's business, reputation, financial condition, results of operations, cash flows and dividends. This may in turn affect our strategic priorities, our response to changes in our operating environment, and may materially affect the market price of our securities.

Pembina identifies a number of potential risks, including climate-related risks, in our MD&A. For operational and business level risks, including climate-related risks, a substantive financial or strategic impact is defined as significant if it could result in irreparable damage to Pembina's reputation and or assets.

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

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

Long-term

Description of process

The Board of Directors is responsible for ensuring that proper systems and practical procedures are in place to identify, monitor and mitigate risks. The Board has delegated oversight of specific risks to its committees, with a view to each committee's mandate and experience. Our Enterprise Risk Management (ERM) program drives the identification, measurement, prioritization and management of risk across Pembina and is integrated with our Operating Management System. Our ERM policy defines principles and specific expectations associated with Pembina's risk management activities and governance. All employees are required to sign-off on Pembina's enterprise risk management policy which outlines responsibilities for the identification, reporting and mitigation of risks. The ERM program consists of risk management practices and procedures applied across the Company to address principal risks that affect the achievement of business objectives. The Enterprise Risk Committee meets at least quarterly to review the performance, appropriateness and current business environment surrounding our risk management activities. Management reports to the Board of Directors about the risks that have been identified. The ERC identifies risks, proposes management strategies in respect of such risks and reports on any identified deficiencies. Climate-related risks have been identified through the ERM process and the Governance Committee reviews our ESG strategy at least quarterly. From a physical risk perspective, Pembina continues to assess the resilience of its assets to physical climate-related risks. For example as part of Pembina's geo-hazard management program, which is a subsection of our Enterprise Risk Management program as discussed above, Pembina categorizes its pipeline assets based on the potential for an incident (e.g., higher than normal rain fall or enhanced snow melt). For those assets where the risk level is elevated, slope inclinometers are installed to help monitor soil movements and the potential for shifts in the pipeline. These inclinometers will be monitored based on the level of risk, from once a month to once a year. If it is determined that the area is experiencing any shift, Pembina can act proactively with slope stabilization efforts. From a carbon transition risk perspective, Pembina regularly assesses the impact of carbon pricing as Canada continues to transition to a lower carbon economy and the actions Pembina can take to lower its emissions.

Value chain stage(s) covered

Downstream

Risk management process

A specific climate-related risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term

Medium-term

Long-term

Description of process

Pembina's Business Development and Marketing teams consider the risks of changes to consumer preference and volatile product pricing within their short-term and long-term assessments and marketing strategies. From a physical risk perspective, they look at changes in product use and habits due to climate change and resulting changes in weather patterns. These teams rely on internal analysts, as well as outside experts, to help forecast economic activity and consumer preferences, then execute strategies designed to reduce the impact of climate-related pricing volatility. From a carbon transition risk perspective, Pembina explores business opportunities associated with the shift to a lower carbon economy (e.g., power and carbon markets and trading).

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	Pembina's operations are subject to extensive federal, provincial, state and local environmental laws and regulations governing among other things, discharges to air, land and water, the handling and storage of petroleum products and hazardous materials, waste disposal and the investigation and remediation of contamination. Pembina's facilities and pipelines must maintain a number of environmental permits from various governmental authorities in order to operate and failure to maintain compliance with these requirements could result in operational interruptions, fines or penalties or the need to install additional environmental mitigation technologies and/or management process controls. Various federal, provincial and state governments have announced intentions to regulate greenhouse gas (GHG) emissions. Some of these regulations are in effect while others remain in various stages of review or implementation. These regulations could impact our existing and/or planned projects or increase capital investment or operating expenses, negatively impacting our financial results. Alberta's Technology Innovation and Emissions Reduction (TIER) Regulation came into effect January 1, 2020. The TIER regulation continues to facilitate emissions reductions for large industrial facilities that emit 100,000 tonnes of GHGs or more per year or for facilities that chose to volunteer into the regulation. Pembina has eight natural gas processing facilities and aggregate facilities that are subject to TIER as either mandatory or volunteer opt-in facilities. The potential costs and benefits to Pembina of those facilities under the TIER continue to be assessed.
Emerging regulation	Relevant, always included	Changes in environmental regulations and enforcement policies, including those with respect to climate change, could result in significant new or higher operating or capital costs, including but not limited to: higher compliance costs; costs to adopt and deploy new practices, processes and technologies; and higher energy and non-energy input costs. If Pembina is not able to recover the resulting capital or operational costs through existing contractual terms or through higher tolls, this could negatively impact Pembina's financial results. Changes to environmental regulations and legislation, including those with respect to climate change, may also impact Pembina's customers and could result in crude oil and natural gas development and production becoming uneconomical, which would impact throughput and revenue on Pembina's systems and facilities. The Canadian federal government is developing a Clean Fuel Standard that will require all producers and importers of liquid fossil fuels in Canada to reduce or offset the carbon intensity of the fuels they place into the Canadian market. The final version of the regulations implementing the Clean Fuel Standard is expected in late 2021. Pembina will continue to monitor the development of regulations related to the Clean Fuel Standard. The potential cost and benefits of the Clean Fuel Standard to Pembina and its customers continue to be assessed.
Technology	Relevant, always included	Pembina may invest in opportunities related to a lower carbon economy, which may involve investments in new technology, such as GHG emissions reducing technology. Such investments may involve certain risks and uncertainties, including the obligation to comply with additional regulatory and other legal requirements and the potential requirement for additional sources of capital.
Legal	Relevant, always included	For companies in the energy sector, legal liability risk could increase due to increase in the number and complexity of regulatory requirements, as well as the potential for climate-related litigation. Specifically, Pembina monitors the risks associated with the violation of or potential non-compliance with laws and regulations such as, for example, discharge to air, land and water or handling, storage, transportation and disposal of waste and other materials.
Market	Relevant, always included	Changing consumer preferences, new technologies, government regulation or other external factors may result in a rapid transition from fossil-based sources of energy, including energy derived from oil and natural gas, to renewable and other alternative sources of energy. This may lead to lower global demand for crude oil and natural gas and related commodities and in turn may lead to lower prices for crude oil, natural gas and NGL and related commodities. This could negatively impact Pembina's producing customers and lead to less demand for Pembina's services, which could negatively impact the revenue Pembina receives from and the value of, its pipeline, facilities, and other infrastructure assets. For example, Pembina continues to evaluate opportunities that support the transition to a lower carbon economy. Pembina has many of the core competencies to adjust to a changing energy mix and is exploring opportunities for new infrastructure service for new forms of energy including renewables and energy produced from hydrogen and carbon sequestration.
Reputation	Relevant, always included	Pembina's reputation could be negatively impacted by changing public attitudes towards climate change. Negative impacts from a compromised reputation could include revenue loss, reduction in customer base, delays in obtaining regulatory approvals with respect to growth projects, reduced access to capital, higher cost of capital, or decreased value of Pembina's securities. There has been an increase in investor interest in ESG factors, which includes responding to and mitigating climate-related risks. Pembina has strengthened the transparency and credibility of the information it publishes publicly on climate-related issues including, governance, risk, opportunities and performance.
Acute physical	Relevant, always included	Changes and or extreme variability in weather patterns, as well as increases in the frequency of extreme weather events, such as floods, cyclones, hurricanes, drought and forest fires, increases the potential risk for Pembina's assets, including operational disruptions, transportation difficulties, supply chain disruptions, employee safety incidents, and damage to assets, which may result in lower revenue, higher costs or project delays. An example of a specific risk would be floods and the potential impact to our pipeline assets as discussed in C2.2.
Chronic physical	Relevant, always included	Weather conditions (including those associated with climate change) may impact Pembina's ability to complete capital projects, maintenance and repairs or facility turnarounds on time, potentially resulting in delays and increased costs. Weather may also affect access to Pembina's facilities and the operations and projects of Pembina's customers or shippers, which may impact the supply and/or demand for Pembina's services.

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.

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 direct costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Federal, provincial, and state governments are supporting the transition to a lower carbon economy by introducing increasingly stringent climate-related laws, regulations and policies. Without appropriate climate-related risk mitigation strategies, Pembina could face increased carbon-related costs or barriers, which may impact Pembina's long-term business resilience. For example, in Alberta the Technology Innovation and Emissions Reduction (TIER) Regulation came into effect January 1, 2020. The TIER regulation continues to facilitate emissions reductions for large industrial facilities that emit 100,000 tonnes of GHGs or more per year or for facilities that chose to volunteer into the regulation. Pembina has eight natural gas processing facilities and aggregate facilities that are subject to TIER as either mandatory or volunteer opt-in facilities. The potential costs and benefits to Pembina of those facilities under the TIER continue to be assessed.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure**Cost of response to risk****Description of response and explanation of cost calculation**

Pembina continues to engage with federal, provincial and state governments to ensure the economic impacts of climate policy are taken into account when making policy decisions and deepen its understanding of GHG emission abatement opportunities. Cost analysis are conducted to understand potential implications of carbon pricing regulations on Pembina's business and operations. Pembina is motivated to understand the impacts that any regulatory systems could have on operations and the economic impact.

Comment**Identifier**

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Reputation	Stigmatization of sector
------------	--------------------------

Primary potential financial impact

Decreased access to capital

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Without appropriate climate-related risk mitigation strategies, a movement away from investment in the oil and gas sector by investors could impact Pembina's access to capital.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure**Cost of response to risk****Description of response and explanation of cost calculation**

Pembina is managing this risk through the following: a) exploring cleaner energy solutions like renewable energy, hydrogen and carbon capture and storage; b) exploring new initiatives that improve Pembina's GHG emissions intensity and efficiency, reducing our environmental impact; and c) tracking and publicly disclosing Pembina's environmental performance.

Comment**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
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Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

The demand for some of Pembina's products is dependent on temperatures and seasonality; for example, warmer temperatures could potentially result in reduced demand for some of our products. In addition, changing temperatures could result in volatile end use pricing which would impact the demand. For example, should temperatures increase, resulting in warmer winters, end users such as homeowners, could potentially require a reduced level of products such as propane.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Cost of response to risk

Description of response and explanation of cost calculation

To manage commodity price risk, Pembina has implemented a risk management strategy which includes hedging. Pembina also maintains inventory based on seasonal demands and expectations.

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.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Reduced direct costs

Company-specific description

A significant portion of Pembina's Scope 2 emissions is electricity. Pembina completed a new 45 MW co-generation plant at our Redwater Complex in the spring of 2019. Pembina recently announced its second co-generation plant at the Empress NGL Extraction facility and is exploring additional co-generation at other locations.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure**Cost to realize opportunity****Strategy to realize opportunity and explanation of cost calculation**

The power from the Redwater co-generation plant resulted in a decrease of approximately 34 ktCO₂e in scope 1 and scope 2 emissions compared to 2018 and 2019 operations. Additionally, the optimization of waste heat recovery and utilization in NGL processing production is continuing to further reduce the fuel spent in the pre-existing conventional heaters. More recently, Pembina announced its second co-generation plant at the Empress NGL Extraction facility. The Empress Co-generation Facility will use natural gas to generate up to 45 megawatts of electrical power and 40 MW of heat, thereby reducing overall operating costs by providing power and heat to the existing Empress NGL Extraction Facility. All the power and heat energy generated by the co-generation plant will be consumed on site, supplying approximately 90 percent of the site's energy requirements. Further, this project will contribute to annual GHG emission reductions at the Empress NGL Extraction Facility through the utilization of the co-generation waste heat and the low-emission power generated. Pembina anticipates a reduction of approximately 88 ktCO₂e per year based on the current energy demands of the facility.

Comment**Identifier**

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Ability to diversify business activities

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Pembina has many of the core competencies to adjust to a changing energy mix and is positioned to provide infrastructure service for cleaner products and services, including hydrogen and carbon capture utilization and sequestration.

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure**Cost to realize opportunity****Strategy to realize opportunity and explanation of cost calculation**

Pembina recognizes the opportunity to diversify its assets to reflect evolving market trends. Pembina will continue to evaluate opportunities to position Pembina for the energy systems of the future while managing the associated financial, regulatory and construction risks. More recently, Pembina announced a plan to jointly develop a world-scale carbon transportation and sequestration system with TC Energy Corporation. This system, when fully constructed, will be capable of transporting more than 20 million tonnes of CO₂ annually, which is equivalent to capturing CO₂ from more than 4.5 million cars. Utilizing existing access dramatically accelerates timing, greatly reduces cumulative environmental and community impacts, and is significantly less capital intensive than building a new pipeline. Pembina and TC Energy are targeting the first phase to be operational as early as 2025, with the fully scaled solution complete as early as 2027, subject to regulatory and environmental approvals.

Comment**Identifier**

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Reduced direct costs

Company-specific description

Pembina continues to explore the use of renewable energy as a way of controlling cost but also reducing our environmental footprint

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure**Cost to realize opportunity****Strategy to realize opportunity and explanation of cost calculation**

Pembina's continues to explore the costs and benefits of using renewable energy sources, as well as the financial and operational/technical impacts. More recently, Pembina signed a long-term, 100 megawatt ("MW") power purchase agreement ("PPA") that supports development of TransAlta's 130 MW Garden Plain Wind Project ("Garden Plain") in Alberta. Wind projects have the benefit of adding 'green' energy into the grid and displacing energy produced from coal or hydrocarbons. The PPA provides cost-competitive renewable energy and will generate approximately 135,000 tonnes of carbon dioxide equivalent emission ("CO2e") offsets annually, or an estimated total of 1.8 million tonnes of CO2e emission offsets over the life of the project.

Comment**Identifier**

Opp4

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Ability to diversify business activities

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Pembina is well positioned to support the growing use of natural gas to reduce global greenhouse gas emissions, and our proximity to Asia and its growing energy demand represents another strategic opportunity.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure**Cost to realize opportunity**

3000000000

Strategy to realize opportunity and explanation of cost calculation

Pembina continues to explore LNG opportunities, recognizing the potential to reduce global GHG emissions by displacing the use of coal. We will evaluate the opportunity to access global markets while managing the financial, regulatory, community stakeholder and operational risks associated. More recently we announced a partnership agreement with the Haisla Nation to develop the proposed Cedar LNG project. Cedar LNG will be the largest First Nation-owned infrastructure project in Canada and will have one of the cleanest environmental profiles in the world. Cedar LNG's floating design offers significantly less environmental impact on the Douglas Channel coastline

and the facility will be interconnected to the existing BC Hydro transmission system, utilizing renewable electricity. This project will provide a connection for Western Canadian sedimentary basin natural gas to international markets and will contribute to the displacement of coal as an energy source in Asia. Cedar LNG expects to make a final investment decision in 2023 and subject to additional factors, including regulatory and environmental approvals, the expected in-service date for the project is planned for 2027.

Comment

C3. Business Strategy

C3.1

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

Yes

C3.1b

(C3.1b) Does your organization intend to publish a low-carbon transition plan in the next two years?

	Intention to publish a low-carbon transition plan	Intention to include the transition plan as a scheduled resolution item at Annual General Meetings (AGMs)	Comment
Row 1	No, we do not intend to publish a low-carbon transition plan in the next two years	<Not Applicable>	Pembina is actively taking steps to reduce our environmental footprint through the reduction of emissions and other impacts to the environment caused by our business activities. We support the transition to a lower carbon economy and are taking concrete steps towards delivering on our Carbon Stand. Before the end of 2021, we have committed to announce our emission intensity reduction targets and will be including details on how we expect to achieve those targets, such as the opportunities discussed in C2.4a. We are taking a measured, thoughtful approach that ensures our targets are backed by a fulsome plan that is both ambitious and achievable. We plan to show steady progress, solid commitments and continuous improvement in our approach.

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

No, but we anticipate using qualitative and/or quantitative analysis in the next two years

C3.2b

(C3.2b) Why does your organization not use climate-related scenario analysis to inform its strategy?

Pembina plans to complete a climate-related scenario analysis in the next two years. Over the last few years, the federal and provincial (Alberta) emissions regulations, monitoring requirements as well as reporting obligations have experienced significant changes and Pembina has been focused on adapting to those changes. As a result of these changes, Pembina has increased its monitoring and reporting at some facilities while also enhancing our monitoring at some smaller facilities which would have previously been excluded due to size. In addition, Pembina has worked extensively to understand the financial impacts of these changes. Pembina recognizes the significant value of conducting scenario analysis to help inform our business strategy and also to provide enhanced disclosure to our stakeholders. Pembina is currently exploring various options to conduct a climate-related scenario analysis, with current plans to begin this process within the next year. Through scenario analysis workshops, involving subject matter experts across the organization, we will explore and develop a clearer understanding of how various combinations of climate-related risks and opportunities, including physical risks and those related to the transition to a lower carbon economy, may impact our business, strategies and financial performance over time.

C3.3

(C3.3) 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	Yes	Pembina has an established New Ventures Business Unit which is actively exploring new opportunities centered around a lower carbon economy. Included in the evaluation process is: customer interest, alignment with our value chain, technology developments, safety requirements, financial investment required, and potential government incentives and payback. More recently we announced a partnership agreement with the Haisla Nation in the development of the proposed Cedar LNG project. Cedar LNG will be the largest First Nation-owned infrastructure project in Canada and will have one of the cleanest environmental profiles in the world. Cedar LNG's floating design is expected to offer significantly less environmental impact on the Douglas Channel coastline and the facility will be interconnected to the existing BC Hydro transmission system, utilizing renewable electricity. This project will provide a connection for Western Canadian sedimentary basin natural gas to international markets and will contribute to the displacement of coal as an energy source in Asia. Cedar LNG expects to make a final investment decision in 2023 and subject to additional factors, including regulatory and environmental approvals, the expected in-service date for the project is planned for 2027.
Supply chain and/or value chain	Yes	More recently Pembina has implemented a supplier code of conduct as part of our supplier on-boarding and compliance program. Included in this code are details of Pembina's environmental stewardship commitments. Suppliers are now required to complete an ESG questionnaire, establishing their status on various ESG topics important to Pembina, including climate-related issues. All of our suppliers will be required to comply with the supplier code of conduct and complete the ESG questionnaire, beginning in 2022.
Investment in R&D	Yes	Pembina sees tremendous value in advancing new technologies which could have a positive impact on climate-related issues. As discussed above, the New Ventures Business Unit is actively exploring new technologies centered around a lower carbon economy. Pembina has many of the core competencies to adjust to a changing energy mix and is positioned to provide infrastructure services for new forms of energy, including energy produced from hydrogen, and carbon sequestration. More recently, Pembina announced a plan to jointly develop a world-scale carbon transportation and sequestration system with TC Energy. This system, when fully constructed, will be capable of transporting more than 20 million tonnes of CO2 annually. Utilizing existing assets dramatically accelerates timing, greatly reduces cumulative environmental and community impacts, and is significantly less capital intensive than building a new pipeline. Pembina and TC Energy are targeting the first phase to be operational as early as 2025, with the fully scaled solution complete as early as 2027, subject to regulatory and environmental approvals.
Operations	Yes	Climate-related risks and opportunities for our current operations are a part of our emissions intensity reduction target setting and business strategy analysis. Pembina is continually working to decrease its energy consumption and intensity to effectively decrease its GHG emissions through a focus on operational excellence, continuous improvement and high utilization of Pembina's assets. As an example, through our LDAR (leak detection and repair) program at Aux Sable, Pembina implemented a low emission valve replacement program (which began in 2019). Pembina expects to be able to capitalize on the cost benefit analysis which was conducted in connection with this program as we begin to evaluate other facilities where similar programs can be implemented.

C3.4

(C3.4) 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	Revenues Direct costs Capital expenditures Capital allocation Acquisitions and divestments Access to capital	Revenues – It is possible that lower demand, leading to lower prices for oil, natural gas and NGL's may be driven by changing consumer preferences, new technologies or a rapid transition to other forms of energy. This could negatively impact Pembina's producing customers and lead to less demand for Pembina's services, negatively impacting our revenue. As discussed above, the New Ventures Business Unit is actively exploring new opportunities centered around a lower carbon economy. Pembina has many of the core competencies to adjust to a changing energy mix and is positioned to provide infrastructure services for new forms of energy, including energy produced from hydrogen, and carbon sequestration. Direct Costs - The costs associated with reporting and compliance as well as tracking systems, assurance fees and technology are included as direct costs to Pembina. These costs are included in the budgeting and financial planning process. Direct Costs - Power required to operate Pembina's assets is included in the calculation of operating costs and emissions and is a part of the financial planning process. Pembina considers these direct costs as an opportunity to reduce its emissions as it considers generating its own electricity and using the waste heat through co-generation facilities and solar. Capital allocation – ESG and the transition to a lower carbon economy have become an increased focus on Pembina's investment decisions. It is an additional lens through which Pembina's Investment Committee, and the Board evaluate capital projects and acquisitions including the construction of co-generation facilities and investments in solar. In 2020, Pembina announced it was proceeding with a co-generation facility at our Empress NGL Extraction Facility. The Facility will use natural gas to generate up to 45 megawatts of electrical power, contributing to lower annual GHG emissions through the utilization of waste heat and the low emission power generated at the co-generation facility. This facility is expected to be in-service in late 2022. Acquisition and Divestments - ESG and the transition to a lower carbon economy have become an increased focus on our investment decisions. It is an additional lens through which Pembina's Investment Committee and the Board evaluate capital projects and acquisitions. Access to Capital – Pembina's investors are increasingly focused on ESG and the transition to a lower carbon economy. Pembina will continue to focus its efforts on setting targets to reduce its GHG emissions, engaging with our stakeholders and enhancing our climate-related strategies through scenario analysis. The time horizon for Pembina's financial planning related to revenue, costs, capital allocation and acquisition and divestments covers 5 years.

C3.4a

(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

Pembina understands the complexity of continuing to provide affordable, reliable energy to power the economy, raise and maintain global living standards while at the same time transitioning to a lower carbon economy. In addition to striving towards Pembina's vision to be the leader in delivering integrated infrastructure solutions and connecting customers to global markets, Pembina is taking steps to reduce its environmental footprint by reducing GHG emissions and other environmental impacts caused by Pembina's business activities, while also exploring cleaner products and services such as renewables, hydrogen, and carbon capture utilization and storage.

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 target in the next two years	In 2019, Pembina developed a Carbon Stand, a corporate statement describing our commitment towards future performance and outcomes related to GHG management. This Carbon Stand set in motion a commitment to pursue emissions intensity reduction initiatives across the Company. Pembina is taking steps to reduce our environmental footprint through the reduction of GHG emissions and other impacts to the environment caused by our business activities. Pembina anticipates that its emissions intensity profile will decrease over a five-year forecast period.	In 2020, Pembina published its biennial Sustainability Report, including emissions data for 2017, 2018 and 2019 for all owned and operated assets. This year, Pembina is continuing to enhance and refine the scope of our GHG emissions data collection, including third party verification/assurance of GHG emissions. In 2021, Pembina will publish an emissions intensity target in place to ensure improved environmental performance and an ability to navigate an evolving, lower-carbon energy business. The focus will be to manage and reduce emissions intensity and guide and/or influence project and operational processes to ensure energy and air emissions are considered in the investment decision-making process.

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-OG4.2d

(C-OG4.2d) 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.

Pembina does not have a methane-specific target however, our assets located in all Canadian jurisdictions are subject to increasingly stringent regulatory targets starting at 40% to 45% reductions in methane emissions (from 2012 or 2014 levels). These provincial and federal targets are sector-wide targets covering oil and gas production, natural gas processing, and natural gas transmission and storage.

Under these regulations, which came into force on January 1, 2020, Pembina’s Canadian natural gas processing, transportation and handling operations are required to implement measures such as tri-annual leak detection and repair (LDAR) activities to monitor and reduce fugitive emissions and complete equipment upgrades to reduce venting. Pembina continues to review and enhance its protocols for the measurement, quantification processes and work with operations to ensure repairs are completed as soon as practical. Pembina is committed to regulatory compliance and the methane emissions reduction targets established by Canadian regulators.

Pembina is also currently in the process of setting targets for GHG emission intensity reductions. This approach includes a focus on reducing the emission intensity of the company’s operations through energy efficiencies and continuously improving the way we manage methane emissions from our facilities.

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	0
To be implemented*	2	223000
Implementation commenced*	0	0
Implemented*	0	0
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

Low-carbon energy consumption	Wind
-------------------------------	------

Estimated annual CO2e savings (metric tonnes CO2e)

135000

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

0

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

0

Payback period

1-3 years

Estimated lifetime of the initiative

16-20 years

Comment

In 2020, Pembina undertook evaluation of a renewable power purchase agreement as an effective tool to support development of renewable energy infrastructure, lower emissions and support the transition to a lower carbon energy system. In 2021, Pembina signed a long-term, 100 megawatt power purchase agreement that supports development of the 130 MW Garden Plain Wind Project in Alberta. The PPA provides cost-competitive renewable energy and will generate approximately 135,000 tonnes of carbon dioxide equivalent emission offsets annually. Total construction capital of the project is estimated at approximately \$195 million, to the project owner.

Initiative category & Initiative type

Energy efficiency in production processes	Combined heat and power (cogeneration)
---	--

Estimated annual CO2e savings (metric tonnes CO2e)

88000

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

19600000

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

120000000

Payback period

4-10 years

Estimated lifetime of the initiative

21-30 years

Comment

On December 14, 2020, Pembina announced that it was proceeding with the Empress Co-generation Facility at its natural gas liquids extraction facility in Empress, Alberta. The Empress Co-generation Facility will use natural gas to generate up to 45 MW of electrical power and 40 MW of heat. All the energy will be consumed on site, thereby supplying approximately 90 percent of the site's energy requirements. The expected in-service date for the Empress Co-generation Facility is the last quarter of 2022, subject to regulatory and environmental approvals.

C4.3c

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

Method	Comment
Compliance with regulatory requirements/standards	All of Pembina's Canadian assets are covered by carbon emission intensity regulations or carbon tax frameworks. Pembina strives to mitigate carbon compliance costs by seeking operational improvements and energy efficiency projects that improve production output and/or carbon emission reductions.
Employee engagement	Pembina is currently participating in an Alberta and Federal government sponsored initiative called the Strategic Energy Management (SEM) program. Starting in the Fall of 2019, the two-year program helps facilities develop energy management systems (i.e., processes and procedures) to identify, implement energy (i.e. fuel and electricity) reduction initiatives and measure energy use performance in alignment with ISO 50001. Pembina is piloting the program at one of our Canadian fractionation facilities and will be expanding the program to other operational assets.
Partnering with governments on technology development	Additionally, more recently, Pembina has successfully applied for funding from Natural Resources Canada to support the development and implementation of an Energy Management Information System across the Canadian assets. This partnership will support the corporate initiative(s) towards baselining all energy inputs across the assets and expand energy management practices across the enterprise. Project opportunities for energy reductions and improved energy efficiency will be identified, evaluated and assessed for implementation following the federal Energy Management Information System guidance. Key performance indicators will be used to measure the progress of initiatives and drive continuous improvement.

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.

Starting in 2020, the British Columbia, Alberta and Federal governments implemented methane reduction regulations to reduce methane emissions from the oil and gas sector by 40% to 45% by 2025. Pembina initiated a program to comply with the applicable regulations for the survey and measurement of vented and fugitive methane emissions from our Canadian natural gas processing, transportation and handling operations. Emission surveys are conducted up to three times per year. Based on the survey findings, Pembina makes every effort to repair identified fugitive leaks or corrective actions to mitigate vented emissions through equipment upgrades, retrofits or focused maintenance programs to ensure equipment is operating as efficient as possible.

Regulations applicable to Pembina's operations include: *Regulations Respecting Reduction in the Release of Methane and Certain Volatile Organic Compounds (Upstream Oil and Gas Sector)*; *Alberta Methane Emission Reduction Regulation*, A.R. 244/2018, made under the *Environmental Protection and Enhancement Act* and incorporating several sections of the Alberta Energy Regulator *Directive 017* and *Directive 060*; and the *Drilling and Production Regulation*, B.C. Reg. 282/2010 made under the *Oil and Gas Activities Act*, S.B.C. 282/2008, c. 36.

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.

In 2020, Pembina implemented a fugitive methane leak detection and repair program at 100% of our Canadian natural gas processing, natural gas pipeline transportation and handling operations. The leak detection program was also implemented on select liquid hydrocarbon pipeline and storage assets where hydrocarbon products may be exposed to the atmosphere (Pembina midstream liquid pipeline systems handle "stabilized" hydrocarbon liquids that contain minor methane content). Pump stations with tank storage and truck terminal activities, storage terminals and rail terminals are included in the leak detection program and 100% of Pembina's pipeline infrastructure in British Columbia participate in the program. In addition, liquid hydrocarbon spill and leak detection programs using routine manual inspections and/or aerial patrols are completed on 100% of our pipeline systems across Canada and the US.

Fugitive emission leaks are identified by following the US EPA Method 21 and/or the utilization of a qualified optical gas-imaging instrumentation. Comprehensive fugitive emission surveys are conducted up to three times per year and are completed by trained third party consultants. Identified fugitive emission leaks are measured, quantified and tagged for subsequent repairs by Pembina's instrumentation and maintenance teams. Fugitive emission leaks are tracked until repairs are made and confirmed as completed. The results are recorded and reported as required by the regulatory authority.

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 Pembina activities. Flaring activities predominately occur at our natural gas processing and natural gas liquid fractionation facilities, where waste gas or processing upsets result in the actuation of flaring or incineration systems. Flaring and incineration activities are regulated under operational limits (i.e., daily volume limits) and/or annual flaring limits, that are based on the inlet volume of gas received by the facility. Pembina is committed to maintaining regulatory compliance at all of our facilities and have implemented processes to ensure compliance.

Pembina targets to limit flaring volumes to less than 0.2 to 0.5 percent of the inlet volume received at each gas processing plant. To measure flaring performance, Pembina's gas processing plants log, track and review flaring events to assess trends on a monthly or quarterly basis. Operations and engineering teams review the trends and identify corrective actions to continuously improve operational performance of the facility and reduce flaring volumes.

C5. Emissions methodology

C5.1

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

Scope 1

Base year start

Base year end

Base year emissions (metric tons CO₂e)

Comment

Pembina has not yet selected a base year. A base year will be selected in 2021.

Scope 2 (location-based)

Base year start

Base year end

Base year emissions (metric tons CO₂e)

Comment

Pembina has not yet selected a base year. A base year will be selected in 2021.

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO₂e)

Comment

Pembina has not yet selected a base year. A base year will be selected in 2021.

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, 2nd edition, 2011

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

The Greenhouse Gas Protocol: Scope 2 Guidance

US EPA Mandatory Greenhouse Gas Reporting Rule

US EPA Emissions & Generation Resource Integrated Database (eGRID)

Other, please specify

C5.2a

(C5.2a) Provide details of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

Pembina's GHG Inventory and Reporting Methodology directly references and adapts GHG reporting guidance that is considered best practices for inventory development, namely The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition, (WBCSD/WRI, 2015), created by the World Business Council for Sustainable Development and the World Resources Institute.

Inputs from other guidance sources and documents including regulatory requirements or industry standards (e.g., American Petroleum Institute) are referenced where appropriate. Additional sources relied upon not included in response C5.2, include:

- Alberta Environment and Parks. (March 2021). *Alberta Greenhouse Gas Quantification Methodologies (Version 2.1)*.
- Environmental Protection Agency. (1995). *US EPA AP- 42, Fifth Edition, Volume I, Chapter 7: Liquid Storage Tanks*.
- IPIECA. (2011). *Petroleum industry guidelines for reporting greenhouse gas emissions, Second edition*. IPIECA/API/OGP.
- IPCC Guidelines for National Greenhouse Gas Inventories, 2007

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

1745244.5

Start date

January 1 2020

End date

December 31 2020

Comment

Scope 1 emission total includes emissions attributable to corporate shared services in addition to facilities and pipelines.

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)

1804303

Start date

January 1 2019

End date

December 31 2019

Comment

Scope 1 emissions attributable to facilities and pipelines for 2019 operations. Does not include emissions attributable to corporate shared services, which are now included in the 2020 emissions data. Incorporated pipeline and long-term storage terminals and marine terminal assets from 2019 acquisition into the 2019 emissions inventory.

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)

1623374

Start date

January 1 2018

End date

December 31 2018

Comment

Scope 1 emissions attributable to facilities and pipelines for 2018 operations. Does not include emissions attributable to corporate shared services, which are now included in the 2020 emissions data.

Past year 3

Gross global Scope 1 emissions (metric tons CO2e)

1019131

Start date

January 1 2017

End date

December 31 2017

Comment

Scope 1 emissions attributable to facilities and pipelines for 2017 operations. Does not include emissions attributable to corporate shared services and partial year of operations from assets acquired in 2017.

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 operations where we are able to access electricity supplier emission factors or residual emissions factors, but are unable to report a Scope 2, market-based figure

Comment

Scope 2 emissions are calculated using current location-based emission factors from Environment and Climate Change Canada's National Inventory Report (NIR) for Canadian facilities, U.S. Environmental Protection Agency's Emissions & Generation Resource Integrated Database (eGRID) for US facilities and Alberta Environment and Parks Technology, Innovation and Emission Reduction (TIER) benchmark emission intensity factor for imported heat medium. Pembina has a contractual instrument to acquire electricity at one of our sites. We are gathering the appropriate data in order to report Scope 2 emissions applying the market-based methodology going forward. Based off our initial internal analysis, we do not expect this to result in a difference greater than 1.9% in our overall Scope 2 emissions.

C6.3

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

Reporting year

Scope 2, location-based

1386510.71

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

January 1 2020

End date

December 31 2020

Comment

Scope 2 emission total includes corporate shared services in addition to Facilities and Pipelines divisions.

Past year 1

Scope 2, location-based

1401578

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

January 1 2019

End date

December 31 2019

Comment

Scope 2 emissions attributable to facilities and pipelines for 2019 operations. Does not include emissions attributable to corporate shared services. Incorporated pipeline and long-term storage terminals and marine terminal assets from 2019 acquisition into the 2019 emissions inventory.

Past year 2

Scope 2, location-based

1411370

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

January 1 2018

End date

December 31 2018

Comment

Scope 2 emissions attributable to facilities and pipelines for 2018 operations. Does not include emissions attributable to corporate shared services.

Past year 3

Scope 2, location-based

1021609

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

January 1 2017

End date

December 31 2017

Comment

Scope 2 emissions attributable to facilities and pipelines for 2017 operations. Does not include emissions attributable to corporate shared services and partial year of operations from assets acquired in 2017.

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?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

(1) Fugitive emissions from mobile equipment refrigeration units and electrical equipment with suspected SF6 compounds.

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

No emissions from this source

Relevance of market-based Scope 2 emissions from this source (if applicable)

No emissions from this source

Explain why this source is excluded

These emissions were excluded as the size of the assets and frequency of occurrence result in negligible sources of emissions (scope 1) relative to the corporate total emissions.

Source

(2) Non-routine events such as emissions from spills.

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

No emissions from this source

Relevance of market-based Scope 2 emissions from this source (if applicable)

No emissions from this source

Explain why this source is excluded

These emissions were excluded as the size of the assets and frequency of occurrence result in negligible sources of emissions (scope 1) relative to the corporate total emissions.

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

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Emissions from purchased goods and services may be relevant but have not yet been calculated.

Capital goods

Evaluation status

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Emissions from capital goods may be relevant but have not yet been calculated.

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

Evaluation status

Not evaluated

Metric tonnes CO₂e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Further assessment of transmission and distribution losses associated with the delivery of electricity purchased by Pembina is required.

Upstream transportation and distribution

Evaluation status

Not evaluated

Metric tonnes CO₂e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Further assessment of emissions from upstream transportation and distribution of products purchased by Pembina is required.

Waste generated in operations

Evaluation status

Relevant, not yet calculated

Metric tonnes CO₂e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Further assessment of emissions from disposal and treatment of waste generated during Pembina's operations is required.

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

135.25

Emissions calculation methodology

For motor vehicle travel in 2020, a total of 259,182 km were recorded as driven in rental vehicles. Assuming vehicle fuel economy of 9.0 L/km (Natural Resources Canada, 2020 Fuel Consumption Guide) and gasoline emissions at 2.307 kg CO₂e/m³ (Environment Canada, 2018), emissions were calculated as a total of 5.3 tonnes CO₂e. For air travel emissions in 2020, the methodology used is consistent with the United Kingdom's Department for Environment, Food and Rural Affairs (DEFRA) "Greenhouse gas reporting: conversion factors".

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

100

Please explain

Pembina tracks business travel (transportation of employees for business-related activities in vehicles not owned or operated by Pembina). Air: 129.95 t CO₂e Motor vehicle: 5.3 t CO₂e. Full details on methodology for air travel GHG emissions estimate are available at <https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting>.

Employee commuting

Evaluation status

Relevant, not yet calculated

Metric tonnes CO₂e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Emissions from employee commuting are relevant, but have not yet been calculated

Upstream leased assets

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Further assessment of emissions from Pembina upstream leased assets is required.

Downstream transportation and distribution

Evaluation status

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Further assessment of transportation and distribution of any products sold by Pembina to the end customer is required.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Pembina is not engaged in the downstream processing of intermediate products sold (e.g., manufacturers).

Use of sold products

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Further assessment of end use of goods and services sold by Pembina is required.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Pembina is engaged primarily in the provision of transportation and midstream services and not the sale of products.

Downstream leased assets

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Further assessment of downstream leased assets by Pembina is required.

Franchises

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Pembina does not have any franchises.

Investments

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Pembina is not an investment company and does not provide financial services.

Other (upstream)

Evaluation status

<Not Applicable>

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Other (downstream)

Evaluation status

<Not Applicable>

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

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 CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.0005

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

3131755.21

Metric denominator

unit total revenue

Metric denominator: Unit total

6202000000

Scope 2 figure used

Location-based

% change from previous year

13.88

Direction of change

Increased

Reason for change

2020 total revenue was lower than 2019, while the 2020 gross combined Scope 1 + Scope 2 emissions were marginally lower. Total revenue is based on Pembina's revenue as disclosed in the Pembina Pipeline Corporation Annual Report to Shareholders.

Intensity figure

0.00312

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

3131755.21

Metric denominator

barrel of oil equivalent (BOE)

Metric denominator: Unit total

1002712000.44

Scope 2 figure used

Location-based

% change from previous year

4.85

Direction of change

Increased

Reason for change

2020 BOE production throughput was lower than 2019. 2020 gross combined Scope 1 + Scope 2 emissions were marginally lower than 2019.

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)

Other, please specify (Thousand Barrels of Oil Equivalent throughput)

Metric tons CO2e from hydrocarbon category per unit specified

1.7

% change from previous year

4

Direction of change

Increased

Reason for change

Throughputs decreased in 2020 relative to 2019.

Comment

2020 Scope 1 emissions total includes emissions attributable to corporate shared services in addition to facilities and pipelines. Scope 1 emissions attributable to facilities and pipelines for 2019 operations does not include emissions attributable to corporate shared services.

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

Midstream

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

0.012

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

0.005

Comment

Reported on natural gas production basis using total throughput of the facilities division (i.e., natural gas processing and NGL fractionation assets), expressed in GJ.
Reported on a total hydrocarbon throughput basis, across all divisions throughput, expressed in GJ.

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	1569756.15	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	131316.49	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	37233.29	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	101.8	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

Midstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

1265935.19

Gross Scope 1 methane emissions (metric tons CH4)

2774.34

Total gross Scope 1 emissions (metric tons CO2e)

1370980.75

Comment

Total Gross Scope 1 emissions from combustion, flaring and mobile combustion emissions include N2O emissions normalized to metric tonnes CO2e.

Emissions category

Flaring

Value chain

Midstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

259967.38

Gross Scope 1 methane emissions (metric tons CH4)

795.56

Total gross Scope 1 emissions (metric tons CO2e)

268427.88

Comment

Total Gross Scope 1 emissions from combustion, flaring and mobile combustion emissions include N2O emissions normalized to metric tonnes CO2e .

Emissions category

Venting

Value chain

Midstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

28697.18

Gross Scope 1 methane emissions (metric tons CH4)

1252.66

Total gross Scope 1 emissions (metric tons CO2e)

60015.71

Comment

Emissions category

Fugitives

Value chain

Midstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

5.38

Gross Scope 1 methane emissions (metric tons CH4)

430.22

Total gross Scope 1 emissions (metric tons CO2e)

10760.82

Comment

Emissions category

Other (please specify) (Mobile combustion)

Value chain

Upstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

15638.13

Gross Scope 1 methane emissions (metric tons CH4)

1.18

Total gross Scope 1 emissions (metric tons CO2e)

17318.3

Comment

Total Gross Scope 1 emissions from combustion, flaring and mobile combustion emissions include N2O emissions normalized to metric tonnes CO2e.

Emissions category

Other (please specify) (Formation CO2)

Value chain

Midstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

17741.04

Gross Scope 1 methane emissions (metric tons CH4)

0

Total gross Scope 1 emissions (metric tons CO2e)

17741.04

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	1453444.43
United States of America	291796.09

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)
Corporate	13614.37
Facilities	1651164.52
Pipelines	80465.61

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 activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	0	<Not Applicable>	Pembina is a midstream operator.
Oil and gas production activities (midstream)	1745244.5	<Not Applicable>	Pembina is a midstream operator.
Oil and gas production activities (downstream)	0	<Not Applicable>	Pembina is a midstream operator.
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 for in Scope 2 market-based approach (MWh)
Canada	1260691.42	0	2529892.63	0
United States of America	125819.29	0	298679.08	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 (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Corporate	6526.43	0
Facilities	828537.11	0
Pipelines	551447.18	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)	0	0	Pembina is a midstream operator.
Oil and gas production activities (midstream)	1386510.71	0	Pembina is a midstream operator.
Oil and gas production activities (downstream)	0	0	Pembina is a midstream operator.
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?

Decreased

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	110.88	Decreased	0.0035	Pembina consumed 176 MWh of electricity from solar panels installed on office buildings. MWh consumed were converted to metric tonnes CO2e using the Environment and Climate Change Canada National Inventory Report (2021).
Other emissions reduction activities		<Not Applicable >		
Divestment		<Not Applicable >		
Acquisitions		<Not Applicable >		
Mergers		<Not Applicable >		
Change in output		<Not Applicable >		
Change in methodology		<Not Applicable >		
Change in boundary		<Not Applicable >		
Change in physical operating conditions		<Not Applicable >		
Unidentified	74014.91	Decreased	2.31	In 2020, emissions increased at some locations and decreased at others due largely to market conditions. The balance of emissions from 2019 to 2020 demonstrated decreased Scope 1 and 2 emissions.
Other		<Not Applicable >		

C7.9b

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

Location-based

C8. Energy

C8.1

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

More than 20% but less than or equal to 25%

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	Yes
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

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)	0	6983125.41	6983125.41
Consumption of purchased or acquired electricity	<Not Applicable>	0	2308587	2308587
Consumption of purchased or acquired heat	<Not Applicable>	0	519985	519985
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>	176	<Not Applicable>	176
Total energy consumption	<Not Applicable>	176	9811697.41	9811873.41

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	Yes

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

6889488.31

MWh fuel consumed for self-generation of electricity

1116779.93

MWh fuel consumed for self-generation of heat

2175432.54

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

933246.26

Emission factor

-88

Unit

kg CO2e per m3

Emissions factor source

Not applicable due to continuous emission monitoring and measurement of gas composition at each facility.

Comment

Fuels (excluding feedstocks)

Propane Gas

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

29439.39

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

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

0

Emission factor

1547.78

Unit

kg CO2e per m3

Emissions factor source

Canada.ca/ghg-inventory National Inventory Report – 2021 Edition Part 2

Comment

Fuels (excluding feedstocks)

Motor Gasoline

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

39694.31

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

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

0

Emission factor

2315.46

Unitkg CO2e per m3

Emissions factor source

Canada.ca/ghg-inventory National Inventory Report – 2021 Edition Part 2

Comment**Fuels (excluding feedstocks)**

Diesel

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

18352.55

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

5514.86

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

0

Emission factor

2689.51

Unit

kg CO2e per m3

Emissions factor source

Canada.ca/ghg-inventory National Inventory Report – 2021 Edition Part 2

Comment**Fuels (excluding feedstocks)**

Jet Kerosene

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

6150.85

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

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

0

Emission factor

2581.61

Unit

kg CO2e per m3

Emissions factor source

Canada.ca/ghg-inventory National Inventory Report – 2021 Edition Part 2

Comment**C8.2d****(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.**

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	428267	227834	176	176
Heat	2175433	2175433	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C9. Additional metrics

C9.1

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

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	Yes	

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

(C-CO9.6a/C-EU9.6a/C-OG9.6a) Provide details of your organization's investments in low-carbon R&D for your sector activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Unable to disaggregate by technology area	<Not Applicable>	0%		Pembina sees tremendous value on advancing new technologies which could have a positive impact on climate-related issues. Pembina has an established New Ventures Business Unit which is actively exploring new opportunities centered around a lower carbon economy (e.g., hydrogen and CCUS). Pembina is continuously working to decrease its energy consumption and intensity to effectively decrease its GHG emissions through a focus on operational excellence, continuous improvement and high utilization of its assets.

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)	Third-party verification or assurance process in place
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

Limited assurance

Attach the statement

Pembina 2020 Assurance Statement Final.pdf

Page/ section reference

See "Our conclusion" section, page 2.

Relevant standard

ISAE 3410

Proportion of reported emissions verified (%)

100

C10.1b

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

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Pembina 2020 Assurance Statement Final.pdf

Page/ section reference

See "Our conclusion" section, page 2.

Relevant standard

ISAE 3410

Proportion of reported emissions verified (%)

100

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, we do not verify any other climate-related information reported in our CDP disclosure

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

Other ETS, please specify (Alberta Technology Innovation and Emissions Reduction (TIER) Regulation)

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

Other ETS, please specify

% of Scope 1 emissions covered by the ETS

71

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1 2020

Period end date

December 31 2020

Allowances allocated

104886

Allowances purchased

71715

Verified Scope 1 emissions in metric tons CO₂e

1250876.43

Verified Scope 2 emissions in metric tons CO₂e

0

Details of ownership

Facilities we own and operate

Comment

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 2020

Period end date

December 31 2020

% of total Scope 1 emissions covered by tax

4.6

Total cost of tax paid

1318982

Comment

Includes mobile emissions from fleet vehicles. Excludes taxes paid on products placed into market.

Canada federal fuel charge

Period start date

January 1 2020

Period end date

December 31 2020

% of total Scope 1 emissions covered by tax

1.9

Total cost of tax paid

1341426

Comment

Includes stationary combustion, flaring and mobile fleet fuel volumes from AB, SK, MB and ON on assets outside of AB TIER and SK OBPS

C11.1d

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

Pembina operated facilities that are regulated under an emission trading system strive to meet the regulatory performance benchmarks and/or operate as efficiently as possible to mitigate exposure to carbon compliance obligations. When a facility cannot meet carbon performance benchmarks, the facility will utilize project-based or market carbon credits to offset compliance obligations to the extent permitted by regulation or purchase carbon credits through the appropriate government fund.

Pembina is also investing and implementing lower carbon technology (i.e. cogeneration plants) to further improve emission intensity performance relative to the regulatory benchmarks and earn performance credits when available.

C11.2

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

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit origination

Project type

Other, please specify (Emissions Performance Credit (EPC) Registry operated by CSA Group in partnership with the Government of Alberta under the TIER regulations.)

Project identification

Pembina operates 8 Natural Gas Processing and fractionation facilities that are registered under the Alberta TIER Regulations. Emission performance credits (EPCs) are generated from those facilities based on the operational efficiency of each facility relative to the regulatory emission performance benchmarks.

Verified to which standard

Other, please specify (ISO 14064-3 Standard)

Number of credits (metric tonnes CO2e)

104886

Number of credits (metric tonnes CO2e): Risk adjusted volume

0

Credits cancelled

No

Purpose, e.g. compliance

Compliance

C11.3

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

No, and we do not currently anticipate doing so in the next two years

C12. Engagement

C12.1

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

Yes, our suppliers

Yes, other partners in the value chain

C12.1a

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

Type of engagement
Compliance & onboarding

Details of engagement
Included climate change in supplier selection / management mechanism

% of suppliers by number
100

% total procurement spend (direct and indirect)
100

% of supplier-related Scope 3 emissions as reported in C6.5
0

Rationale for the coverage of your engagement

All suppliers are informed of Pembina's Health Safety and Environment (HSE) policy through Pembina's standard supplier contract. By executing such contract, suppliers commit to compliance with the HSE policy. In addition, any supplier who is required to be present on-site is required to go through an orientation and on-site training with regards to the HSE policy.

Impact of engagement, including measures of success

Pembina is committed to protecting the health and safety of workers, the public and safeguarding the environment affected by Pembina's activities. Suppliers are an important extension of Pembina's business and Pembina wants to ensure that suppliers understand what Pembina expects from them with regards to our HSE policy, including climate issues. Pembina plans to measure success of this initiative through the suppliers responses to our new supplier code of conduct, which included climate-related questions.

Comment

Pembina recognizes the need to engage with its suppliers on climate-related issues. As part of the pre-qualification process, suppliers are asked to maintain a statement of compliance with Pembina's HSE policy. More recently we have implemented a supplier code of conduct as part of Pembina's supplier on-boarding and compliance program. Included in this code are details of Pembina's environmental stewardship commitments. Furthermore, suppliers are now required to complete an ESG questionnaire, establishing their status on various ESG topics important to Pembina, including climate-related issues. All of Pembina's suppliers will be required to comply with the supplier code of conduct and complete the ESG questionnaire, beginning in 2022.

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

Pembina shares information on the performance as well as compliance around emissions with Pembina's owner partners at certain large facilities. In addition, Pembina participates in discussions around any major investment decisions related to climate or emissions technology. Finally, Pembina also engages with its owner partners in the decision making process around the use of carbon credits.

In addition, Pembina participates in discussions with landowners around the environmental impacts, including climate change, of Pembina's projects. Through Pembina's Environmental Protection plans, Pembina consults with local Indigenous communities, landowners and other stakeholders to minimize Pembina's environmental footprint. By working closely with Indigenous communities and stakeholders to identify potential risks and or areas of concerns, Pembina is able to incorporate their input into project design and future operating plans. This helps to reduce potential for future harm to the environment. As just one example, Pembina collaborated with the Driftpile First Nations (DFN) on one of its projects that crossed traditional lands that have long been used for camping, hunting and harvesting plants for ceremonial and medicinal purposes. Pembina established a feedback loop with the DFN elders that continued after construction was complete as part of the post construction monitoring (PCM) assessments. The purpose of PCM is to: identify potential environmental concerns resulting from pipeline construction and operational activities, including climate change; manage and reduce environmental impacts; assess the effectiveness of environmental mitigation measures and initiate corrective measures. Pembina continues to work with the DFN elders and community members to share information and address any concerns. The success of this collaboration is measured through the implementation of the mutually agreed upon plan which incorporated traditional knowledge of the DFN elders to ensure that the end goals of this unique program were met. In addition, Pembina trained six and hired four Indigenous environmental trainees to support the environmental work during this process, an additional positive outcome from Pembina's engagement.

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?

Direct engagement with policy makers
Trade associations
Other

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Mandatory carbon reporting	Support	Pembina recognizes the need to transition to a cleaner economy while supporting growth and innovation of the global energy sector. In 2019, Pembina released a corporate Carbon Stand that commits the organization to reduce the greenhouse gas intensity of each of its business segments. To support the implementation of this commitment, Pembina is undertaking a series of internal carbon-related initiatives, including developing a carbon strategy complemented by specific GHG emissions reductions targets to support this commitment. Pembina has engaged with Canadian federal and provincial governments on policies that guide Canada's transition to a lower carbon economy, including emissions reporting regulations such as the provincial TIER (Technology, Innovation and Emission Reduction) regulation (Alberta) and will continue this engagement in 2021. Pembina participates in the following applicable regulated emission reporting programs: Canadian Greenhouse Gas Emissions Reporting Program, Canadian National Pollutant Release Inventory Reporting, Alberta Specified Gas Reporting Regulation, British Columbia Greenhouse Gas Emission Reporting Regulation, Alberta Technology, Innovation and Emission Reduction Regulation, Saskatchewan Management and Reduction of Greenhouse Gases (Reporting) Regulation, and US Environmental Protection Agency Greenhouse Gas Report. Pembina has consistently and proactively interacted with regulators and provincial and federal policymakers to seek clarification on current or emerging emission reporting requirements and standards.	Pembina believes in a balanced approach to transitioning towards a lower carbon economy - one that addresses society's needs for affordable and reliable energy, while mitigating the risks associated with climate change. The company has advocated for regulatory frameworks within Alberta that support effective and outcome-based regulations for the management and reduction of carbon emissions through the lifecycle of the midstream. Pembina encourages policies and regulations that promote Alberta based solutions to transitioning to a lower carbon economy, while supporting market competitiveness, innovation and regulatory effectiveness.
Energy efficiency	Support	Pembina has collaborated in the past with governments at both the provincial and federal levels to ensure that industrial energy efficiency forms an important part of public sector strategies and policies designed to capture cost-effective GHG emissions reductions in the oil and gas sector.	To support capital allocation in this space, Pembina has encouraged the deployment of properly tailored industrial energy efficiency funding programs to encourage the widespread adoption of energy efficiency measures and technologies in the oil and gas sector to drive down facility-based emissions.
Regulation of methane emissions	Support	In the past several years, Pembina has been in regular contact with federal and provincial policymakers and regulators and provided input on the evolving regulations of methane emissions in Canada.	Pembina has advocated for a policy approach that ensures reduction of methane emissions from the midstream sector is cost effective, promotes innovation, and does not undermine competitiveness.
Other, please specify (Hydrogen)	Support	In 2020, Pembina commenced engaging with policymakers in Canada to provide its early views and perspectives on emerging hydrogen policies that position hydrogen as a lower emission energy solution. Pembina is well positioned to support the growth of the hydrogen sector in Alberta and as the policy process evolves further, the company will seek opportunities to discuss areas of collaboration to support the development of this emerging lower carbon fuel.	For Alberta to capture its hydrogen advantage, Pembina encourages policy options and a strategic approach that will help overcome technical and commercial challenges and allow hydrogen to be more broadly adopted for use in industrial processes, transportation and power generation.
Other, please specify (Clean Fuel Standard)	Neutral	The Clean Fuel Standard (CFS) is an important part of the Canadian federal government's plan to tackle climate change and reduce emissions. In the past several years, Pembina has participated in conversations with policymakers, industry peers and other stakeholders to understand the impact of the proposed standards on industry and provide input on the development of the regulations where relevant.	Pembina has a neutral position on the proposed Clean Fuel Standards. While the current regulations and compliance obligations do not apply to Pembina's assets, the company sees an opportunity to participate in developing or supporting projects that result in the lowering of the carbon intensity of fuels and support the transitioning towards a lower carbon economy.
Other, please specify (CCUS)	Support	Carbon Capture, Utilization and Storage (CCUS) has been seen by many as an important technology to reduce GHG emissions. In Canada, federal and provincial governments measures have allowed the deployment of several world-class CCUS projects. In the past year, Pembina started examining the role it can play in the commercialization of CCUS in Alberta and leveraging the technology to drive down industrial emissions in the province. In 2021, the company announced its intention to build, in partnership with TC Energy, the Alberta Carbon Grid (ACG) - a carbon transportation system reaching the province's largest sources of industrial emissions. By leveraging existing pipelines and a newly developed sequestration hub, the ACG will offer the infrastructure platform needed for Alberta-based industries to effectively manage their emissions and contribute positively to Alberta's lower-carbon economy.	Pembina is working with the federal and provincial governments to evaluate policies, regulations and programs currently in place that can support future CCUS investment in Canada and Alberta. In 2021, the company was invited to sit on the Government of Alberta's CCUS Industry Advisory Group and has engaged with Invest Alberta on the growth of the CCUS industry in the province. Pembina is also collaborating with Finance Canada on the design of a CCUS tax measure to support and accelerate the development of CCUS technologies in the country.

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

The Canadian Energy Pipeline Association (CEPA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

CEPA is an Alberta-based industry advocacy group representing transmission pipeline companies responsible for transporting the majority of Canada's natural gas and crude oil to markets across North America. CEPA works with governments and other stakeholders on the formulation of policy and regulation, promoting best practice sharing, and conducting research to support appropriate policy formulation, all with the intent of ensuring that Canadians benefit from an energy transportation infrastructure system that is operated safely and is financially sound and environmentally sustainable. CEPA encourages policy approaches that take a balanced approach to climate change - encouraging emissions reductions while also supporting growth and innovation in the energy sector.

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

Pembina supports and influences CEPA's work through representation on CEPA's board of directors, executive and working committees. One of Pembina's Senior Vice Presidents is on the Board of CEPA and was the past Chair (2019-2020). Other company representatives are appointed to serve various strategic roles on committees that lead CEPA's policy engagement work, including the government relations committee, the knowledge network committee and the committee responsible for climate change and emissions reduction policy input.

Trade association

Canadian Propane Association (CPA)

Is your position on climate change consistent with theirs?

Mixed

Please explain the trade association's position

CPA is the national association for Canada's propane industry, dedicated to promoting propane as an essential energy solution. CPA works with governments and regulators on a policy issues that have ramifications for the propane industry in Canada, including the recently released Clean Fuel Standard regulations.

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

Pembina participates in and supports CPA's advocacy work on issues of relevance to the company, such as the CFS regulations. The company is represented on CPA's board of directors on CPA's committees responsible for government engagement, policy analysis and advocacy work.

Trade association

Alberta Industrial Heartland Association (AIHA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

AIHA is a municipal economic development partnership that encourages sustainable industrial development in the northeast Edmonton capital region. AIHA seeks to position itself as a globally recognized, diversified, eco-industrial cluster, with a world-leading hydrocarbon processing industry, that sets the global standard for industrial ESG leadership. The organization promotes low-carbon industrial growth opportunities based on access to two large carbon capture and storage, and two hydrogen infrastructure systems positioned within the industrial region. AIHA acknowledges the important role heavy industry must play in helping Canada achieve its net-zero aspirations and is consistently seeking opportunities to partner with industry and government to reduce the region's overall climate impact. Based on expertise from industrial operators active within the region, AIHA regularly works with all three levels of government to ensure a healthy policy, program, regulatory, and legislative environment for a competitive framework for industry to grow, innovate, and pursue carbon reduction opportunities. AIHA encourages government to return carbon tax revenues to the industrial job-creators so as to support the necessary technological investments that further reduce emissions and maintain global competitiveness.

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

Pembina regularly partners with AIHA to host government delegations seeking to learn more about Pembina's operations in Alberta's Industrial Heartland, including carbon reduction opportunities and challenges. Through its work in the Northeast Capital Industrial Association (NCIA), as well as independently, Pembina staff consistently help inform AIHA's advocacy, engagement, and regulatory positions pertaining to climate change. Pembina also partners with AIHA to attract new companies into the region whose investment has the ability to grow advanced manufacturing capacity while at the same time reducing the overall carbon footprint of production on a per unit basis.

Trade association

Northeast Capital Industrial Association (NCIA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

NCIA is an Alberta-based association that seeks to promote sustainable industrial growth through environmental, socio-economic, and public safety programs. The NCIA represents the interests of industry in Alberta's Industrial Heartland area and works with government organizations, and community groups at the provincial, regional, and local levels to address environmental, health, safety, infrastructure, and community issues.

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

Pembina participates in and supports NCIA's advocacy work on issues of relevance to the company, including issues related to climate policies. A representative of Pembina is currently the Chair of the board of directors of the NCIA.

Trade association

Strathcona Industrial Association (SIA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

SIA is an industry association representing east Edmonton and Strathcona County heavy industrial operators in Alberta, that provides a common voice for industry. SIA members share a commitment to safe and environmentally responsible operations. By consistently monitoring and measuring performance, the SIA assesses the effects of industry and gathers scientifically valid data about current local air quality and long-term trends. This information is shared through a ongoing reporting to Alberta Environment and Parks.

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

Pembina participates in the board of directors and has representation on the environment committee of the SIA. Pembina supports SIA's work on advancement in the areas of environmental monitoring, including current local air quality and long-term trends, and performance, safety promotion, public engagement and community well-being.

C12.3e

(C12.3e) Provide details of the other engagement activities that you undertake.

Pembina is aware that the success of its business is directly tied to the support Pembina receives from the communities in which it operates. Meeting with stakeholders and Indigenous groups is an opportunity to communicate the business benefits that we bring to areas in which we operate and explore how we can work together on health, education, training, employment, business development opportunities and sustainability-focused initiatives, including addressing climate and emissions reductions issues.

Pembina strives to create lasting relationships through partnerships and volunteerism within the communities in which it operates. Pembina aims to improve the quality of life and sustainability of these communities, now and for years to come. The Corporation's approach is guided by its community investment strategy, which focuses on five key areas, including the environment. Pembina believes in building for the future while protecting the present, funding projects that contribute to environmental conservation, stewardship and sustainability.

Pembina has community engagement district area plans for Pembina's operating areas that help guide operational engagement with local stakeholders. Operational leaders are responsible for the execution of each district plan and are supported by Pembina's community and indigenous affairs group. The purpose and goals of the community engagement district area plans are to:

- Foster a strategic, consistent and coordinated approach to long-term stakeholder and Indigenous operational engagement;
- Provide a governance structure that clearly outlines roles, responsibilities and accountabilities;
- Identify and map stakeholders, and Indigenous peoples where Pembina operates and that may influence its business;
- Identify potential risks and opportunities that help inform engagement strategies; and
- Increase trust and performance with local and regional stakeholders, and Indigenous communities.

The feedback and input Pembina receives from communities may influence: where Pembina builds its assets; steps taken to minimize disruptions to the environment; which local labour and businesses Pembina may work with; and how Pembina can make a positive impact through its community investment program.

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?

Pembina sets up proactive strategies for thoughtful and long-term engagement in climate policies in Canada and North America. The company is a sought-after government and industry partner and as such participates in various industry and trade associations that advocate for a lower carbon economy, reliable energy infrastructure and resource development at the local, provincial, and federal levels. In 2020, Pembina supported these organizations through membership, meeting attendance, committee participation and executive leadership positions to provide guidance, resources, expertise, and strategic counsel to encourage a competitive and sustainable business environment, while addressing climate and emissions reductions issues.

Pembina's public policy engagement work and government advocacy is overseen by the Senior Vice President External Affairs, Chief Legal Counsel and Chief Sustainability Officer. Pembina's Vice President of External Affairs and a specialized team of senior government relations professionals are responsible for leading the company's public policy engagement as well as for providing strategic policy and government relations counsel to Pembina business units.

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).

Publication

In voluntary sustainability report

Status

Underway – previous year attached

Attach the document

Pembina-2020-SustainabilityReport-Dec-3,-2020.pdf

Pembina-2020-SustainabilityReport-Dec-3,-2020.pdf

Page/Section reference

Page 35 to 38

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Comment

Publication

In mainstream reports

Status

Complete

Attach the document

Q4-2020-Annual-Report-Final.pdf

Page/Section reference

Page 47 to 50 and 57 to 58

Content elements

Risks & opportunities

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.

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	Senior Vice President, External Affairs & Chief Legal and Sustainability Officer	Other C-Suite Officer

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