

Delivering
**extraordinary
energy solutions**
so the world can thrive



Table of Contents

Introduction	04	Responsible Asset Management	44
Message from the Board Chair & CEO		Integrity Management	
Reading This Report		Emergency Preparedness & Response	
Sustainability at Pembina		Waste Management	
About Pembina		Water Management	
Sustainability Focus Areas		Biodiversity & Land Use	
Governance	12	Cyber Security & Data Privacy	
Energy Transition & Climate	21	Indigenous & Community Engagement	61
Energy Transition & Climate		Indigenous Engagement	
GHG Emissions		Community & Stakeholder Relations	
Employee Well-Being & Culture	31	Data Tables & Appendices	69
Health & Safety	39	ESG Performance Table	
		Climate Opportunities & Risks Appendix	
		SASB Content Index	
		GRI Content Index	
		TCFD Content Index	
		Forward-looking Statements	
		Non-GAAP & Other Financial Measures	

Pembina's Land Acknowledgement

Pembina acknowledges our traditional hosts and thanks them for their graciousness in welcoming us to carry out work on their traditional territories.

Pembina plays a role in the Economic Reconciliation with Indigenous Peoples and their respective communities where Pembina operations take place. We acknowledge the collective responsibility we all have to these lands and to the future generations who will be stewards of them. Pembina recognizes and respects:

- › The spirit and intent of the United Nations Declaration on the Rights of Indigenous Peoples, within the context of the Canadian Constitution and existing Canadian laws;
- › The United Nations Declaration on the Rights of Indigenous Peoples as a framework for reconciliation; and
- › That all Canadians, including private industry and government, must play a role in advancing the Truth and Reconciliation Commission of Canada's Calls to Action, and in particular, Call to Action Number 92, Business and Reconciliation.

Indigenous Peoples are the traditional stewards of the lands and waters where each of us work and choose to live. We further acknowledge that the Indigenous Peoples have inhabited these lands and waters since time immemorial. The Indigenous Peoples' territory, culture, truths, traditions, teachings, and languages are sacred, and we are honoured to work and live here.

We acknowledge the original inhabitants of this place, who have hunted, fished, gathered, and taken care of these lands. We respect their right to self-determination and we honour their sacred spiritual connection with the land and water.




Message from the Board Chair & CEO

On behalf of Pembina's Board of Directors and the Executive Leadership Team, we are pleased to present Pembina's 2023 Sustainability Report. This report highlights key achievements across environmental, social and governance (ESG) performance and demonstrates the strength and resilience of Pembina's business.

A History of Resilience

Over the past 70 years, Pembina has demonstrated its ability to change, grow and thrive. We started our journey operating an oil pipeline system within the Pembina oil field in Alberta in 1954, and today, we are a leading North American energy transportation and midstream service provider powered by incredible people, world-class assets, and a long history of safe and reliable operations. So much of Pembina's success has come from our resilience — our ability to safely adapt, innovate, and provide our customers with solutions to increasingly complex energy challenges.

Grounded in our purpose — *to deliver extraordinary energy solutions so the world can thrive* — Pembina's strategy is focused on strengthening our existing core businesses to meet the energy needs of today and maximize the value of oil and gas products from Western Canada by getting them to the best markets in the world. We also recognize that the future of energy will require lower emissions and new energy solutions - there is a tremendous opportunity for Pembina to leverage its existing core business to



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help meet that challenge. Furthermore, our strategy demonstrates the value we place on doing this important work in a way that benefits everyone that has a stake in Pembina's business – our investors, customers, employees, and communities.

Our ESG goals play an important role in the progression of our strategy, supporting strong governance, guiding our decision making, and ensuring resilience and long-term value for customers, investors, communities, and employees, today and well into the future. Our customers also expect Pembina to support them in achieving their own ESG commitments, and we have the expertise and infrastructure to do that. Our communities want us to minimize the impact of our operations and to share the economic benefits provided by our operations. Our employees thrive in a work environment that celebrates and values diversity, and where they see themselves represented at all levels of the organization. Our investors want to know that we are supporting the transition to a lower carbon economy, while still providing competitive returns. Our strategy serves all of Pembina's stakeholders.

Delivering Responsible Canadian Energy to the World

We understand the complexity of transitioning to a lower carbon economy and addressing the risks associated with climate change, while at the same time continuing to provide reliable, secure energy to global markets. We believe we have an important role to play in delivering responsible Canadian energy to the world. While the pages that follow will cover Pembina's 2023 performance in greater detail, we are pleased to share a few key highlights.

Delivering on our climate commitments: We reduced emissions intensity by three percent in 2023 and remain on track to meet our target of 30% reduction in emissions intensity by 2030. Since setting our target back in 2021, we have strategically grown our asset base and continue to evaluate the potential for emissions reduction opportunities from these assets. Our target guides business decisions, ensuring improvements in emissions performance while delivering long-term value. Our approach to energy transition includes reducing emissions from operations, increasing the use of renewable and lower emission energy sources, and advancing transformational projects such as Cedar LNG, the world's first Indigenous majority-owned and one of the lowest emitting LNG facility projects, which is poised to change the future of energy development in Canada.

Keeping our people safe: We had strong safety performance in 2023, highlighted by a 35% reduction in our significant incident frequency and a nearly 30% reduction in lost workday injuries compared to 2022.

Building a sense of belonging in our workplace: We recognize that celebrating and sharing diverse perspectives and experiences will help us build a more resilient, safe, and innovative workforce. Throughout 2023, we saw a highly engaged workforce at Pembina with significant improvement in our employee engagement scores and our progress on Equity, Diversity and Inclusion initiatives like our Conversations for Change, Inclusion Networks and our first Women's Field Summit, continue to build a stronger sense of belonging across our operations.

Confident in our path

We are proud of our many achievements in 2023. Pembina's performance, which includes meaningful progress towards our targets, effective risk management, and support for the transition to a lower-carbon economy, continues to set a strong foundation for business success. We are excited about what the future holds, for Pembina and for all our stakeholders.



Henry Sykes
Board Chair



Scott Burrows
President and CEO



Reading This Report

- This report has been developed using guidance from leading sustainability reporting standards, including the Sustainability Accounting Standards Board (“SASB”) and with reference to the Global Reporting Initiative (“GRI”). Where applicable, we have also referenced the recommendations of the Task Force on Climate-related Financial Disclosures (“TCFD”) as we work to align our reporting to this framework.
- This report covers performance for the period from January 1, 2023 to December 31, 2023. Quantitative data from 2019, 2020, 2021 and 2022 have been included to provide context where applicable.
- Unless otherwise stated, financial data are reported in Canadian dollars. For more information on Pembina’s financial performance, please refer to Pembina’s Audited Consolidated Financial Statements and Management’s Discussion and Analysis for the year ended December 31, 2023 and for the three months ended March 31, 2024, as well as our most recent Annual Information Form (“AIF”). Each of these documents can be found on our website (www.pembina.com), on SEDAR+ (www.sedarplus.ca) and on EDGAR (www.sec.gov).
- The terms “Pembina,” “our,” “we,” “organization,” and the “company” refer to Pembina Pipeline Corporation and its subsidiaries and affiliated entities taken as a whole.
- Throughout this report we have used the term “stakeholder” to refer collectively to the individuals and groups who have an interest in, or may be affected by, the work we do. We recognize that Indigenous and Tribal People in Canada and the United States have distinct rights, title and connection to the land, as affirmed in our Indigenous and Tribal Relations Policy.
- The terms “sustainability” and “ESG” are used interchangeably in this report. Generally speaking, “sustainability” refers to a focus on outcomes and “ESG” refers to a focus on the measurement of performance.
- Pembina has calculated its greenhouse gas (“GHG”) emissions in accordance with the requirements of the World Resource Institute/World Business Council for Sustainability

Development Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard Revised Edition (the “GHG Protocol”).

- Unless otherwise noted, this report covers the performance of Pembina Pipeline Corporation and includes its subsidiaries and joint ventures operated by Pembina.
- As part of our commitment to continually improve our reporting, we have obtained independent third-party limited assurance of select 2023 environmental metrics. These select metrics include total scope 1 GHG emissions, scope 2 GHG emissions, physical throughput and GHG emissions intensity. The third-party limited assurance statement is available [here](#).
- This report contains forward-looking statements that are based on management’s current expectations, estimates, projections, and assumptions in light of our experience and perception of historic trends. This information is provided to assist readers in understanding the company’s future and expectations and may not be appropriate for other purposes. Please see [Forward-looking Statements on pages 90-91](#) for more information.
- In this report, we also use certain financial measures and ratios that are not defined by generally accepted accounting principles (“GAAP”). Please see [Non-GAAP and Other Financial Measures on pages 91-92](#) for more information about these measures and why they are used.

Significant Transactions

- On December 13, 2023, Pembina entered into an agreement with Enbridge to acquire all of Enbridge’s interests in the Alliance, Aux Sable and NRGreen joint ventures and in the related operatorship contracts (collectively, “the Alliance/Aux Sable Acquisition”) for an aggregate purchase price of approximately \$3.1 billion, subject to certain adjustments. The Alliance/Aux Sable Acquisition closed on April 1, 2024. Upon closing the Alliance/Aux Sable Acquisition, Pembina holds 100% of the equity interests in Alliance, Aux Sable’s Canadian operations and NRGreen, as well as approximately 85.4% of Aux Sable’s U.S. operations. Further, Pembina will become the operator of all of the Alliance, Aux Sable and NRGreen businesses. Due to the timing of the transaction closing and operational transfer, the Alliance/Aux Sable Acquisition has not been reflected in our 2023 Sustainability Report metrics. Where we have referenced the acquisition in this report it has been referred to as “the Alliance/Aux Sable Acquisition.”



Sustainability at Pembina

2023 ESG Highlights

Governance

60%

of our independent Board members are diverse¹

50%



of our independent Board members are **women**

Aligned

27.5% of our employees' short-term compensation goals to **environmental and workforce metrics**

Refreshed our scenario analysis to ensure continued resilience of our corporate strategy

Energy Transition & Climate

Advanced our asset decarbonization strategy in support of **30% by 2030 target**² including reducing scope 2 emissions by

14%

Advanced development of the **Alberta Carbon Grid** and the **Cedar LNG** project

Entered into a **multi-year strategic investment with a major energy transition venture fund** focused on early-stage decarbonization, infrastructure and technology opportunities

Launched an **Emissions Data Management** system to centralize our emissions data

Employee Well-Being & Culture

Hosted our **first Women's Field Summit** to strengthen our community of women in the field

Increased **employee engagement** across all 10 of our drivers

Launched the **Indigenous Inclusion Network** and **Men's Mental Health Inclusion Network** enhancing our inclusive business strategies and practices

Exceeded our **Executive Diversity target** of **40%**



38%

women in executive leadership^{3,4}



29%

women in managerial positions⁴



26%

women in the workforce⁴

¹An individual is considered diverse if the individual belongs to one of the four designated groups in the *Employment Equity Act (Canada)*: Indigenous Peoples, persons with disabilities, members of visible minorities and women.

²Pembina's 30 by 30 target is based on an operational control approach to define our organizational boundaries for GHG reporting and includes all material scope 1 and 2 emissions sources associated with Pembina operated facilities and pipelines, as well as corporate activities

³Our Executive team includes our officer team as well as vice presidents in Canada and the U.S.

⁴These metrics pertain to permanent employees in Canada. Total permanent employees in Canada is 2,560.

Health & Safety



Reduced the number of incidents with potential for serious injury or fatality

by 35%

Completed more than

9,000 hazard identifications

Appointed dedicated

Vice President of Safety

Conducted over **18,000 leadership engagements**

Introduced our inaugural

Contractor Safety Summit

to listen, learn and understand our contractors' safety experiences at Pembina

Submitted **~ 22,000 positive safety recognitions**

Responsible Asset Management



Inspected **5,300 km**

of pipeline with advanced in-line technologies

Conducted **over 100**

emergency management personnel training sessions and exercises

Completed **3,300 facility equipment inspections** and repairs including **nine facility turnarounds**

Implemented **Cyber Threat Intelligence Program**

Indigenous & Community Engagement



Supported **nearly 300 organizations** in our operating areas

Employees volunteered

more than

5,500 hours

Launched the **Indigenous Inclusion Network**

Published our first

Learnings from Indigenous Stories and Perspectives report

About Pembina

Pembina is a leading energy transportation and midstream service provider that has served North America’s energy industry for 70 years.

Pembina owns an integrated network of hydrocarbon liquids and natural gas pipelines, gas gathering and processing facilities, oil and natural gas liquids (“NGL”) infrastructure and logistics services, and an export terminals business. Through our integrated value chain, we seek to provide safe and reliable energy solutions that connect producers and consumers across the world, support a more sustainable future and benefit our customers, investors, employees and communities. For more information, please visit pembina.com.



Our Purpose

Our purpose reflects the breadth and diversity of our operations and future aspirations:

We deliver **extraordinary energy solutions** so the **world can thrive**.

Our Values

Pembina cares not only about results, but also how those results are achieved.

We are committed to creating a differentiated experience for our stakeholders. To that end, we have codified our values that represent the behaviours Pembina’s people strive to exhibit every day.

Our vision is to be best-in-class operators as measured through our balanced scorecard of safety, reliability, environmental performance, employee engagement and profitability. This journey involves the entire enterprise and seeing our values in action is pivotal to our future success.

<p>Safe</p> <p>We care for each other</p>	<p>Trustworthy</p> <p>We have each other’s backs</p>	<p>Respectful</p> <p>We seek to be gracious and kind</p>	<p>Collaborative</p> <p>We are great together</p>	<p>Entrepreneurial</p> <p>We create to succeed</p>
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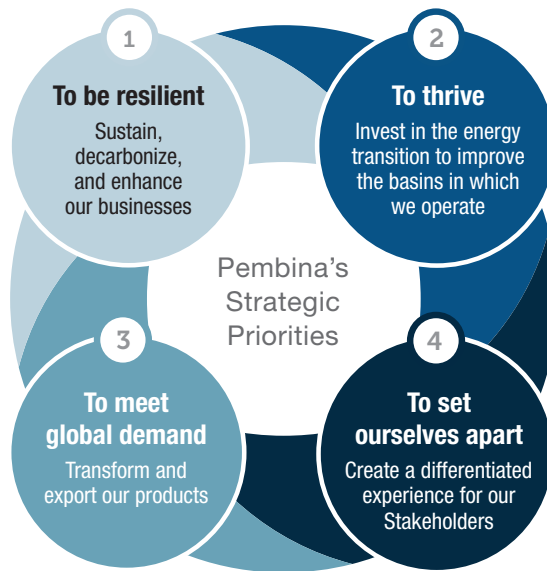
Our Strategic Priorities

In 2022, through a year-long detailed undertaking, Pembina’s business was reviewed and analyzed on a commodity-by-commodity basis, incorporating a scenario-based planning exercise grounded in the two key themes that could most impact the energy sector: decarbonization and globalization.

Using a differentiated pace of decarbonization grounded in scenarios published by the International Energy Agency and layering in varying degrees of Canadian integration into global markets, allowed a thorough assessment of our business resiliency against four potential future outcomes resulting in a refined strategy that can meet performance aspirations in a broad range of scenarios. This strategy was approved by the Board and will enable Pembina to deliver value to its stakeholders well into the future.

Pembina will build on its strengths by continuing to invest in and grow our core businesses that provide critical transportation and midstream services to help ensure reliable, responsibly produced and secure energy supply. We will also capitalize on exciting opportunities to leverage our assets and expertise into new service offerings that enable the transition to a lower-carbon economy.

In continuing to meet global energy demand and our customers’ needs, while ensuring Pembina’s long-term success and resilience, the company has established four strategic priorities:



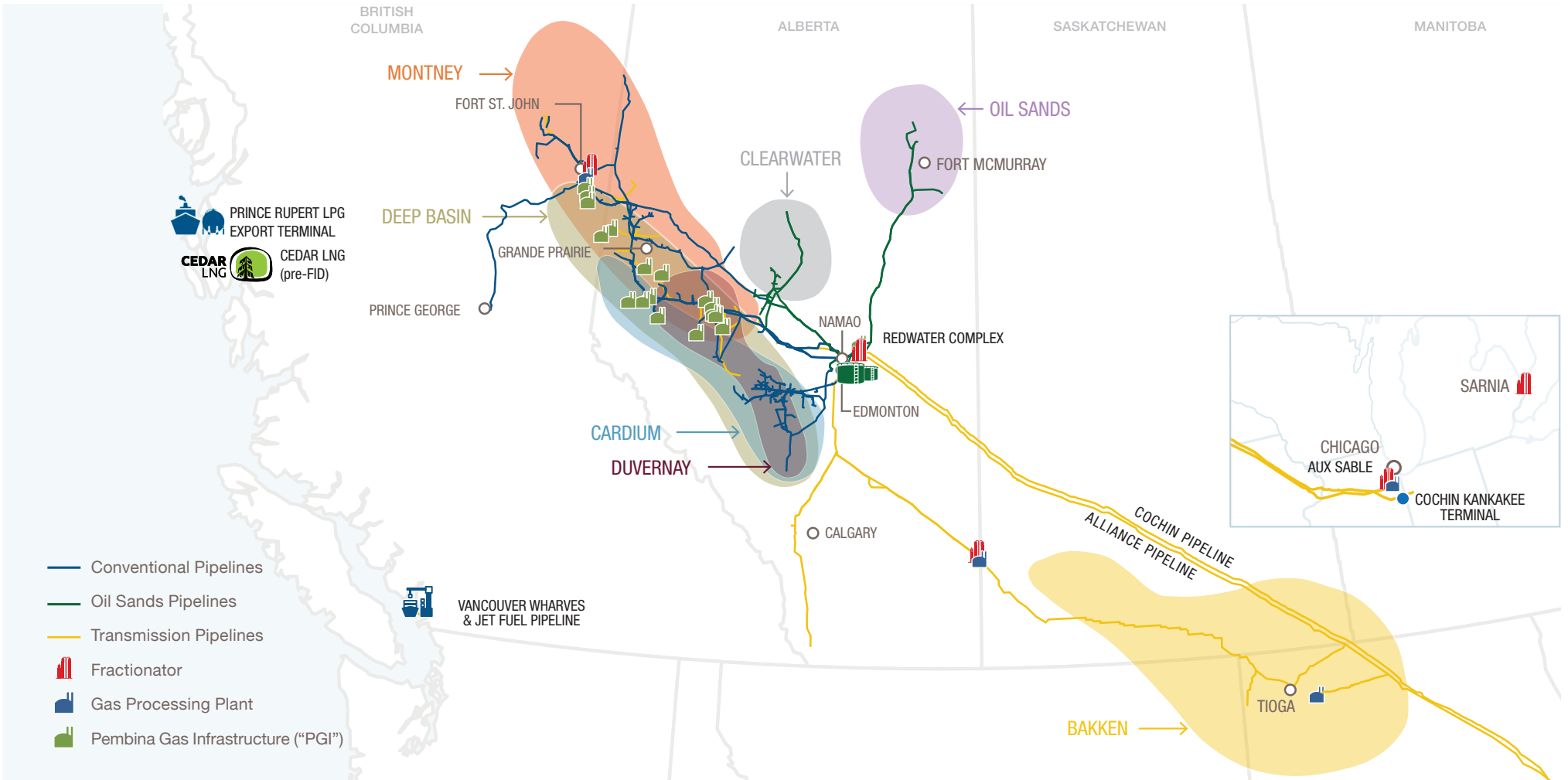
- 1 — We will focus on strengthening and growing our existing franchise and demonstrating environmental leadership.
- 2 — We will expand our portfolio to include new businesses associated with lower-carbon commodities.
- 3 — We will continue our focus on supporting the transformation of Western Canadian Sedimentary Basin commodities into higher margin products and enabling more coastal egress.
- 4 — We remain committed to delivering excellence for our four key stakeholder groups meaning that:
 - > **Employees** say we are the ‘employer of choice’ and value our safe, respectful, collaborative, and inclusive work culture.
 - > **Communities** welcome us and recognize the net positive impact of our social and environmental commitment.
 - > **Customers** choose us first for reliable and value-added services.
 - > **Investors** receive sustainable industry-leading total returns.

We remain committed to maintaining our strong financial position and delivering industry-leading returns through adherence to our financial guardrails, prudent capital allocation, and a focus on return on invested capital.

Our Operations

Pembina's operations are structured into three divisions:

- Pipelines Division:** We own and operate a strategically located pipeline transportation, terminalling, storage and rail services network that serves various markets and basins across North America.
- Facilities Division:** We own and operate natural gas processing and NGL fractionation facilities, export and storage terminals, and related infrastructure.
- Marketing and New Ventures Division:** To support our customers' overall business interests, we seek to create new markets and further enhance existing markets through the development of infrastructure.



Sustainability Focus Areas



Governance

Strong governance is essential to support the achievement of our sustainability goals.

[Pages 12-20](#)



Energy Transition and Climate

Climate presents both opportunities and risks for our business. Through our corporate strategy and continued innovation, we can support the energy transition.

[Pages 21-30](#)



Employee Well-Being & Culture

We are great together – we aspire to create a culture that provides meaningful opportunities and attracts and retains diverse talent.

[Pages 31-38](#)



Health and Safety

Safe is a core Pembina value and we are committed to zero harm to our people, assets and environment.

[Pages 39-43](#)



Responsible Asset Management

We are committed to ensuring the reliability of our assets and protecting the environment.

[Pages 44-60](#)



Indigenous and Community Engagement

We recognize the important relationship that Indigenous Peoples have with the land and value our relationships with all the communities in which we operate.

[Pages 61-68](#)

To determine which sustainability-related areas are of highest priority to our business we have taken a deliberate and robust approach to identify our material focus areas⁵, using a third-party materiality assessment that included broad engagement with capital markets and other stakeholders. Based on the results of this assessment, we have organized our report into six sustainability focus areas:

⁵ The terms “material”, “materiality” and “materiality assessment” are used specifically in this report to identify the sustainability topics that we believe are important to our stakeholders. These definitions may not be the same as the meaning of “material” pursuant to applicable securities legislation.



Governance


Pembina's commitment to **strong and effective governance is foundational to our thriving and resilient business.**

Our approach to governance supports our ability to operate successfully, mitigate risk and enhance value for our customers, investors, employees and communities.



60%
of our independent **Board members are diverse**

Aligned
27.5%
of our employees' short-term compensation **goals to environmental and workforce metrics**

 Analyst Corner

[2024 Management Information Circular - Governance \(pages 31-61\)](#)
[2023 Annual Information Form - Corporate Governance \(pages 58-61\)](#)
[CDP Climate Change Submission](#)
[Governance, Nominating and Corporate Social Responsibility Committee Charter](#)

Additional information on our governance practices can be found in our [2024 Management Information Circular](#) and on the [Governance page](#) of our website.

Approach

The Board's Role

Overseeing our sustainability strategy is a core responsibility of the Board. At its annual strategy sessions and quarterly meetings, the Board regularly engages on ESG issues through presentations by management and third-party experts.

As part of our annual strategy review, the Board reviews an assessment of energy supply and demand fundamentals. The review includes trends, indicators, and forecasts related to both the global and North American energy markets to identify both risks and opportunities to our business over the short, medium and long term. Additionally, the Board reviews updates to the Company's scenario analysis, which serves as an important input into our strategic planning process. The Board reviews and approves the corporate strategy to ensure we continue to invest in, grow and decarbonize the businesses in alignment with our targets and commitments.

On certain key sustainability topics, the Board has delegated regular oversight to specific Committees including:

Governance, Nominating and Corporate Social Responsibility Committee (the "Governance Committee")	<ul style="list-style-type: none"> ➤ Responsible for Pembina's corporate governance practices; ➤ Oversees our ESG strategy, including climate and other material topics, and makes recommendations to the Board on the integration of ESG considerations into long-term business planning, organizational structure and corporate policies and practices; ➤ Oversees the development of Pembina's sustainability report and facilitates and provides education to the Board, including on ESG matters; ➤ Reviews ESG matters on a quarterly-basis; and ➤ Monitors and oversees progress against our emissions reduction targets.
Safety, Environment and Operational Excellence Committee	<ul style="list-style-type: none"> ➤ Oversees the development, implementation, and monitoring of risks and policies related to process safety and occupational health and safety, environment (including emissions reduction initiatives), operational excellence, asset integrity management, corporate security and cyber security.
Human Resources, Health and Compensation Committee	<ul style="list-style-type: none"> ➤ Provides oversight of our approach to director compensation, employee wellness, employee compensation, executive performance and compensation, executive succession planning and corporate equity, diversity and inclusion ("EDI"); ➤ Focuses on sustainability and climate by including ESG metrics in incentive plan design and compensation decisions for executives; and ➤ Monitors and oversees progress against Pembina's equity, diversity and inclusion strategy and diversity targets.
Audit Committee	<ul style="list-style-type: none"> ➤ Maintains oversight of the integrity of Pembina's financial statements, the reporting process and the internal audit function.

Board Evaluation and Selection

- As part of the Governance Committee's responsibilities, the Committee conducts an annual self-assessment of the Board's performance and a review of the Board's composition. When required, the Governance Committee also recommends new director nominees to the Board for appointment. In assessing the composition of the Board, the Committee considers a variety of factors including diversity, specific skills, such as climate-related expertise and tenure. The Board looks at director nomination dynamically, recognizing that the skills needed will change over time as the company and the industry evolve. The purpose is to ensure that the Board remains effective, experienced and well-balanced.
- Additional information on our governance practices can be found in the charters of our Board and its committees, our Corporate Governance Guidelines and our 2024 Management Information Circular, each of which can be found on our website (www.pembina.com), on SEDAR+ (www.sedarplus.ca) and on EDGAR (www.sec.gov).



Management’s Role

Management plays a critical role in advancing our sustainability objectives.

Each member of our senior executive team is responsible for components of sustainability, including employee and contractor safety, environment and process safety, assessing and managing climate-related risks and opportunities, overseeing the development of strategic opportunities, enhancing organizational culture and diversity of our employee base and reporting to the Board and/or one of its committees on ESG-related matters on a quarterly basis.



President and Chief Executive Officer (CEO)

Responsible for providing oversight and coordination of sustainability-related matters, including climate risks and opportunities, and for ensuring timely and effective reporting to the Board and our stakeholders.

Senior Vice President and Chief Financial Officer (CFO)

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.

Senior Vice President, External Affairs and Chief Legal and Sustainability Officer

Responsible for overseeing our ESG strategy, including oversight and monitoring of sustainability issues, risks, trends, and our performance, providing recommendations to the executive team and Board on sustainability matters, updating the Enterprise Risk Committee regarding ESG strategy and risks and is accountable for monitoring and regularly reporting on Pembina’s emissions intensity reduction target.

Senior Vice President and Chief Operating Officer (COO)

Responsible for safe and reliable operations, business development and commercial services, operationalizing our ESG objectives including asset decarbonization and supporting our various Operating Management System (“OMS”) strategies and programs.

Senior Vice President and Corporate Development Officer

Responsible for initiatives associated with extending our value chain and exploration of new opportunities centered around a lower-carbon economy, including new ventures.

Senior Vice President and Corporate Services Officer

Responsible for advancing Pembina’s ESG objectives by enhancing organizational culture and equity, diversity and sense of belonging of our employee base of our employee base, strategic supply chain management and through support of our various OMS strategies and programs.

Senior Vice President, Marketing and Strategy Officer

Responsible for overseeing Pembina’s strategy development and execution, including the evaluation of enterprise risks and sustainability-related factors, energy management, carbon markets, as well as managing the enterprise transformation portfolio that contributes to our ESG performance.

Our organizational structure allows our management team to assess and manage ESG risks and opportunities including those related to climate.

In addition to our above formal organizational structure, there are a number of cross-functional committees, inclusion networks and teams across the organization that help manage risk, share learnings and collaborate on new opportunities to support our ESG-related priorities.



Capital Project Governance

Pembina follows an established governance framework to guide capital project decision making - the Project Delivery and Governance Lifecycle Framework. This framework supports project identification, evaluation and selection in alignment with our corporate strategy and key stakeholder interests. The framework ensures that capital investments are subject to a risk-based and standardized set of project planning and management review requirements, emphasizing health and safety, environmental protection, Indigenous and community engagement, regulatory compliance and consideration of our commitments to reduce GHG emissions. Major capital projects that qualify under this framework require executive team review and endorsement at regularly scheduled Investment Committee Meetings (ICM) before approval is granted to proceed to the next stage of development.

Enterprise Risk Management

Our Enterprise Risk Management (“ERM”) program underpins the identification, measurement, prioritization and management of enterprise level risk across our company, including climate-related risks and opportunities, in alignment with our corporate strategy. Our ERM policy defines principles and specific expectations associated with our risk management activities and governance.

We consider several factors, both qualitative and quantitative, when defining a substantial financial or strategic impact on our business. Assessments of identified risks and opportunities include the evaluation of potential impacts on financial results, health, safety, environmental conditions, operating assets and reputation. It can also include external reports on macro considerations and associated risks we see in the market, political and business environments. The associated probabilities are also considered, and those with higher potential financial or strategic impact are prioritized accordingly for investigation, management, mitigation or implementation.

Once the Enterprise Risk Management Committee (“ERC”) has identified a risk, an executive officer is assigned as risk owner based on associated oversight and portfolio responsibility. The ERC meets at least quarterly to review the performance, appropriateness and current business environment surrounding our risk management activities, with a more comprehensive review completed annually. As part of the review process, the identified risk is evaluated against our scenario planning to help assess the impact to our corporate strategy.

Management reports periodically to the Board about the risks that have been identified by our ERM program and at least once per year, presents to the Board a summary of the ERC’s review of risk identification, management and mitigation measure status. These include risks related to climate-related regulation, occupational safety and cyber security, among others. [Refer to our 2024 Management Information Circular](#) for more information on our ERM process.



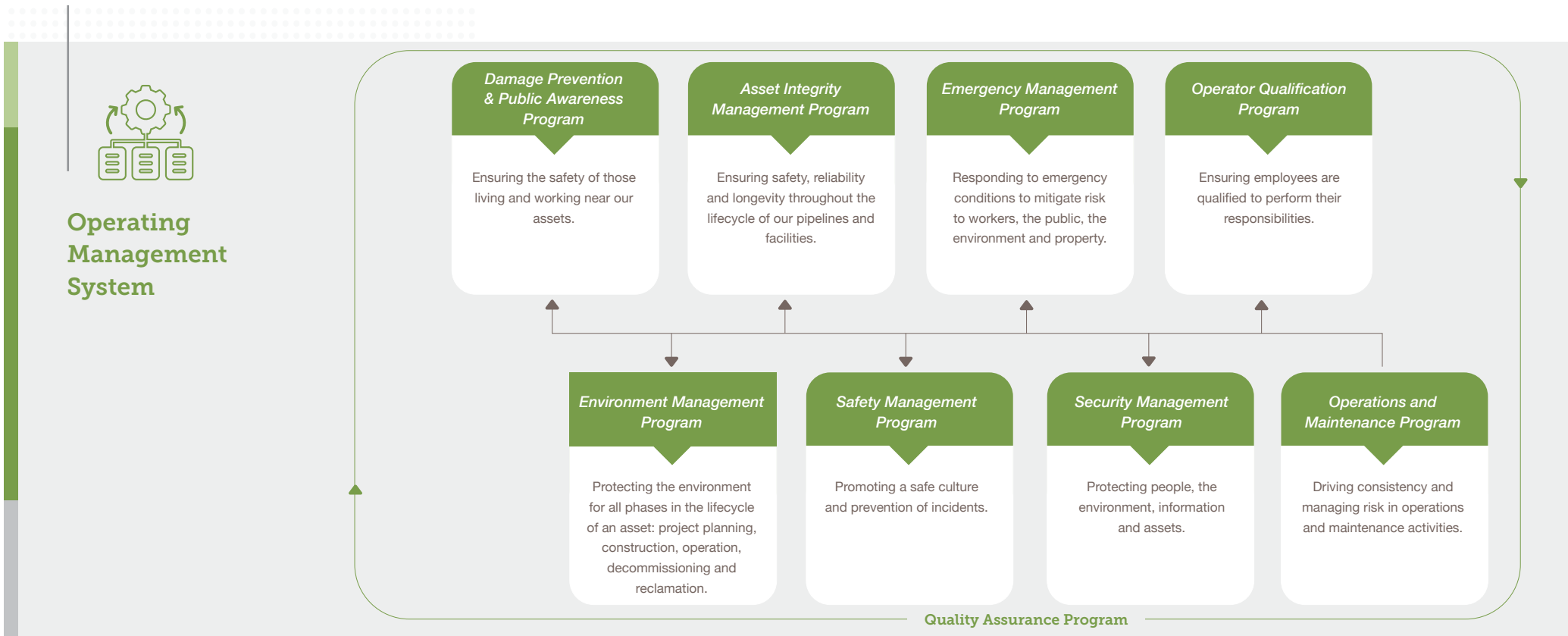
Operating Management System

The ERM program is aligned with our OMS, an operational framework that governs our key sustainability-related topics including safety, security, emergency management, asset integrity and environment. The OMS is a continuous improvement framework supported by policies, programs, processes and procedures to guide planning, implementation, checking and corrective action. OMS addresses operational risk through leadership, risk identification and assessment, expectations and responsibilities and continuous improvement.

Pembina's OMS provides:

- A tool that drives cyclical planning, implementation, review (audit), and update of our operating activities and programs;
- A means for demonstrating compliance with certain regulatory requirements and for illustrating our alignment with applicable industry best practices; and
- A key vehicle through which operational excellence is delivered.

More information on the OMS programs can be found in the [Health and Safety](#) and [Responsible Asset Management](#) sections of this report and in our [AIF](#).



Supply Chain Management

We continue to address sustainability considerations within our supply chain, including integrating ethics and environmental responsibility into our model. Governed by our Supplier Code of Conduct, we work with businesses that identify safety as a top priority, uphold the highest standards of ethics and integrity, and are economically, environmentally, and socially responsible.

In 2023, we enhanced our third-party risk program to monitor and screen our suppliers, including considerations related to economic sanctions. As part of these enhancements, we revised our Supplier Code of Conduct to adhere to Canada’s recently enacted Modern Slavery Act, which requires our suppliers to prevent forced or child labour from being part of their supply chains. To ensure we are aligned with our suppliers’ ESG priorities, we have incorporated ESG questionnaires and metrics into the supplier selection and evaluation process.

To further our sustainability efforts with key suppliers, in 2023 we formalized a Supplier Performance Management program (“SPM”) to develop strategic partnerships with these identified suppliers. The SPM allows Pembina to work with key suppliers on innovation and enhance sustainability performance.

Supplier and Contractor Evaluation:

Our sourcing strategy seeks to move beyond minimum standards by identifying suppliers with demonstrable corporate responsibility and sustainability leadership. To deliver on this strategy, we look for suppliers who drive sustainable business growth by minimizing their environmental impacts, fostering a strong safety culture and developing an engaged and valued workforce.

As part of our contractor and supplier qualification process, Pembina uses the services of ISNetworld (“ISN”) to assess and monitor supplier risk. The process requires suppliers and contractors to complete an ESG questionnaire in ISN detailing their established environmental, social, and governance policies and practices. We aim to merge the safety and ESG portions of ISN into an integrated supplier sustainability and safety performance scorecard by 2024, which will help us assess future supply base and supplier selection.

Diversity In Our Supply Chain:

As a company that operates mainly within Western Canada, we have prioritized growing opportunities for Indigenous communities, individuals, and businesses throughout our regional supply chain. In addition, we also look for opportunities to engage with certified women-owned business. To support these EDI initiatives, Supply Chain is dedicated to involving diverse suppliers in our procurement practices.

In 2023, we achieved \$121M in diversity⁶ spend with over 100 suppliers, exceeding our spending targets with diverse suppliers. Diversity confirmation is conducted with the support of Pembina’s Indigenous Engagement Team, and supplier diversity certificates are gathered and confirmed in ISN. [Please refer to our Indigenous Engagement section](#) of this report for more information.

In 2023, we achieved
\$121 Million
 in diversity spend with
**over 100 suppliers exceeding our
 spending targets** with diverse
 suppliers



⁶ In 2023 Pembina’s diversity spend includes spending with Indigenous and women-owned businesses.

2023 Performance

Key 2023 governance highlights are as follows:

- **Board independence:** All our directors, other than our CEO, are independent.
- **Board attendance:** Our Board meeting attendance was 100%.
- **Board gender diversity:** We are honoured to be recognized in The Globe and Mail's 2023 Report on Business Women Lead Here - an annual editorial benchmark which identifies Canadian businesses with the highest executive gender diversity. Our Board has a gender diversity target of at least 30% for independent Board members. As of December 31, 2023, 50% of our independent directors were women.
- **Overall Board diversity:** Our Board has an overall diversity target of at least 40% of the independent directors being women, persons with disabilities, Indigenous Peoples and/or members of other racial, ethnic and/or visible minorities. As of December 31, 2023, 60% of our independent directors are diverse.
- **Executive and employee gender and diversity:** We made significant progress towards achieving a more diverse workforce, exceeding our Executive Diversity target of 40% in 2023. Refer to the [Employee Well-Being and Culture](#) section of this report for additional details.

- **ESG tied to compensation:** ESG performance continues to be part of our annual corporate short-term incentive compensation ("STIP") for all eligible employees, including safety, GHG emissions and EDI performance. Achieving these metrics alongside other operational, financial and strategic goals impacts annual incentive compensation for all employees. The ESG specific performance categories and key measurers for 2023 include:

STIP Weighting	Category	Key Measure
17.5%	Differentiated Stakeholder Experience	Safety & Environment Scorecard Supplier Diversity Targets Employee Experience
10%	Environmental Leadership	Sanction and execution of GHG reduction initiatives

Linking compensation to our corporate performance on ESG factors, including our GHG emissions intensity reduction target, aligns with long-term value creation and our stakeholders' interests.

- **ESG technology:** We made significant investments in technologies to enhance our overall ESG disclosure. In 2023, we launched our new GHG emissions platform that aggregates emissions from our assets into one system and provides more timely emissions information, which we believe will enhance our ability to proactively reduce emissions. This innovative emissions platform will assist in accelerating our ESG reporting and improve our internal controls over our GHG emissions data. Refer to the [GHG Emissions](#) section of this report for additional details.
- **ESG disclosure:** To increase our alignment with the TCFD we enhanced the content within our 2023 Sustainability Report to support transparency of our climate-related governance, strategy, risk management, metrics and targets.
- **OMS framework redesign:** In 2023, Pembina embarked on a re-design of our OMS framework to enhance our ability to effectively manage risks and address regulatory compliance requirements. The work to design and implement a refreshed OMS, Pembina's Operational Excellence Management System ("OEMS"), will continue through 2024 and reflect our ongoing commitment to operational excellence and continuous improvement.

Randy Findlay's Commemorative Retirement Donation



In 2023, Pembina made a donation of \$250,000 to the Therapeutic Art Program at the Alberta Children's Hospital on behalf of Randy and Claudia Findlay to commemorate Randy's retirement from the Pembina Board of Directors and his long-standing commitment to the Alberta Children's Hospital Foundation. This gift is in addition to the over \$500,000 Pembina has contributed to family-centred care programs at the Alberta Children's Hospital since 2015. During his 16-year Board tenure, Randy was instrumental in supporting Pembina's growth and promoting the values critical to the Company's success and we appreciate all he has done for the Company.



Pembina made a donation of **\$250,000** to the **Therapeutic Art Program** at the Alberta Children's Hospital on behalf of **Randy and Claudia Findlay**

Pembina has contributed over **\$500,000** to family-centred care programs at the **Alberta Children's Hospital** since 2015

Looking Forward | 2024 and Beyond

Pembina remains committed to maintaining robust governance practices and will continue to leverage best practices to support our progress in this area.

We continue to monitor the dynamic ESG regulatory landscape for developments that could impact our company, including climate-related proposals/regulations from the U.S. Security and Exchange Commission (SEC) and guidance from the Canadian Sustainability Standards Board and the Canadian Securities Administrators. We are also preparing for climate-related regulated financial disclosure through participation in industry groups.

We will continue to enhance the integration of safety and ESG metrics into our supply chain scorecard to create clear expectations and help guide decisions about the suppliers with which we work.



Energy Transition & Climate

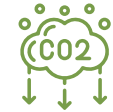
We are committed to **environmental leadership through responsible operation of our existing assets and investments in the energy transition**. Our approach includes reducing operational emissions through technology and improved operating practices, increasing our use of renewable energy and allocating capital to lower carbon investments all while delivering secure, affordable and environmentally responsible energy. As part of our approach, we are committed to achieving our GHG emissions intensity reduction target to reduce scope 1 and 2 GHG emissions intensity 30% by 2030, relative to a 2019 baseline ("30 by 30").

This section covers two related topics:

- > **Pembina's approach to energy transition**
- > **An update on our GHG emissions**

 **Analyst Corner**

2023 Annual Information Form - Risks Related to Climate Change (page 106-108)
2023 Annual Report - Risks Related to Climate Change (page 60-62)
CDP Climate Change Submission
Website - Energy Transition & Climate



Advanced our asset decarbonization strategy in support of our

30% by 2030 target including reducing our scope 2 emissions by

14%

Launched an **Emissions Data Management** system to centralize our emissions data

Energy Transition & Climate

Our Approach

We understand the complexity of providing secure energy to power the economy and sustain and improve global standards of living, while at the same time supporting the transition to a lower carbon economy.

Western Canada is fortunate to have abundant hydrocarbons, and with our customers and asset base, we have a unique opportunity to deliver responsibly produced energy to the world.

Scenario Analysis and Strategy Resilience

In 2022, as part of the work we completed to refresh our corporate strategy, we undertook robust scenario analysis using the International Energy Agency (“IEA”) future energy scenarios including the Stated Policies Scenario (“STEPS”) and the Announced Pledges Scenario (“APS”) to evaluate the potential implications of changes in the rate of decarbonization and energy demand, at both the regional and global scale. Our scenarios address two distinct horizons to evaluate our strategy to ensure that it thrives through 2030 and allows us to look beyond to 2050. These scenarios enable us to think strategically about our business and ensure our strategy is resilient under a wide range of decarbonization pathways, recognizing that none of the scenarios are forecasts or predictions. Our strategic priorities include a focus on environmental leadership to sustain, decarbonize, and enhance our business while investing in energy transition and transforming and exporting our products to global markets where demand is expected to increase.

In late 2023, we refreshed our scenario analysis based on the IEA World Energy Outlook 2023 and insights into North American and global energy supply and demand under these scenarios. We again considered the pace of decarbonization and global market integration. Global market integration considered the Canadian energy sector, and specifically the Western Canadian Sedimentary Basin, in the context of global supply and demand projections for crude oil, NGLs and natural gas and the impact of climate policies in Canada and in various jurisdictions around the world. In updating our scenarios, we aligned our outlook with the updated IEA scenarios across crude oil and natural gas future energy projections.

Under all scenarios, our long-term corporate strategy remains resilient and we are committed to environmental leadership through making our core business more resilient and developing energy transition and export projects.

Climate Opportunities

As our corporate strategy demonstrates, Pembina sees great opportunity to continue to invest in, grow, and decarbonize the core business. At the same time, we will capitalize on exciting opportunities to leverage our assets and expertise into new service offerings that proactively respond to the transition to a lower-carbon economy. Refer to the [Climate Opportunities and Risks Appendix](#) for further details on the climate-related opportunities underpinned by our corporate strategy.

Climate Risks

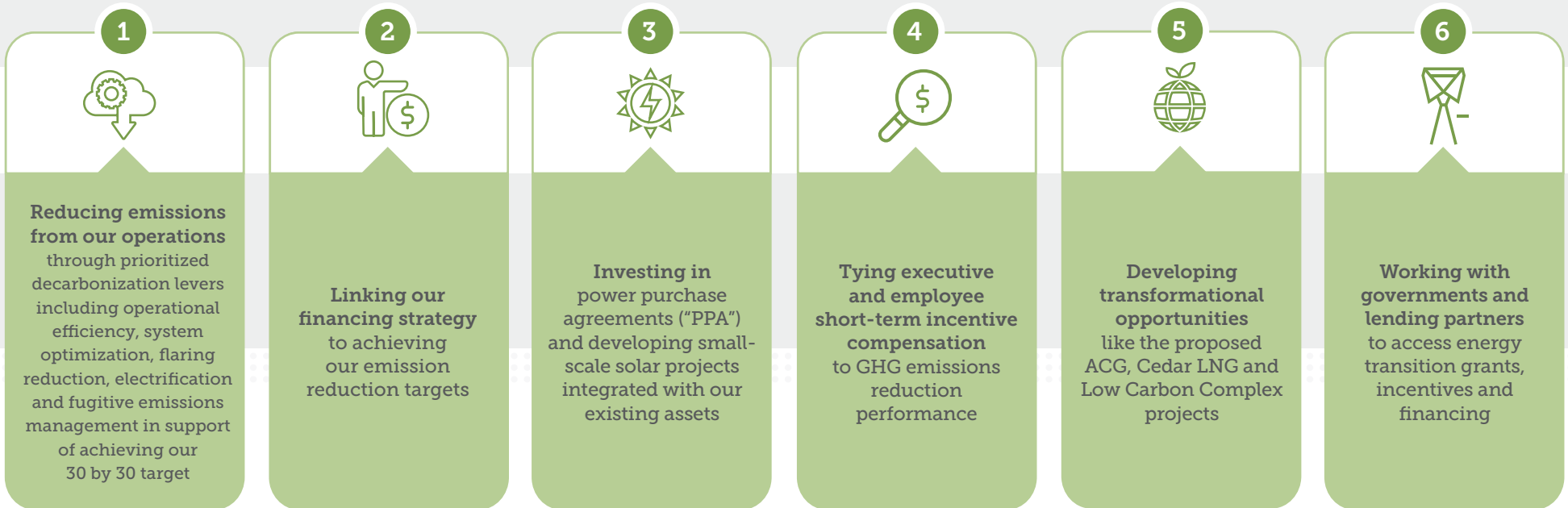
While Pembina’s strategy embraces energy transition, we also understand that, if not adequately addressed, climate-related risks may impact our direct operations, as well as those upstream and downstream in our value chain. We closely monitor changing regulatory requirements, routinely assess the impact of carbon pricing and changes in technology and track projected future demand for energy products. Climate-related criteria have been incorporated into our capital allocation decisions, to help align our operations and emissions reduction activities.

From a physical climate risk perspective, we currently assess the impact of acute physical risks as part of our business interruption and contingent business interruption exposures, largely through asset-specific risk engineering reviews. These asset-specific reviews, offered via a third-party, include site surveys and audits that evaluate the effects of natural hazards, including climate, on our assets as well as risk controls. We couple this external assessment with business unit evaluations to analyze the potential financial and operational impact of physical climate risk to our assets.

Refer to the [Climate Opportunities and Risks Appendix](#) for further details.



Our Approach to Delivering Environmentally Responsible Energy:



Refer to the 2023 Performance section below for how we are executing on this approach

2023 Performance

- 1. Reducing emissions from our operations through prioritized decarbonization levers including operational efficiency, system optimization, flaring reduction, electrification and fugitive emissions management in support of achieving our 30% by 2030 emissions intensity target

From an operational perspective, we implemented a number of improvements to reduce our absolute emissions, including equipment and heat piping optimizations, vent and flare reductions, engine upgrades, leak repairs, and redundant equipment shut-ins. Within our pipeline business, we also successfully matured process automation to improve system wide energy efficiency through our pipeline control centre operations. [Please refer to the GHG Emissions section of this report for more information.](#)

- 2. Linking our financing strategy to achieving our emission reduction targets

We continue to align our financing strategy with our ESG priorities through our sustainability-linked loan. The \$1 billion sustainability-linked revolving credit facility contains pricing adjustments that reduce or increase borrowing costs based on our performance relative to our GHG emissions intensity reduction performance target. The specific terms of the loan facility include annual targets that align with our trajectory towards our 2030 goal.

Another way Pembina is approaching energy transition is through financing strategic investments. In 2023, Pembina committed to a \$25 million investment over multiple years with Energy Impact Partners LP (“EIP”), a global investment firm focused on energy transition investments. EIP brings together entrepreneurs and energy and industrial companies to advance innovation in decarbonization technologies. The investment with EIP offers Pembina a structured approach to support relevant early-stage energy technologies and businesses that enable the transition to a low carbon economy.

- 3. Investing in PPAs and developing small-scale solar projects integrated with our existing assets

We remain focused on securing renewable energy sources and utilizing PPAs to offset our scope 2 related emissions. Our first PPA, for the offtake of 100 MW of renewable energy power from the Garden Plain Wind Farm, went into commercial operation in August of 2023. The project added 130 MW capacity of wind generation of which Pembina's offtake is 100 MW. The PPA not only provides renewable energy to advance our decarbonization strategy, but also generates carbon offsets that can be utilized for Alberta TIER compliance. In 2023, we earned 87,575 carbon offsets associated with the Garden Plain PPA.

- 4. Tying executive and employee short-term compensation to GHG emissions reduction performance

ESG performance, including GHG emissions performance, continues to be part of our annual corporate short-term incentive compensation for all eligible employees. [Please refer to the Governance section of this report for more information.](#)



› 5. Developing transformational opportunities like the proposed ACG, Cedar LNG and Low Carbon Complex projects

We are pleased to share that we have progressed development of our major proposed energy transition investments, ACG, Cedar LNG and Pembina’s Low Carbon Complex:



The Alberta Carbon Grid (“ACG”) is a carbon transportation and sequestration solution being designed to serve multiple customers, industries, and sectors. A partnership between Pembina and TC Energy, ACG is focused on providing open-access carbon dioxide (“CO₂”) transportation and sequestration solutions across Alberta. Our innovative workforce, extensive experience, safety performance, and proven ability to manage open-access systems will allow us to lead the energy transition.

ACG is developing the Industrial Heartland project, which will have the potential to transport and store up to 10 million tonnes of CO₂ annually. This project has been selected by the Government of Alberta to further evaluate the proposed location for safely storing carbon. ACG completed the appraisal well drilling, logging and testing in December 2023. Preliminary data was consistent with the storage capacity expectations and further work is underway to confirm the initial results.

Learn more about the Alberta Carbon Grid at www.albertacarbongrid.ca.



Cedar LNG is a partnership between Pembina and the Haisla Nation to develop a proposed floating LNG facility in Kitimat, British Columbia, within the traditional territory of the Haisla Nation. The project is strategically positioned to leverage Canada’s abundant natural gas supply and British Columbia’s growing LNG infrastructure to produce industry-leading, low-carbon, cost-competitive Canadian LNG for overseas markets. Cedar LNG is the world’s first Indigenous majority-owned LNG project, will provide unprecedented opportunities for both the Haisla Nation and the region, and will have one of the cleanest environmental profiles in the world.

Powered by clean, renewable energy from BC Hydro, Cedar LNG is expected to produce 0.08 tonnes CO₂e per tonne LNG, considerably less than other proposed LNG facilities and well below the global average of 0.35 tonnes CO₂e per tonne LNG. Cedar LNG could result in a reduction of between 6 to 14 Mt CO₂e/year if this LNG displaces coal, on a lifecycle basis.

Throughout 2023, Cedar LNG received all material regulatory approvals, including receiving an Environmental Assessment Certificate from the British Columbia government, a positive Decision Statement from the federal Minister of Environment and Climate Change, and a pipeline permit for the Cedar LNG Pipeline connection to Coastal Gas Link, as well as a LNG Facility Permit from the BC Energy Regulator.

In 2024, Pembina with its partner the Haisla Nation announced significant progress on the project, including securing long-term commercial offtake support and issuing a Notice to Proceed to EPC contractors, Samsung Heavy Industries and Black & Veatch.

Learn more about Cedar LNG at www.cedarlng.com

Pembina's Low Carbon Complex™

As part of our longstanding partnership with the Alberta Industrial Heartland, we have announced ongoing efforts to establish a new growth platform known as the Pembina Low Carbon Complex™ ("PLCC"). With over 2,000 contiguous acres of undeveloped land, our vision is to develop an industrial complex for low-carbon energy infrastructure to better enable Pembina and third parties to develop projects, while reducing costs, emissions and risk.

The PLCC will focus on attracting and developing investment in innovative and emerging energy transition technologies and sustainable fuels and chemicals, specifically low-carbon hydrogen and hydrogen carriers such as ammonia and methanol.

Within the PLCC, Pembina would lease land to third parties and provide infrastructure, logistics and shared services to tenants, depending on their needs, under typical midstream commercial models. Pembina may also consider direct investments in these projects.

› 6. Working with governments and lending partners to access energy transition grants, incentives and financing

In developing transformative projects and undertaking emissions reduction projects for existing assets, we look to access energy transition grants, incentives and funding from governments and governmental agencies. During 2023, with funding from Emissions Reduction Alberta under the Small Producers Energy Efficiency Deployment (SPEED) program, we converted three compressor engines from rich burn to lean burn using air-fuel ratio controllers. As a result of undertaking these upgrades, we have reduced both carbon dioxide and nitrous oxide emissions for these engines.



Looking Forward | 2024 and Beyond

We continue to work on increasing Pembina’s long-term value and helping ensure Canadian energy is developed and delivered responsibly.

Going forward, our focus is on:

- Developing a detailed 30 by 30 roadmap in 2024 to provide a line-of-sight to meet our decarbonization targets. The roadmap will lay out a set of optimized and sequenced emissions reduction projects or programs that will inform investments, operating improvements, and continuous improvement within our assets. In parallel, we will continue to assess transformative decarbonization solutions applicable throughout Pembina’s operations;
- Underpinning the 30 by 30 roadmap will be an expanded assessment of decarbonization projects and technologies to create a corporate-wide Marginal Abatement Cost Curve (“MACC”). In creating the MACC curve, we will identify a range of options for decarbonizing our assets and evaluating their costs, revenues, and associated compliance obligation impacts. The assessment will enable Pembina to identify projects with positive returns, prioritize higher emitting facilities and evaluate trade-offs among various emission reductions projects. The corporate MACC curve will be built from asset-specific assessments and will serve as an asset-by-asset roadmap that will be monitored and maintained. This process will facilitate the implementation of our 30 by 30 roadmap and support alignment of long-range planning with Pembina’s emission intensity reduction targets, minimizing costs to decarbonize while enabling lower operating costs for our customers and unlocking potential new sources of low-carbon revenues;

- Developing a 28 megawatt (“MW”) cogeneration facility at PGI’s Kaybob 3 Plant, which is expected to lower overall operating costs through the utilization of cogeneration waste heat and reduce exposure to emissions compliance costs through the low-emission power generated;
- Advancing the ACG by continuing to progress commercial conversations, refine the project scope and advance project engineering, including facility design and work on the pipeline routing;
- Continuing to work closely with the federal and provincial governments to progress towards a final investment decision for Cedar LNG by the middle of 2024, and an anticipated in-service date in late 2028; and
- Continuing to explore investment opportunities in renewable power including the proposed development of a 5 MW solar farm at our Empress facility and evaluating economics for behind the meter solar at numerous pump stations. Additionally, we expect the PPA for the third-party Wild Rose 2 Wind Farm to be operational in late 2024, pending regulatory approval.

Developing a

28 megawatt (MW) cogeneration facility facility at PGI’s Kaybob 3 Plant



GHG Emissions

Our Approach

At Pembina, we are committed to environmental leadership including reducing GHG emissions across our operations.

In late 2021, we established a GHG emissions intensity reduction target and over the last three years we have executed a number of emissions reduction and clean technology projects that have reduced our emission intensity. We have also made investments in measurement and data management technologies, both of which will improve the timeliness of our reporting.

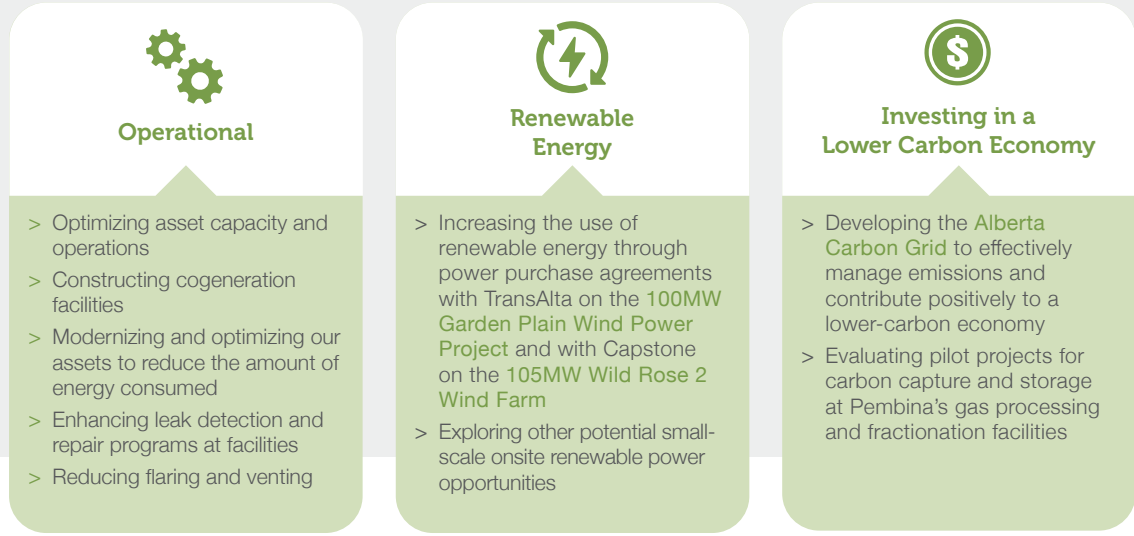
Pembina's GHG emissions footprint is generated from its facility and pipeline operations. Scope 1 GHG emissions result primarily from fuel combustion, flaring and venting at our facilities. Scope 2 GHG emissions are primarily from purchased electricity, which is used to run equipment and power our offices. A breakdown of the composition of our 2023 Scope 1 and 2 emissions is shown on page 29.

Our approach to GHG emissions includes:

- > Our commitment to reduce our GHG emissions intensity 30% by 2030⁷, relative to a 2019 baseline. The target helps guide business decisions that improve overall emissions intensity performance;
- > Reducing GHG emissions through energy efficiency and asset optimization, as well as investing in abatement projects across our assets including equipment modernization, electrification, and small-scale renewable energy projects;
- > Reducing scope 2 emissions through purchase and generation of renewable electricity and the development of cogeneration ("cogen") facilities;
- > Enhancing our scope 3 emission measurement and reporting;
- > Improving GHG measurement, data management, and assurance processes to ensure timely and accurate evaluation of our progress; and
- > Continuing to further align our climate disclosures with TCFD recommendations.

30% reduction in greenhouse gas emissions intensity by 2030

Multiple pathways to achieve target



⁷ Pembina's 30 by 30 target is based on an operational control approach to define our organizational boundaries for GHG reporting and includes all material scope 1 and 2 emissions sources and sinks associated with Pembina operated facilities and pipelines, as well as corporate activities.

2023 Performance

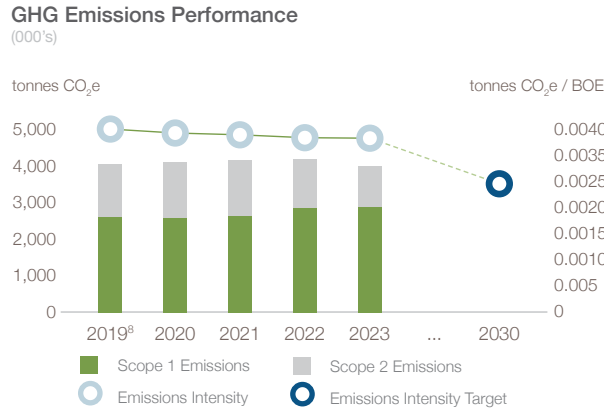
In 2023, our absolute GHG emissions decreased by four percent compared to 2022.

In 2023, Scope 1 emissions were 2,842,868 tonnes CO₂e, a 0.3% increase over 2022. Scope 2 emissions were 1,126,088 tonnes CO₂e, a decrease of 14% from 2022. The overall decrease in scope 2 emissions is primarily attributable to the Empress Cogeneration Facility, which came online in October 2022 and operated for the full year in 2023.

2023 decarbonization actions included:

- Full-year operation of the Empress Cogeneration Facility;
- Equipment and heat piping optimizations;
- Redundant equipment shut-ins; and
- Fugitive emissions reductions through new integrated identification, maintenance, and repair practices.

Corporate emissions intensity decreased by approximately three percent compared to 2022. Our cumulative reduction against our 2019 baseline is approximately seven percent⁷. Emissions intensity reductions were moderated by lower production volumes in 2023 resulting from asset dispositions, wildfire impacts and the Northern Pipeline outage.



In late 2023, Pembina launched an Emissions Data Management ("EDM") system. The EDM system consolidates emissions data from across our assets and reduces manual processes by integrating field data capture systems into one platform. Centralizing our emissions data will not only support more timely and efficient reporting but will provide operations and supporting functions with real-time data and insights needed to drive decarbonization opportunities. Automation and standardization supported by the EDM system will facilitate timely reporting in alignment with emerging sustainability disclosure requirements.



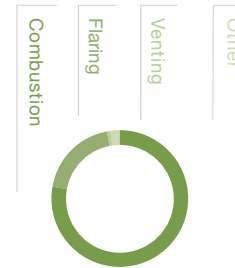
On track to reduce **GHG intensity** **30%** by 2030

2023 Scope 1 and 2 Emissions Composition

Scope 1 Total

72%

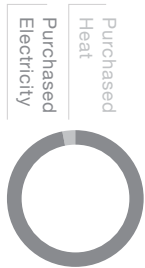
78% 19% 1% 2%



Scope 2 Total

28%

97% 3%



2023 Operational Improvements



1. Pipeline Flow Mode Optimization: We implemented an algorithm-based standardization control to achieve consistent energy efficient operations for our pipeline Control Centre. By optimizing the pumps along the length of our major pipelines, we can move products at the lowest cost and least energy-intensive manner. This minimizes the cost to our customers and reduces carbon emissions. We will continue to expand this initiative across our integrated facilities and pipeline systems which is forecasted to reduce our emissions by more than 20,000 tonnes CO₂e /yr.

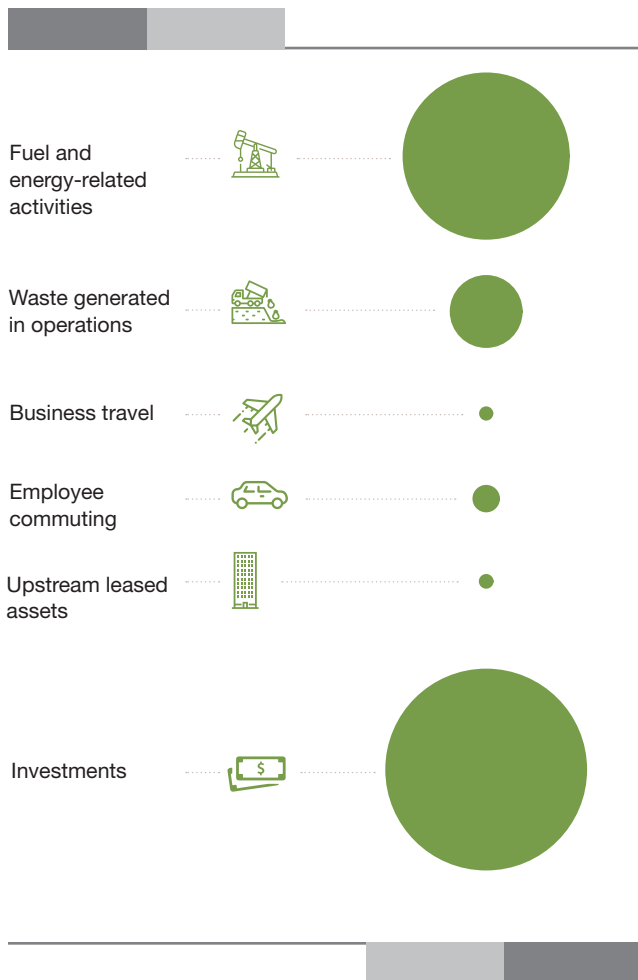
2. Lowering our Electricity Emissions with Cogeneration: We significantly reduced our imported electricity demands through full-year operations of the cogen facility at Empress. The cogen facility is integrated into our Empress operations, providing both heat and clean electricity. The carbon intensity of our cogen power is lower than the Alberta electrical grid, contributing to a 14% reduction in our scope 2 emissions in 2023.

3. Equipment modernization: Modernization projects including equipment upgrades at our Duvernay, Patterson, and Satum facilities and process optimization at our Redwater fractionation facility, collectively reduce our scope 1 emissions by more than 13,000 tonnes CO₂e on an annualized basis.

⁸ 2019 emissions intensity has been restated due to revised physical throughput data. This change does not impact the independent third-party limited assurance opinion of the 2019 key performance indicators.

2023 Scope 3 Emissions Performance

We rely on best available data and a number of assumptions and estimations to calculate our scope 3 emissions. In 2023, we continued to refine our quantification methods to enhance the accuracy of our six reported scope 3 categories including:



Implementation of improved quantification methods and growth in our business contributed to a 11% increase in previously reported scope 3 categories over 2022. Of the scope 3 categories we have evaluated and consider relevant to our business, the majority of our emissions are the result of Investments, associated with our equity interest in Alliance and PGI, and Fuel and Energy Related Activities, related to upstream emissions from fuel purchases and consumption. Together these two categories represent 93% of our total reported scope 3 emissions. Please refer to our scope 3 GHG emissions data and methodology explanations in our [Energy Transition & Climate data table](#).

Looking Forward | 2024 and Beyond

In 2024, we are integrating the Alliance / Aux Sable Acquisition into our GHG emissions inventory, including updating our 2019 baseline, to account for these assets.

We will continue to take action to implement our 30 by 30 roadmap, including executing on a number of sanctioned decarbonization projects across our operating facilities. These projects include equipment and piping replacements, process changes, and further pipeline optimization projects. We will prioritize development of emissions reduction projects with positive returns, with a focus on our highest emitting facilities.

We continue to implement our EDM system, including validating facility configuration and data, conducting user training, building dashboards to provide faster access to company-wide emissions data, and integrating the Alliance/Aux Sable Acquisition. Additional functionality may also include forecasting and scenario analysis.

Additionally, we continue to work on improving the accuracy and comprehensiveness of the most material categories of scope 3 emissions and may include additional categories in future reporting.



Employee Well-Being & Culture



Cultivating a positive employee experience and **promoting a diverse and inclusive environment where our employees feel engaged, recognized and empowered is foundational to being an employer of choice.** Our EDI targets have formalized our commitment to creating a more equitable, diverse and inclusive organization.



Adopted **Pembina's People Strategy** to support building a learning organization

Hosted our **first Women's Field Summit** to strengthen our community of women in the field

 **Analyst Corner**

2024 Management Information Circular - EDI (pages 40-41)
Website - Employee Well-Being and Culture

Our Approach

A thriving business requires an engaged, diverse and innovative workforce.

We set ourselves apart by creating a differentiated experience for our employees. Our commitment to delivering excellence for our employees means they say we are the ‘employer of choice’ and value our safe, respectful, collaborative and inclusive work culture. More specifically, our approach to employee well-being and culture includes:

Employee Engagement


Listening to our employees enables an inclusive and engaging work environment. We rely on employee feedback to adapt our processes in a manner that helps our people to succeed. We host regular employee town halls with our officers and senior leadership, focus groups, and team-specific performance and strategy sessions. In addition, we routinely conduct engagement surveys to hear directly from our employees on what is going well and opportunities for improvement. We use this feedback to develop strategic action plans to address what is important to our employees and improve their overall experience at Pembina.

Employee Experience

To attract and retain an engaged workforce we strive to provide employees with positive experiences, including supporting employee well-being through our benefits and wellness programs, providing competitive compensation and supporting personal development and career progression through training, tuition reimbursement and mentorship. Leadership development is emphasized at all levels of our organization, and we pride ourselves in creating a work environment where accountabilities are clear, strong performance is expected, and results are recognized.

Recognition

Recognizing employee contributions and achievements is vital to fostering a positive work environment. This is why we offer various forms of recognition including peer-to-peer recognition, long-service awards, community involvement recognition awards and individual performance bonuses. To recognize exemplary employees who live our values, we have also implemented the RISE (Recognize Individuals who Show Excellence) awards.



RISE Awards

<p>‘CEO’ Award</p> <p>Exemplary Leadership with Pembina’s Values</p>	<p>‘Keeping us Safe’ Award</p> <p>Commitment to Health & Safety</p>
<p>‘Environmental Stewardship’ Award</p> <p>Stewardship & Conservation, Environment & Sustainability</p>	<p>‘Driving Success’ Award</p> <p>Efficiencies, Continuous Improvement</p>
<p>‘Inclusion Champion’ Award</p> <p>Inspiring Equity, Diversity & Inclusion</p>	<p>‘Commercial & Customer Service’ Award</p> <p>Commercial, New business, Customer Service</p>
<p>‘Community Spirit’ Award</p> <p>Above and Beyond in the Community</p>	<p>‘Teamwork’ Award</p> <p>Recognize a small team for a significant accomplishment</p>

Equity Diversity and Inclusion

We believe our approach to EDI creates a differentiated experience for our employees and all stakeholders. Our approach advances EDI through community awareness and education to support our understanding of how we can all contribute to a culture of inclusion, including:

- **Inclusion Networks** are employee-led groups designed to build a sense of workplace community and belonging for diverse employees and their allies by exploring EDI topics and initiatives that matter to them. Inclusion Networks are a key focus in the Culture and Inclusion Strategy. All Inclusion Networks have a terms of reference and governance structure that aligns their work with the Culture and Inclusion Strategy and Pembina’s values.
- **Conversations for Change** is a company-wide event series featuring panel-style conversations with our employees to explore EDI topics and their impact on the personal and professional lives of our colleagues.
- **Acknowledgement Months** celebrate the history and cultures of diverse groups and bring awareness and connection to important EDI topics. They are supported by employee led planning groups and anchored by our Conversations for Change panels and Inclusion Networks.
- **EDI Foundations Education** is a custom-built education program to support foundational understanding of EDI core concepts, build understanding of the impact of exclusion in the workplace, and support employees with skills and strategies to build allyship and inclusion. The Learning Sessions are custom designed and use Pembina case studies to ensure the content is embedded in real-life workplace situations.

Targets

Our approach to EDI includes targets that aim to increase the representation of women and other underrepresented groups across Pembina. Refer to our 2023 Performance section below for an update on our progress against these targets.

2023 Performance

Following the introduction of the refreshed corporate strategy, we developed a corresponding People Strategy, which was adopted in August 2023.

This strategy is designed to create conditions in which Pembina realizes its strategic priorities through our people. The People Strategy outlines the organization’s vision to “build a learning organization that underpins a resilient and thriving business.” By becoming a learning organization, we believe our employees will foster open discussion, think holistically, cultivate tolerance and adapt to the unpredictable more quickly than our competitors.

Employee Engagement

Our 2023 Employee Engagement survey saw strong participation, with 85% of employees sharing their thoughts and feedback. Over 1,200 personalized comments were included in the survey responses providing important insights that will help prioritize and inform our path forward. The survey measures engagement by evaluating individual, job, and organizational drivers and how that impacts feelings of purpose, energy, and satisfaction. Overall, this year’s survey results are highly positive and indicate that we are on the right track. Since last year, we were able to significantly improve our overall employee experience score with positive increases across all 10 of our drivers. The survey results underscore the pride that Pembina employees have in the work they do, and their understanding of how it contributes to the success of our business. Based on this feedback, beginning in 2024, our leaders have been sharing the results with their teams and incorporating action planning into their annual goal setting activities.

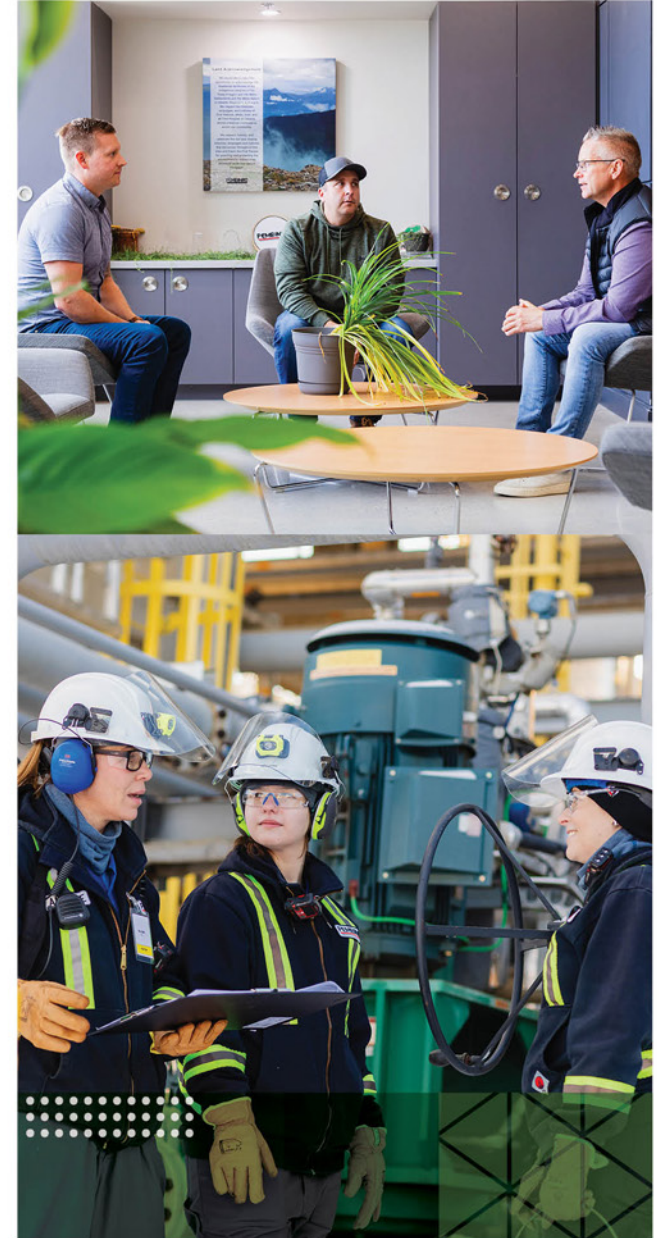
Employee Experience

To support our employee experience at Pembina, in 2023 we focused our efforts on career development and performance.

As part of our career performance enhancements, we embedded our values into the performance management process, introducing Key Behaviour Indicators, to recognize not only what work was being done, but also how the work was being executed. This alignment allows us to recognize our values in action as a critical part of performance.

As part of developing our people, we ran a number of internal leadership training programs — Launch! and Evolve! — with close to 200 emerging and developing leaders across the company. Evolve! is a cohort-based program that enhances leadership skills, provides resources, and fosters connections among Pembina leaders. Launch! prepares individual contributors to successfully transition into formal leadership roles, offering a learning community and educational opportunities to foster growth.

We also developed new tools to enhance employee awareness around their own career development opportunities within Pembina. We created a centralized internal resources hub, which gives employees improved access to information on internal openings and provides details on internal move practices as well as the process for referring a qualified candidate. In addition, we made it easier for employees to add training to their own Learning Plan enabling employees to build a plan that is tied to their career development goals.



Recognition

Pembina hosted our 2nd Annual RISE Awards to identify, recognize and celebrate examples of how employees are living our values. The RISE awards provide opportunities for peer-to-peer and organization-wide recognition of excellence across several categories including leadership, safety, environment, community engagement and customer service.

A total of 51 finalists were invited to attend the 2023 awards event which was the culmination of a thorough selection and evaluation process of hundreds of nominations from across Pembina.

The evening also honoured team members reaching incremental long service milestones. Four honourees celebrating 30 or more years were recognized for their significant contributions over their many years of service.



Four honourees celebrating **30 or more years** were recognized for their significant contributions over their many years of service.



RISE Award: Inclusive Personal Protective Equipment (“PPE”) Project

We are especially proud to showcase a finalist for the RISE Teamwork Award for PPE Inclusivity. In 2023, we were excited to officially launch the Inclusive PPE Project providing coveralls that meet the needs of all Pembina employees. The project was initiated in 2022 with a cross-functional team from HR, Supply Chain, Operations, Field Administration, Information Services, Safety, Indigenous Engagement and Communications. After consulting with female frontline employees it quickly became apparent that purchasing comfortable coveralls that fit can be difficult. As a result of these discussions, the team committed to finding an accessible solution to source a variety of coverall styles and options for all shapes and sizes.

Our supply chain team partnered with the Indigenous vendor Apparel Solutions, a leading manufacturer of quality flame resistant clothing, who in turn worked with its distributors to develop and source our new female sizing options.

Building Our Culture of EDI

In 2023, Pembina demonstrated continued commitment to EDI through the establishment of a Culture and Inclusion Strategy supported by a dedicated Culture and Inclusion team.

The strategy aims “To create the conditions for high performance by cultivating a workplace where all employees have a sense of belonging”.

The strategy identifies three supporting pillars:

- Evolve into a learning organization that creates the conditions for high performance;
- Create an employee experience centred in relationships that demonstrate our values; and
- Embed inclusive and equitable policies, processes, and programs into all areas.

This strategy is enabled by a robust evaluation framework to support data-informed decision making and accountability for impact to strategic goals.

Pembina used multiple approaches to advance our culture of inclusion, including holding 13 educational and cultural events attended by more than 2,500 employees. This demonstrates our ongoing commitment to exploring topics that matter to our employees as a way to increase their sense of engagement, belonging and pride.



13
Educational and cultural events were held with more than 2,500 employee attendees.

Immigrants of Distinction Award



We are honoured to be recognized by Immigrant Services Calgary at the 2023 Immigrants of Distinction Awards in the category of Organizational Diversity for embracing and promoting an inclusive, welcoming and diverse workplace. The Immigrants of Distinction Awards celebrate the talent, excellence, and positive impact of immigrants and refugees in arts and culture, civics, academics, and industry.

Inclusion Networks

In 2023, two new employee-led Inclusion Networks were launched: the Indigenous Inclusion Network and the Men’s Mental Health Inclusion Network. These two networks join Pembina’s existing Inclusion Networks: Pride (2SLGBTQ+), Women’s Inclusion Network and the Multicultural Resource Network.



Women's Field Summit



Pembina, in collaboration with the Women's Inclusion Network, was proud to host the company's first ever **Women's Field Summit** in Edmonton. The idea originated from the frontline operations workforce as an opportunity to strengthen Pembina's community of women in the field. The two-day summit enabled field based female staff to share their experiences, provided tools and insights that support career development, and support Pembina's ability to attract and grow a diverse workforce.

The objectives of the summit were to:

- › Build connections and a sense of belonging and community;
- › Exchange ideas, share experiences and discover new perspectives;
- › Enhance our culture of physical and psychological safety;
- › Provide tools and training to navigate diverse environments;
- › Establish a forum of empowerment and celebration of successes; and
- › Invest in a workplace that inspires high performance, engagement and an inclusive employee experience

The Women's Field Summit was attended by 166 women from across Pembina's field sites. After the event participants were invited to complete a survey to share their experience:

97%

Agree or Strongly agree they increased their sense of community at Pembina.

96%

Agree or Strongly agree they would be able to seek support and speak up if required.

Analysis of the data reveals that the top learnings were associated with the power of acknowledgment and being acknowledged.

This supports Pembina's Culture & Inclusions team's strategic goal of employees having a sense of belonging at Pembina through being seen, heard, connected, supported and safe.

Acknowledgment of the realities of people's experiences in the workplace and acknowledging one another helps everyone "rise".

This was an amazing experience that will stick with me for a lifetime. The opportunity to connect with other women and have a sense of community was so empowering and makes me want to excel in my job."

Women's Field Summit Participant

I value the safe space to have discussion about personal experiences. The connections I have made are invaluable. Thank you. Thank you. Thank you."

Women's Field Summit Participant

The Conversations for Change Series

In 2023, the Conversations for Change (C4C) panels were attended 930 times by employees across the business. We conducted a C4C survey to better understand the impact of these conversations. The results indicated the following (% of respondents who agree/strongly agree):



Conversations for Change survey

Empathy

95%

Strengthened understanding of the experiences of others.

Allyship

92%

Increased understanding of how to support and advocate for members of the community & EDI in the workplace.

Inclusion

95%

Improved understanding of the value C4C plays in advancing inclusion at Pembina.

Values

97%

Supported understanding how Pembina's values can be demonstrated.

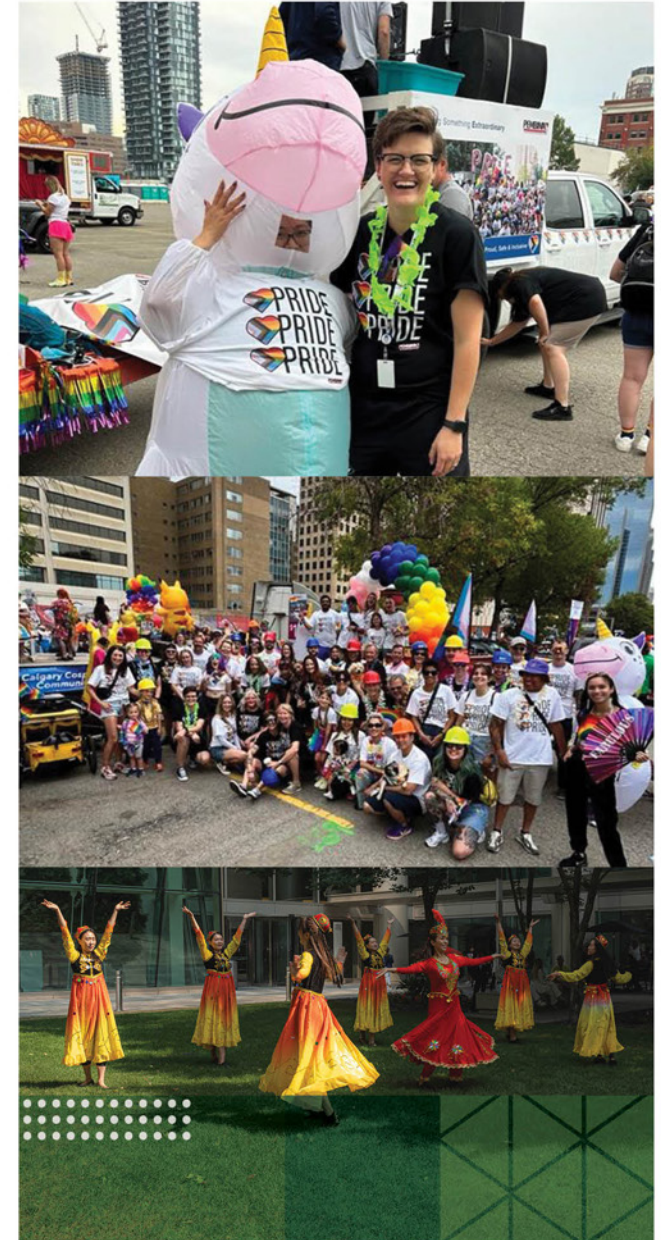
Acknowledgement Months

In 2023, our employees participated over 1,570 times in Acknowledgement Month and Inclusion Network events. We recognized many important topics through various engagement opportunities including Black History Month, International Women's Day and the Women's Field Summit, Pride and the 2SLGBTQ+ community, Indigenous People's Day and National Day for Truth and Reconciliation, Multicultural Awareness Day and Men's Mental Health.

EDI Foundations Education

In 2023, Pembina expanded the availability of the EDI Foundations Series beyond leaders to the entire workforce. In total, 1,059 individuals accessed an EDI Foundations session in 2023. Feedback obtained from the modules was resoundingly positive with 98% of respondents agreeing or strongly agreeing that they progressed their understanding of EDI, that the sessions provided ideas or tools they could apply to their roles within our company, and they can see how EDI supports Pembina's values. Further feedback indicated that 99% of respondents agreed or strongly agreed that they are motivated to find ways to be an ally and they know why understanding the experience of others is important for creating inclusion.

In November 2023, we launched our Indigenous Inclusion Employee Learning Module centred on Indigenous Inclusion and Economic Reconciliation. This learning session was created in collaboration with Pembina's Indigenous Inclusion Network and Indigenous Engagement team to ensure the module reflects the experiences and stories of Indigenous employees and reflects our business. Our Indigenous employees played a critical role in the content and design of the module by sharing their voices and experiences. The session creates deeper understanding and valuing of Land Acknowledgements, Economic Reconciliation, and Pembina's commitment to Truth and Reconciliation Call to Action 92.



Targets



Pembina has made significant progress on its EDI targets over the past year, surpassing its women in executive leadership target, executive diversity target and Board diversity targets, and we remain committed to continuing to meet, or exceed, these targets in the future.

Sustained progress requires a multi-pronged approach including creating an inclusive culture to enable the business benefits associated with a diverse culture. We continue to create the conditions required to increase our Women in Workforce and Workforce Diversity targets. Our investments in Inclusion Networks, EDI programs such as Conversations for Change, the inaugural Women's Field Summit and Pembina's strategy to create culture of inclusion & belonging throughout the employee lifecycle are examples of Pembina's ongoing commitment to advancing diversity in our workforce. The graph outlines Pembina's results against targets as at December 31, 2023.

2023 EDI Performance in Canadian Workforce^{9, 10, 11}



⁹ Women in Workforce and Workforce Diversity metrics are in respect of our permanent Canadian workforce. As of December 31, 2023, Pembina had 2,560 total permanent Canadian employees.
¹⁰ Board Diversity includes independent directors only. Employee targets are for 2025.
¹¹ Women in Executive and Executive Diversity metrics are in respect of Pembina's Canadian and U.S. workforce and includes CEO, Senior Vice President and Vice President level positions.

Looking Forward | 2024 and Beyond

Pembina's People Strategy provides the overarching framework to support the Culture & Inclusion pillars:

- > Evolve into a learning organization that creates the conditions for high performance;
- > Create an employee experience that is centered in relationships that demonstrate our values; and
- > Embed inclusive and equitable policies, processes, and programs into all areas

The overall focus of 2024 is to ensure sustainability of the Culture and Inclusion Strategy by further integrating and embedding EDI into operations; and to continuously improve current culture and inclusion systems and processes. Some key initiatives planned for 2024 are:

- > Improving EDI data integrity and integration;
- > Advancing accessibility and psychological safety in the workplace;
- > Supporting inclusive practices in our operating areas;
- > Conducting policy assessments for EDI integration; and
- > Supporting EDI integration in Talent Acquisition and Management



Health & Safety

Working safely is a way of life at Pembina and is at the heart of our values. Our corporate safety culture of **"Zero by Choice"** seeks to achieve zero harm to people, assets and the environment, and we believe our employees can achieve this by recognizing that **"Safety Starts with Me."** This philosophy reflects our belief that all incidents are preventable and that nothing is more important than the safety of our employees, contractors and communities.

Over
18,000
 leadership
 engagements
 conducted



~22,000
 Positive Safety
 Recognitions
 submitted

 Analyst Corner

2024 Management Information Circular – Safety, environment and operational excellence committee (page 38, 57)
2024 Annual Information Form - Safety Program (page 52-53)
Health, Safety & Environment Policy
Website - Health and Safety

Our Approach

Our Safety Program is governed by our Health, Safety and Environment (“HSE”) Policy and is one of the operational risk management programs that form our OMS. It employs a systematic approach comprised of principles, standards, procedures, guidelines and other supporting documents guided by ISO 45001 Occupational Health and Safety Management Systems. To support the Safety Program, we have established [Life Saving Rules](#) and [Safety Culture Expectations](#) that apply to all employees and contractors to ensure safety risks are managed effectively. To further enhance the effectiveness of our Safety Program, we have consolidated process safety and occupational safety under a new executive role of Vice President, Safety.

Our Safety Program is designed to drive continuous improvement and enhance safety performance through measurement, monitoring, risk management, and corrective actions. We use incident reporting, audits and other assurance tools as inputs to the Safety Program to identify continuous improvement opportunities. We have built a strong reporting culture that drives us to investigate and implement learning from incidents and near misses. All Pembina employees and contractors are required to comply with the requirements of the Safety Program, which includes the provision and completion of necessary training on relevant competencies to safely execute their work.

We view contractors as an extension of our business and as such, it is essential that they perform their work in a manner that is consistent and compatible with Pembina’s standards and expectations. Pembina uses ISN to manage contractor pre-qualification, orientation and compliance. ISN measures key safety requirements and performance metrics that are considered as part of the grading and selection process of contractors. Pembina’s safety protocols, procedures, policies and expectations are communicated to contractors through general and/or site-specific orientations, project safety and/or execution plans and kick-off meetings.

We take a comprehensive approach to process safety, including a Management of Change system, to confirm that changes to existing and future facilities are properly recognized, and that we have evaluated, managed and verified that risks arising from these changes are mitigated and remain at acceptable levels. We use process hazard analysis (“PHA”), to identify potential hazards and assess the adequacy of existing or proposed safeguards to manage operational risk.

To promote and measure safety performance, we use a balanced scorecard that includes both leading and lagging metrics. Leading metrics on this scorecard include leadership visibility in the field, positive safety recognitions, contractor inspections,

and recognizing personnel who stop work due to a change in condition or potentially unsafe situation. These metrics are designed to proactively engage all levels of our organization, including our contractors, in positive safety discussions to promote safety awareness and reduce or eliminate preventable incidents. The scorecard also includes traditional lagging metrics, such as recordable injuries, preventable vehicle incidents and product releases classified as Tier 1 process safety events¹². Safety scorecard performance is a component of the formula that determines executive and employee short-term incentive compensation.

To support a learning culture, an Incident Review Panel (“IRP”) meets every other month to review selected incidents including sharing root causes, lessons learned and progress on corrective actions. Participants in the IRP include the executive team, operations and project leaders, and safety specialists. As part of our OMS governance, executives are provided safety performance information and provide direction and approvals for corporate safety initiatives.

Safety at a Glance



Zero
Fatalities

Held
first
Contractor
Safety
Summit

Conducted more
than
2,200
contractor safety
inspections

Reduced lost
workday case
injuries by nearly
30%
versus 2022

Completed over
9,000
hazard
identifications

Reduced the number
of incidents with SIF
potential by
35%
compared to 2022

Rolled out
**Inclusive
PPE
Initiative**

Combined
employee and
contractor
TRIF of
0.77

¹² Based upon API 754 criteria

2023 Performance

While our goal is to eliminate all safety incidents, we are particularly focused on reducing events with the potential to cause serious injuries or fatalities (“SIF”). In 2023, our SIF potential rate decreased by 35%, to 0.11 compared to 0.17 in 2022.

In 2023, our employee Total Recordable Incident Frequency (“TRIF”) increased by 14% and our contractor TRIF increased by 21% due to an increase in injuries compared to 2022, which is a trend Pembina is working to improve.

Leadership visibility in the field, where highest hazard work takes place, is critical in supporting safety culture and communicating and validating safety requirements. In 2023, our leaders conducted over 18,000 leadership engagements which represents a 100% increase compared to 2022, and reaffirms our emphasis on the value of leadership visibility in driving safety performance.

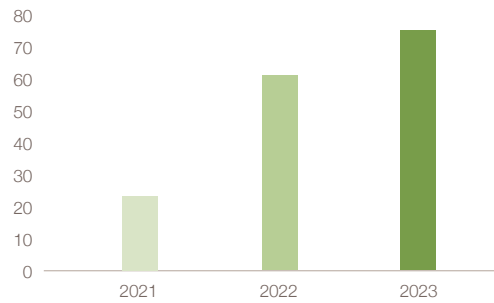
In 2023, we saw continued growth in a number of leading metrics, including hazard identifications and positive safety recognitions, which instill and promote a culture of safety throughout our organization by recognizing potential hazards before they become a safety incident. In 2023, over 9,000 hazard identifications were completed and approximately 22,000 positive safety recognitions were submitted, compared to over 8,000 and approximately 15,000 respectively in 2022. As part of our targeted actions to improve contractor safety performance, we implemented revised contractor qualification criteria, tightening our standards and increasing our contractor safety inspections, conducting more than 2,200 contractor safety inspections in 2023. We are committed to encouraging the proactive identification of potentially unsafe working conditions and implementing preventative actions to reduce the likelihood of an incident occurring.

Managing hazards and risk is a continuous process. In 2023, we conducted 76 PHA studies across our assets, an increase of 23% from 2022. These studies were conducted as part of regularly scheduled asset reviews and for new projects to proactively identify potential risks for mitigation prior to project construction. These studies are critical in helping to identify key process safety and operational risks that require further mitigating action.



In 2023, our SIF rate **decreased by 35%,** to 0.11 compared to 0.17 in 2022

Process Hazard Analysis Studies Performed



In addition to our leading metrics, we are focused on continuously improving our safety culture and preventing incidents as part of that the following initiatives were undertaken in 2023:

- Filled the newly created Vice President, Safety role;
- Continued emphasis on recognition for employees reinforcing our Stop and Think safety steps, by tracking and reporting actions taken as part of our safety metrics;
- Continued implementation of a safety inspections mobile application, enabling enhanced accessibility to employees and leaders for conducting and recording proactive safety engagement and viewing inspection result trends, resulting in a significant increase in the number of safety inspections in 2023;
- Improved metrics, tracking and reporting of leadership engagement and contractor safety inspections;
- Updated and revised contractor safety prequalification criteria in ISN;
- Initiated formal assessments of contractor safety programs for select contractors engaged in higher risk work at their work locations to validate that documented safety programs are implemented;
- Conducted our first annual Contractor Safety Summit, bringing together more than 80 representatives from our 15 key contractors and our employees to listen, learn and understand our contractors’ safety experiences at Pembina;
- Increased our use of robotic tank cleaning to reduce employee exposure to work in confined spaces; and
- Rolled out our Inclusive PPE initiative to provide a safer, more inclusive and equity-based option for all our employees. Ill-fitting PPE, such as loose coveralls, can create potential safety issues. We are excited to be a leader in this space and to see this project progress in 2024. [Refer to Employee Well-Being and Culture section](#) for additional details.

Safe Value in Action in Our Communities



To support our safe value, we have several partnerships with organizations including **Shock Trauma Air Rescue Service (STARS), Helicopter Air Lift Operation (HALO), Local Helicopter Emergency Rescue Operation (HERO) and Technical Evacuation Advanced Aeromedical Society (TEAM).**



Donated over **\$1 million to emergency helicopter operations** including over **\$200,000 donated** across the four organizations in 2023.

Our partnership with these organizations supports a fleet of medically outfitted helicopters; allows crews of nurses, paramedics and transport physicians to receive cutting-edge training; ensures pilots and engineers are operating at the top of their field; and supports the STARS Emergency Link Centre in coordinating hundreds of calls each week. With assets across western Canada, many in remote locations, Pembina is proud to contribute to the health and safety of our employees and citizens living in those communities by donating over \$1 million to emergency helicopter operations across British Columbia, Alberta, Saskatchewan and Manitoba over the last five years, including over \$200,000 donated across the four organizations in 2023.

Peace Pipeline Expansion Project - Aligning on Safety



In 2023, as part of our Phase 8 Peace Pipeline expansion project, Pembina initiated our formal safety alignment process with key project contractors.

The objective of the alignment process is to gather project management and field construction leaders from Pembina and its key contractors prior to starting field activities and co-develop strategies to address key project safety risks. The team identified and aligned around a set of leadership behaviours and safety actions required to ensure key safety issues are managed effectively. Safety metrics are then established and reported weekly to the project team to track performance against the agreed behaviours and actions. The approach has helped align project stakeholders around safety performance objectives. In 2023, the Phase 8 project experienced no SIF incidents.

Looking Forward | 2024 and Beyond

We recognize that employee and contractor safety are critical for sustained long-term safe and reliable operational performance.

While our employee safety performance remains strong, we continue to focus on enhancing our contractor safety performance through enhanced contractor selection, onboarding, performance assurance, and reporting in 2024 and beyond.

Priorities for 2024 include:

- Enhancing safety leadership skills across the organization;
- Evolving our OMS into Pembina's Operational Excellence Management System in support of our operational excellence journey (refer to page 19 for more information);
- Continuing to reduce operational risk through maturation of risk identification processes;
- Aligning our Life Saving Rules with Energy Safety Canada's Life Saving Rules;
- Strengthening our messaging on and recognition of desired Stop Work behaviours;
- Continuing to strengthen our contractor safety processes with a focus on reducing injuries and further lowering our SIF rate;
- Enhancing process safety awareness, reporting, and insights;
- Continuing the implementation of our PHA studies with a focus on implementing actions addressing key risks identified;
- Enhancing outage and turnaround planning; and
- Continuing to focus on leading safety metrics including leadership field engagements and contractor inspections.

We have built a strong foundation with safety as one of our core values and we will continually pursue opportunities to mature our culture and improve safety performance.



Responsible Asset Management

When **we operate our assets safely, reliably and with consideration for the environment**, we contribute to the sustainable success of our employees, communities, customers and investors.

At Pembina **we take a lifecycle approach to managing our assets** including planning, construction, operation, decommissioning and reclamation activities. We are committed to continuously improving our operations and seek to align our operating practices to leading standards.



Conducted over
100
emergency management
personnel training
sessions and
exercises

Inspected
5,300 km
of pipelines with
advanced in-line
technologies

This section covers several ways we responsibly manage our assets, including:

- > **Integrity Management**
- > **Emergency Preparedness & Response**
- > **Waste Management**
- > **Water Management**
- > **Biodiversity & Land Use**
- > **Cyber Security & Data Privacy**

Integrity Management

Analyst Corner

2023 Annual Information Form – Integrity Management (page 50-54)
 Health, Safety & Environment Policy
 Website - Responsible Asset Management



Our Approach

Maintaining the integrity of our pipelines, facilities, and energy infrastructure is essential to providing energy security and environmental protection.

Taking a lifecycle approach, we design, build and maintain our assets in accordance with various regulatory frameworks, industry standards and guidelines, and our comprehensive asset integrity management programs, which are components of our OMS. Our commitment to continuous improvement meets or exceeds the regulatory requirements in the areas in which we operate. More specifically, our programs include:

Damage Prevention Program

This program focuses on the development, implementation and management of robust control programs, effective surveillance and monitoring techniques, and the education of our stakeholders and communities. Specifically, we focus on mitigating risks through ongoing ground disturbance education and supervision, pipeline crossing assessments, right-of-way (“RoW”) patrol, land use and encroachment monitoring, managing third-party unauthorized activities through education and awareness and depth of cover management.

Public Awareness Program

This program defines how we create awareness about the presence of our assets in the communities in which we operate, the steps required to prevent damage to our assets and the role of our community stakeholders in recognizing, reporting and responding to pipeline and facility emergencies. We recognize that incidents, although infrequent, can occur, which makes it critical that we properly communicate our emergency response practices, share our available resources and incorporate all learnings into our stakeholder education materials.

Integrity Management Program (“IMP”)

Pembina utilizes comprehensive IMPs to prescribe evaluations and risk assessments that help determine the necessary testing and integrity work required to successfully maintain safe, reliable assets. These programs include the systems, processes, analysis, and documentation to proactively and transparently manage the

pipelines and facilities and ensure compliance with applicable standards and regulations. We dedicate a significant portion of our annual operating budget directly to integrity management activities to maintain safe and reliable operations.

Specific integrity activities for our pipelines and facilities include:

- > Pipeline risk assessment
- > In-line inspection (“ILI”)
- > Integrity digs and repairs
- > Corrosion management
- > Leak detection
- > Geotechnical monitoring and mitigation
- > Cathodic protection
- > Facility equipment assessment and repair
- > Internal program and performance audits

Proactive integrity management activities include geotechnical programs to manage slope instability and water crossings, extreme weather monitoring systems, training and competency management programs for staff and contractors, enhanced emergency response procedures and training exercises, and the use of specialty chemicals to reduce the likelihood of internal corrosion.

Additionally, to ensure quality, ongoing continuous improvement, and compliance with all our integrity programs, we conduct both voluntary and mandatory internal and external assurance activities. If we identify improvement opportunities, we develop and implement a corrective action plan.

Technology Enabled Pipeline Inspection

Pembina uses the latest in-line inspection technology to monitor the condition of our pipelines, including specialized tools to detect corrosion, cracking, geometry features, and strain throughout the network.

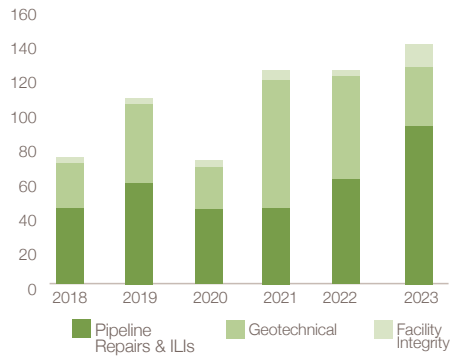
2023 Performance

Pembina safely operates approximately 16,300 km of hydrocarbon liquids and natural gas pipelines, and related facilities and infrastructure, across North America. Pipeline and facility inspections, evaluations, and preventative maintenance ensure safe, reliable, and environmentally responsible operations. 2023 performance highlights include:

\$142 million
spent on asset integrity
activities in 2023

Pembina Integrity Spend

millions



Inspected more than

5,300 km
of pipeline with advanced
in-line technologies

Conducted

365
integrity digs
to evaluate potential pipeline
damage

Completed more than

2,200
geohazard inspections
and surveys

Completed

3,300
facility equipment inspections
and repairs, including nine facility
turnarounds

We reviewed and responded to more than 27,000 planned ground disturbance notifications related to our pipelines in 2023, to ensure that construction activities near our pipelines were completed safely



We engaged with more than

90,000
external stakeholders,
in proximity of our pipelines, educating
them on our damage prevention program
and promoting pipeline safety

Looking Forward | 2024 and Beyond

Effective asset integrity management is essential to our business and our commitment to public safety and environmental protection.

We will continue to diligently undertake assessment, management and continuous improvement actions and strategies. As part of our commitment to continuous improvement, we are:

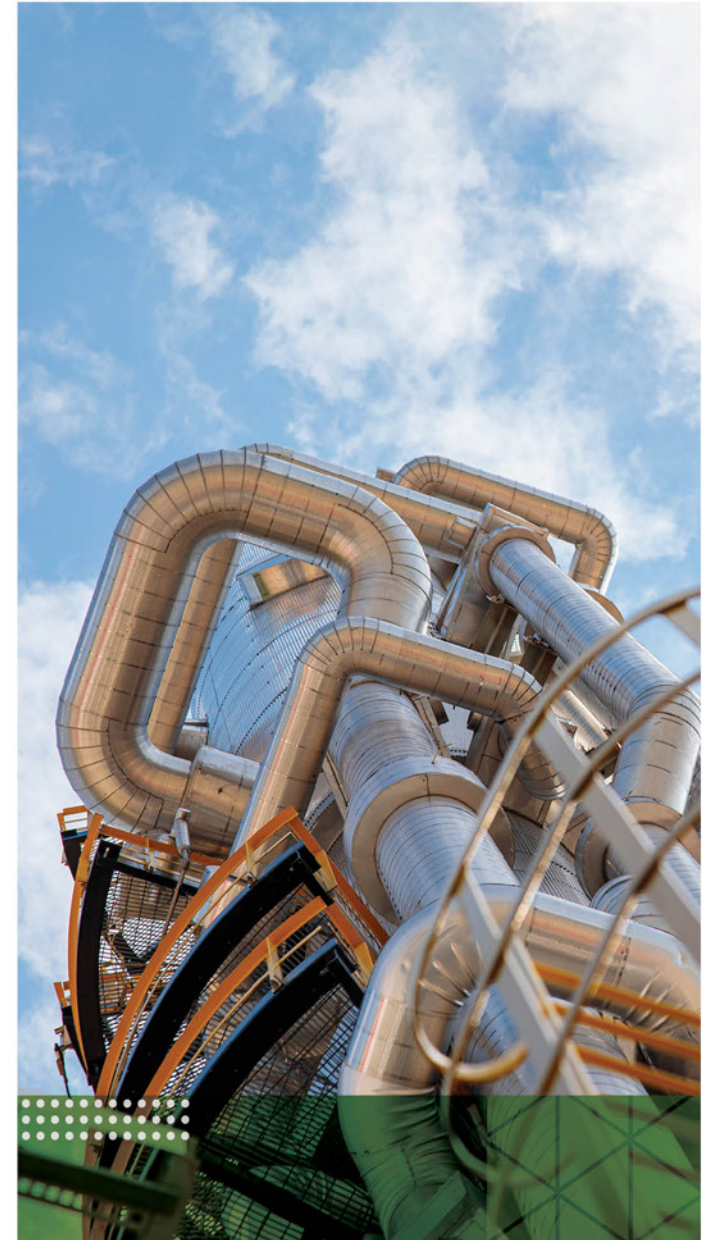
- Enhancing our pipeline risk assessment algorithms to advance quantification of pipeline risk which will result in improved integrity management;
- Continuing Risk Based Inspection studies including phased implementation to all major facilities;
- Completing the implementation of the new facility integrity software deployment and full integration with other enterprise applications; and
- Improving land use development management by developing enterprise solutions to proactively identify future developments such that any necessary pipeline upgrades are planned and executed in a timely manner to maintain safe operations.

In addition to continuous improvement areas identified, we will undergo asset integrity management compliance and performance evaluations through both regulatory and self-audits. Lastly, we are focused on the integration of assets acquired as part of the Alliance/Aux Sable Acquisition into our various integrity management programs.

Pipeline inspections follow an annual plan that is designed to meet a range of criteria including regulatory requirements, operating history, maintenance schedules, resource availability and overall risk assessment. As a result, the percentage of pipelines inspected can vary significantly year to year. Since some pipeline systems are much longer than others, total length (and therefore percentage) of pipeline inspected may also vary considerably from year to year. In 2023, 33% of hazardous liquids pipelines and 27% of natural gas pipelines were inspected compared to 34% and 6% respectively in 2022.

In 2023, we executed several activities to improve the safety and reduce the environmental impact of our current and future operations. Specifically we:

- **Acquired and deployed industry-leading software** to enhance facility integrity data management and assessments; and
- **Commenced risk-based studies** for our major facilities to optimize inspection and repair methodology and further improve our facility integrity maintenance practices.



Emergency Preparedness & Response

Analyst Corner

[2023 Annual Information Form – Operational Risks \(pages 90-91\)](#)
[Health, Safety & Environment Policy](#)
[Website - Responsible Asset Management](#)



Our Approach

We responsibly manage the design, construction, operations, and maintenance of our assets to ensure safe and reliable business operations.

As part of our risk management approach, Pembina has developed business continuity and Emergency Management Plans to prepare for, mitigate against, and respond to a variety of hazard scenarios. Our detailed Emergency Management Plans outline accountabilities and processes to execute the timely deployment of equipment, resources, and trained personnel. We implement a robust schedule of training and emergency response exercises to confirm our ability to respond safely and effectively. The success of this program requires commitment, training, and discipline to support business continuity, keep our communities safe and minimize impact to the environment.

2023 Performance

As part of our focus on continuous improvement, we identify opportunities to enhance our emergency response capabilities.

In 2023, we implemented new dedicated Regional Response Teams (“RRT”) and an Incident Technical Response Team (“ITRT”). These teams include technical experts from across the company organized within three geographical areas. They are supported by a dedicated centralized team of subject matter experts responsible for the planning and execution of necessary response activities during a significant emergency. Establishing a dedicated team of responders enables team members to collaborate more frequently, building relationships, confidence, and trust in preparing for and responding to emergency events.

As part of our proactive approach to emergency response, in 2023, we conducted more than 100 emergency management personnel training sessions and exercises, including eight spill/fire equipment deployment sessions, and eight boat training sessions. To support response coordination in the event of a potential emergency 48 Community Awareness and Emergency Response (“CAER”) presentations were held, which included participation from 441 attendees representing different local authorities and First Responder groups. Pembina also held three full-scale emergency response training exercises with one in each of the RRT geographic areas.

- The Whitecourt (“West RRT”) Full Scale Exercise allowed initial responders to practice transferring command of the incident to the incoming RRT and ITRT members. The exercise also provided the responders with an opportunity to practice establishing a larger incident command post at an offsite facility.
- The Van Wharves (“East RRT”) Full Scale Exercise was Pembina’s largest exercise to date. It involved the establishment of an offsite incident command post with over 100 participants comprised of Pembina responders, multiple government agencies, Indigenous communities and contracted resources and was jointly coordinated with the West Coast Marine Response Corporation. The exercise simulated a liquid product release into the Burrard Inlet during ship loading operations at Pembina’s Vancouver Wharves facility. As part of the exercise, emergency response equipment, including boats, floating containment booms, and wildlife protection equipment was deployed in the Vancouver Harbour to practice implementation of the Vancouver Wharves Emergency Response Plan and Oil Pollution Emergency Plan in alignment with Transport Canada requirements.
- The Cochin US (“US RRT”) Full Scale Exercise required the establishment of public protection measures and the deployment of a RRT and ITRT along with regulatory required contracted third-party spill response resources giving responders an opportunity to practice their assigned roles, furthering their experience in these positions.

These three training exercises enabled our response teams to test and practice our emergency response capabilities and work with key stakeholders to ensure we are well prepared in the event of an incident. Furthermore, they reinforce our commitment to safety and support a differentiated stakeholder experience through new opportunities for proactive relationship building and collaboration with our colleagues and partners. As part of our commitment to our communities and to ensure safe and reliable operations, Pembina's Emergency and Continuity Management Program undergoes continual review as standards and protocols are updated to incorporate lessons learned.



48
Community Awareness and Emergency Response presentations were held



Alberta Wildfires



In May 2023, wildfires across Alberta and British Columbia led to local states of emergency and evacuation orders in several areas where we operate impacting our people, our communities and our assets.

Members from both our East and West RRTs, as well as the ITRT, quickly assembled and began supporting an efficient and coordinated response to the wildfire situation. During this time, a number of our facilities were shut down including various pump stations, gathering systems and other supporting infrastructure as a precautionary measure. Emergency wildfire prevention measures, including fire breaks around our assets, served as essential mitigation measures in protecting our assets from damage. Once the wildfires were under control and evacuation orders were lifted, our operators began accessing the impacted sites and implemented phased restart plans for shut-in assets. Our emergency response teams worked alongside authorities to ensure our people could return home safely and were provided essential resources to support them as well as impacted communities during this time.

Despite the widespread impacts of the wildfires, the newly dedicated response teams were extremely effective in managing the situation, ensuring the safety of our people and protecting the integrity of our assets with no damage recorded.

We are so proud of our Pembina employees who, despite being in affected areas, extended a helping hand to others within their communities, from providing evacuees a place to stay to volunteer firefighting or hosting evacuee BBQs. The determination, resilience and commitment our people demonstrated during this period served as a strong testament to our values as a company.

Spill Performance

During the year, we had five reportable spills, one of which was considered significant¹³: a 120 barrel (“bbl”) release of NGL liquids and approximately 470 thousand cubic metres (“e3m³”) of NGL vapour were released from the Northern Pipeline System located approximately 30 km southeast of Valleyview, Alberta in January 2023. Pembina’s Emergency Response Team was activated, and the pipeline was quickly isolated to ensure no impacts to public safety. Once the site was secured the pipeline was shut down, repaired and inspected for continued safe operation. On February 21, 2023, transportation on the system resumed at modified maximum operating pressures following approval from the Alberta Energy Regulator (AER) and as of May 15, 2023, was approved to operate at normal maximum operating pressures. Environmental impacts were assessed immediately after the release and remediation of the impacted area was successfully completed in September 2023. Re-vegetation activities are underway and reclamation progress will be monitored in 2024.

The other four spills include two truck loading and unloading incidents that resulted in the release of 127 bbl of hydrocarbon liquids, a pipeline release of 19 bbl of condensate and a 3 bbl spill identified during pipeline RoW maintenance.

Through our ongoing commitment to spill prevention and mitigation, we are pleased to report that more than 99% of liquid hydrocarbons from reportable releases in 2023 were recovered and remediation was conducted.

CN Safe Handling Award



In 2023, Pembina’s Redwater Facility, Edmonton South Rail Terminal (ESRT) and Aux Sable Channahon Facility were recognized with the Canadian National Railway (“CN”) Safe Handling Award for safe shipping of regulated products. These awards recognize customers who load freight cars with dangerous goods and meet strict standards for the safe handling and shipment of products. There are several criteria that must be met to receive the award, including limits on non-accidental releases. Receiving this recognition from our peers in the rail industry speaks to the dedication of our teams to Pembina’s core value of Safety.

Looking Forward | 2024 and Beyond

In 2024, we will focus on continuing to build the organization’s resiliency to address threats, emergencies and business disruptions.

Recent events, including the Northern pipeline incident, 2023 wildfires, COVID-19 pandemic, and energy industry cyber security attacks, have highlighted the need for enhanced operational resiliency, supporting minimal downtime from an emergency or business interruption. We will focus on completing business impact analyses and business continuity plans for priority assets, systems, and services. The intent of these efforts is to better understand the interdependencies between critical processes and to prioritize resumption efforts following an emergency and/or business disruption, to minimize operational downtime and further impacts to Pembina.



¹³ A significant spill is defined as a release of a commodity product that must be reported to an external agency or authority, such as a federal, provincial or state regulator, and that includes one or more of the following: a serious injury or fatality; an unintentional ignition or fire; a liquid release of greater than 8 m³ (50 barrels); a solids release (mineral concentrates and/or sulphur) of greater than 200 kilograms to land and/or any solids release (including mineral concentrates) to a body of water; or a rupture or breach of a pipe, tank, or containment.

Waste Management

Analyst Corner

Health, Safety & Environment Policy
Website - Responsible Asset Management



Our Approach

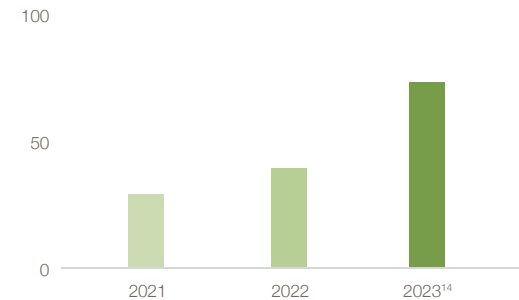
Minimizing waste is an important element of reducing our impact on the environment. We actively identify opportunities to treat, recycle or divert our waste.

Pembina's waste is generated through the hydrocarbon processing, transportation and storage asset lifecycles, including during construction, operations, maintenance, and closure of our operations. Non-hazardous waste generated from our operations includes materials consumed in facility operations and maintenance as well as domestic and construction wastes. Hazardous wastes include non-marketable hydrocarbon residuals, wastes generated from cleaning and maintenance of tanks and lines, solids produced by our wastewater treatment processes, and materials generated from site remediation. Pembina operates in jurisdictions within Canada and the US where management of hazardous wastes is strictly regulated and we meet or exceed all regulatory requirements for the safe handling and disposal of hazardous waste.

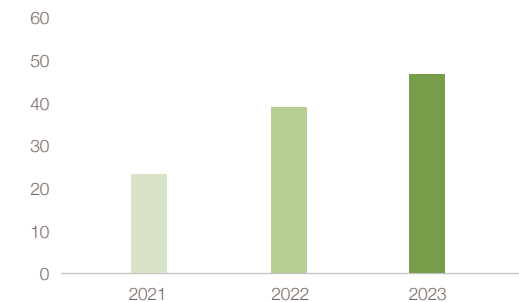
To enhance life cycle tracking of waste, we participate in a waste receiver assessment program to review the performance of waste receivers. We use the information to guide waste supplier management.

We meet or exceed all regulatory requirements for the safe handling and disposal of hazardous waste

Total Non-Hazardous Waste Generated
(000's metric tonnes)



Total Hazardous Waste Generated
(000's metric tonnes)



¹⁴ The increase in Total Non-Hazardous Waste in 2023 was primarily from the Alexis pipeline remediation and re-route project. In the absence of the one-time disposal activities associated with the Alexis Remediation Project, our non-hazardous waste volumes would have been 23,968 metric tonnes, a 41% reduction from our 2022 disposal volumes.

2023 Performance

Non-Hazardous Waste

In 2023, we experienced an increase in our non-hazardous waste volumes driven by remediation activities related to the Alexis Remediation Project and the Northern Pipeline System release. This resulted in our non-hazardous waste volumes totalling 74,001 metric tonnes in 2023, an increase of 81% from 2022.

The completion of the Alexis Remediation Project required removal of approximately 50,000 metric tonnes of debris and soil which was disposed of appropriately in accordance with regulatory guidelines for non-dangerous oilfield waste. We are pleased to report the successful completion of the Alexis remediation work and return of the land to landowners. [Refer to the Biodiversity & Land Use section](#) for additional details.

In the absence of the one-time disposal activities associated with the Alexis Remediation Project, our non-hazardous waste volumes would have been 23,968 metric tonnes, a 41% reduction from our 2022 disposal volumes.

The Northern Pipeline System release required a coordinated response to assess and manage the remediation of the impacted area, including the disposal of approximately 2,200 metric tonnes of landfill waste. We successfully completed our remediation efforts in September 2023, re-vegetation activities are underway and reclamation progress will be monitored in 2024. [Refer to the Emergency Preparedness and Response section](#) for additional details.

Volumes of non-hazardous waste diverted increased by 25% in 2023 due to a change in maintenance practices at our Channahon facility creating additional volumes available for industrial re-use.

Hazardous Waste

Our hazardous waste volumes also increased to 46,453 metric tonnes, primarily due to process waste from our Redwater facilities that is unable to be reused within other facility systems and is disposed of into injection wells.



Looking Forward | 2024 and Beyond

In 2024, we anticipate our non-hazardous waste volumes to decrease and more closely align with historical waste volumes.

At this time, we do not have any significant remediation projects planned that would result in waste levels commensurate with the higher levels experienced in 2023.

Pembina continues to evaluate digital waste tracking tools to improve waste data management. We will also continue our broader efforts to minimize waste volumes and evaluate waste recycling and diversion opportunities in collaboration with our industry partners. As part of these efforts, we are currently evaluating opportunities to recycle facility waste streams for use in other industrial processes.

We are pleased to report the **successful completion of the Alexis Remediation Project** and return of the land to landowners

Water Management

Analyst Corner

Health, Safety & Environment Policy
Website - Responsible Asset Management



Our Approach

Water is a precious and essential resource. Pembina strives to reduce water usage whenever possible and avoid potential impacts to water resources, while returning as much water back into the hydrologic cycle as possible.

We adhere to strict regulations regarding water withdrawal and discharge, and only when we cannot return the water into the environment, do we send volumes to water treatment or disposal facilities. Across our operations, we follow an Environmental Management Program which dictates our water management practices and we comply with all requirements under our water licenses.

At Pembina, water is used in our operations for:

- > development and maintenance of salt caverns for hydrocarbon storage
- > pipeline and facility construction
- > facility process cooling
- > facility boilers and process make-up
- > dust suppression

As part of our life-cycle approach to water, we undertake various methods to responsibly manage the water we use:

Water Sourcing: Our operations teams consider the impact water sourcing may have on the surrounding communities and other stakeholders in our operating areas and we strive to minimize our use of freshwater in areas of water scarcity. Our Channahon, Illinois facility is the only withdrawal location in an area identified as having high baseline water stress, according to the World Resources Institute Aqueduct Water Risk Atlas. Freshwater at Channahon is used as process water for cooling the fractionation facility. We continue to monitor regional water conditions and are evaluating options to reduce water sourcing demand from local aquifers.

Water Reuse: Water reuse is an important part of Pembina's approach to water management. We use water from our stormwater retention ponds for construction and road dust suppression rather than freshwater. Additionally, we work with

some upstream customers to reuse produced water from our facilities for upstream drilling. This approach reduces Pembina's water disposal and lowers our upstream freshwater use.

Water Disposal: Diversion of wastewater to disposal facilities results from two primary circumstances. The first occurs when high salinity brine forms during cavern washing and development and the brine volume exceeds the available storage. The second instance arises when water is removed from the gas provided by upstream producers during gas processing. In both cases, this wastewater contains high salinity and dissolved solids and is disposed of at licensed injection facilities to meet regulatory requirements.

Water Discharge: Prior to discharging water back to the environment, we undertake appropriate water treatment and testing. Water discharge includes both treated process cooling water and accumulated rainfall and snowmelt. With respect to water discharge practices at our Channahon and Vancouver Wharves facilities, water is collected, treated and tested to ensure the water quality is aligned with regulatory requirements for discharge. At our other facilities, we collect, test and manage but do not treat stormwater for discharge in accordance with applicable regulatory requirements.

Collaborating with Industry Partners on Water Reuse

In 2023, Pembina collaborated with upstream producers on a water reuse initiative near Patterson Creek, Alberta. The objective was to replace freshwater used for production well drilling with produced water. On this basis, Pembina provided producers in the area with produced water from four of its gas processing batteries to support drilling operations. The water transfer avoided more than 246,000 m³ of freshwater withdrawal for our industry partners, while reducing Pembina's total water disposal volumes.

In addition to minimizing impacts to the natural environment, the initiative reduced costs, emissions, noise, and landowner impacts associated with trucking and treating water. We plan to continue this initiative in 2024 and beyond, including identifying additional opportunities to expand water reuse within our industry.

Pipeline Hydrotesting

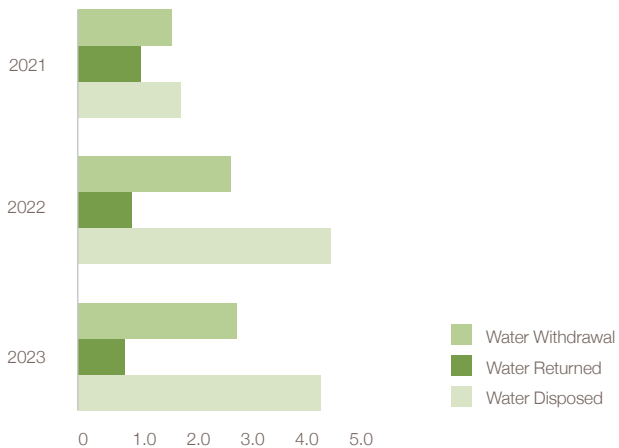
During construction, Pembina rigorously tests our pipelines to ensure they are safe and performing to design specifications before they are commissioned for operations. One way to do this is through hydrotesting, which involves filling the pipeline with water and pressurizing the pipeline to test for leaks or weaknesses.

Hydrotesting often requires Pembina to withdraw freshwater from nearby sources identified in consultation with local stakeholders and regulators. We obtain water use permits from the relevant authorities which include conditions on volumes, timing, and fish screening practices to minimize impacts to the environment. We then install temporary lines and pumps to withdraw the required amount of freshwater to support pressure testing.

Once the hydrotest is complete, we test the water to ensure that it meets the required standards before it is released back into the environment. We use soil and water testing to ensure we return all of the withdrawn water without impacting the local environment. Overall, our process for hydrotesting is carefully planned and executed to ensure that the water is of high quality and is successfully returned into the regional hydrologic cycle.

Water Management

(million m³)



2023 Performance

Water Withdrawal: In 2023, Pembina’s total water withdrawal was approximately 2.8 million m³ compared to 2.7 million m³ 2022. The majority of our 2023 water withdrawal volumes, approximately 2.2 million m³, are associated with process water for cooling our Channahon facility and process, cooling, and boiler water at the PGI Kaybob Amalgamated and Kaybob 3 gas plants.

Water Disposal: Year-over-year disposal volumes decreased by 4% to 4.2 million m³ in 2023 compared to 4.4 million m³ in 2022. Total water disposal volumes are higher than total water withdrawal volumes due to high volumes of produced water removed during gas processing.

Water Consumed: Overall freshwater consumed increased by 12% to 2.28 million m³ in 2023 compared to 2.04 million m³ in 2022. The increase relates to operational issues at the PGI Kaybob Amalgamated facility, resulting in approximately 90,000 m³ of additional consumption which has since been resolved and approximately 85,500 m³ of additional water consumed for cavern and brine pond maintenance at our Redwater facility.

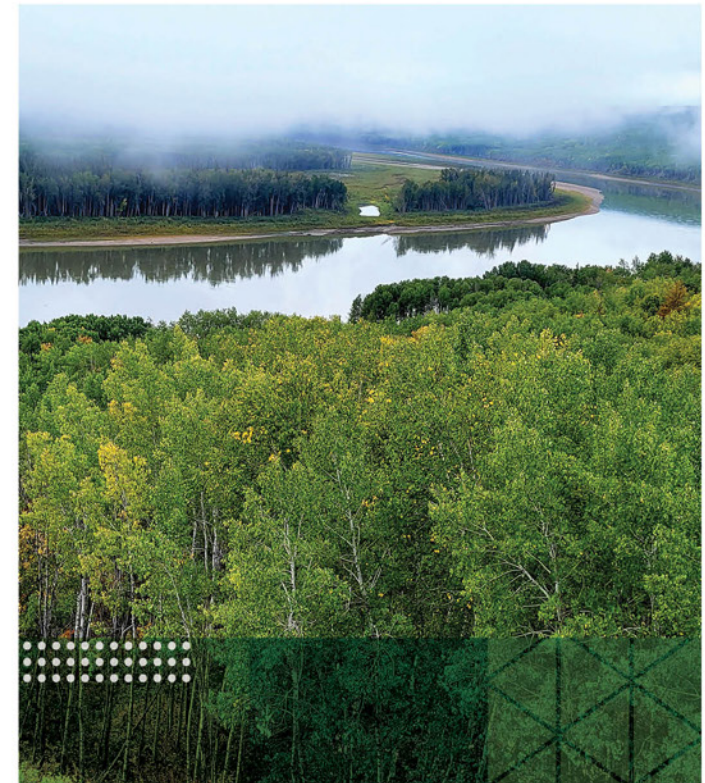
Water Returned: Water returned to the environment decreased by 10%, resulting from annual variance in cooling requirements at our Channahon Facility as well and year over year changes in precipitation at Vancouver Wharves where rainwater is treated as part of our water treatment system.

Water Sourcing: In 2023, 35.5% of our total freshwater withdrawn and 36.2% of our total freshwater consumed was sourced from an area of high or extremely high baseline water stress.

Looking Forward | 2024 and Beyond

We continue to evaluate opportunities to reduce and reuse water where possible in our operations.

Our environmental protection plans outline our operating procedures and regulatory compliance obligations, including with respect to water use and withdrawal, and we continue to operate within the limits of our water licenses. Additionally, Pembina plans to continue efforts to improve our water data management practices, including water consumption, reuse, and disposal. To identify potential opportunities for future water reuse and reduction initiatives, we are undertaking more frequent monitoring and analysis of our water usage data.



Biodiversity & Land Use

Analyst Corner

[2023 Annual Information Form – Abandonment Costs \(page 98\)](#)
[2023 Annual Report - Abandonment Costs \(page 50\)](#)
[2023 Annual Report - Decommissioning Provision \(page 94, 114\)](#)
[Health, Safety & Environment Policy](#)
[Website - Responsible Asset Management](#)
[Task Force on Nature-related Financial Disclosures](#)



Our Approach

Pembina is committed to land conservation and minimizing the impact of our operations on the environment.

We recognize the importance of protecting the abundance and diversity of plants and wildlife. We are also committed to conserving the social and cultural values of land and aquatic resources for Indigenous Peoples and local communities. We do this through detailed assessment, planning, and ongoing monitoring of the impacts that our projects and operations have on plants, wildlife, and aquatic species as well as through our ongoing efforts to reclaim and restore lands affected by our operations.

As part of our life-cycle approach to land management and biodiversity we focus on the following:

Stakeholder engagement: We conduct early, meaningful, and ongoing engagement with local communities and other stakeholders to facilitate dialogue throughout the development of our assets, from pre-construction through to final reclamation. As part of our commitment to local communities and Indigenous Peoples, we foster relationships that allow us to learn, build trust, and understand stakeholder perspectives, including addressing wildlife and biodiversity concerns. Our engagement with Indigenous communities recognizes the profound relationships that Indigenous People have with the land on which we operate. [Refer to the Indigenous and Community Engagement section of this report for more information.](#)

Environmental assessment and planning: During the planning phase for new projects, Pembina conducts baseline assessments on vegetation, wildlife, and aquatic environments. Qualified professionals conduct aerial and on-the-ground wildlife assessments to identify sensitive wildlife features such as bear dens, migratory bird and raptor nests and amphibian habitat. Where watercourse crossings or marine infrastructure are required, aquatic habitat assessments and marine mammal and fish surveys are conducted to inform planning and mitigation or compensation activities.

Managing Our Impact on Biodiversity

Wildlife Management Plans are implemented across our operations to address risks to species of concern and to outline planned mitigations.

Where wildlife or sensitive habitat features are identified, Pembina uses a mitigation hierarchical approach to limit potential impact to the environment, as follows:

- 1. Avoidance:** Steps are taken to design facilities and pipelines in locations that avoid sensitive habitat or direct disturbance to wildlife. Examples include the placement of pipelines or marine infrastructure outside of rare habitats, breeding grounds, or migration routes.
- 2. Minimization:** Where habitat or indirect disturbance cannot be avoided, measures are taken to reduce the duration, intensity and/or extent of impacts. Examples include timing restrictions to avoid breeding or nesting seasons or building wildlife corridors into project design.
- 3. Reclamation/Restoration:** The aim of restoration is to improve degraded or removed ecosystems following impacts that cannot be completely avoided or minimized. Restoration attempts to return an area to the original ecosystem to support the plants and animals that were present before impacts.
- 4. Habitat Enhancements/Offsets:** Offsetting is a non-net loss or net-gain approach to compensate for any residual, adverse impacts after full implementation of the previous three steps of the mitigation hierarchy. Examples include undertaking fish habitat enhancement upstream of river crossings or undertaking land restoration/rehabilitation work on degraded lands outside of Pembina's operating footprint.

Managing species of concern: We are committed to protecting sensitive or rare habitats and species and where threatened, at-risk, or endangered species are identified, we work with regulators, landowners, and stakeholders to avoid or mitigate impacts on these valued resources.

Habitat restoration and enhancement: We undertake a robust process to restore lands impacted across the three phases of construction, operations and decommissioning:

› **Construction phase:** Once construction is complete, Pembina begins reclamation work on disturbed lands including RoWs to restore them to their prior land capability. In non-agricultural areas, we focus on natural recovery to reduce the potential of introducing invasive plant species into an area. For agricultural lands, we collaborate closely with landowners, with an aim to return the land to production within two growing seasons.

In the years following construction, Pembina actively monitors revegetation success and conducts follow-up reclamation where areas of erosion or changes in vegetation growth are identified. At the end of the second growing season, a third-party assessment of the RoW is conducted to verify reclamation success and support reporting to regulators where required.

- › **Operations:** During operations, we undertake periodic vegetation management along RoWs to minimize integrity risk and maintain access. In areas of habitat recovery for species of concern, we adapt our practices to help maximize available habitat and reduce lines-of-sight for predators.
- › **Decommissioning:** Upon decommissioning of an asset, we work diligently to return the site to original land equivalency.



499 hectares
of pipeline RoWs reclaimed

2023 Performance

Land Use

As a result of our planned capital growth and safety programs, the work completed by our pipeline construction and integrity management teams resulted in 49 hectares of new disturbance. This disturbed land will be reclaimed as part of Pembina's comprehensive land reclamation program. Overall, our total pipeline footprint¹⁵ remained relatively unchanged from 2022, with additional pipeline land disturbance offset by divestiture and asset retirement activity.

Reclamation

In 2023, Pembina completed reclamation on 499 hectares of pipeline RoWs and we are actively reclaiming an additional 1,636 hectares. In addition to pipeline reclamation, we also make significant investments to assess, abandon, and reclaim inactive well sites. In 2023, we completed reclamation activities on nine inactive well sites in Alberta. Since 2013, Pembina has reduced our overall inventory of inactive well sites from 127 to 32, and during 2023 we returned nine hectares of reclaimed wellsite lands to landowners. We are currently forecasting reclamation certificate closure of the remaining well sites by the end of 2030.



Boring Bear Dens

In November 2023, during the environmental assessment and planning phase for a new pipeline, our wildlife sweep identified an active black bear den. When coming into contact with sensitive wildlife features, such as dens or nests, our practice is to avoid direct disturbance to the wildlife. We adapted our construction plan to maintain a buffer zone on either side of the den following Alberta Environment and Parks and Alberta Energy Regulator guidance. Using directional drilling, a process where a small drilling rig drills a horizontal hole beneath a feature, we were able to install the pipe beneath the den without disturbing the bear or the forest in the buffer zone.

Finding innovative solutions to protect wildlife habitats is part of our approach to responsible asset management, aligns to our values, and helps Pembina to deliver projects on time and budget.

¹⁵ Pipeline footprint is defined as lands containing Pembina's pipeline RoWs.

Alexis Remediation Project



2019/2020 Phase 1 Remediation



October 2023 - Site Cleaned

In 2023, Pembina completed a long-term remediation project to address a historic Peace Pipeline spill on the lands of the Alexis Nakota Sioux Nation (“ANSN”), northwest of Whitecourt.

The site was impacted by a historical crude oil release which contaminated soil surrounding a 250 m section of the pipeline. Various environmental and wetland assessments undertaken since the spill confirmed the need for a significant remediation effort to restore the site. Since 2019, the project included the replacement and rerouting of more than 600 m of pipeline, the removal and replacement of more than 80,000 tonnes of soil, and the restoration of more than two hectares of land.

The Alexis Remediation Project benefited from a collaborative relationship with ANSN and their nation-owned contractor, Backwoods Energy Services. Backwoods completed the excavation, backfill and pipeline reroute work for the remediation project. In addition to the employment opportunities for the community, reclamation materials used within the first phase of the project were sourced from ANSN lands. The project also resulted in an upgraded and extended community access road, benefiting nearby residents. [Refer to the Indigenous Engagement section](#) for additional details.



Since 2019 the project included the replacement and rerouting of more than **600 m of pipeline**, as well as removal and replacement of more than **80,000 tonnes of soil**



Pembina committed more than

\$350,000

over the last three years to support habitat restoration and biodiversity enhancement projects through its **partnership with Project Forest**, a non-profit organization focused on rewilding local landscapes to capture carbon naturally



Habitat Enhancement and Species at Risk

Supporting a sustainable future is a pillar of our Pembina community investment program. Pembina committed more than \$350,000 over the last three years to support habitat restoration and biodiversity enhancement projects through its partnership with Project Forest, a non-profit organization focused on rewilding local landscapes to capture carbon naturally. By converting under-utilized land or non-productive agriculture land to lush forest, these areas can provide significant environmental benefits for our planet including absorbing CO₂, helping regulate the local climate, producing oxygen, improving soil quality, and attracting wildlife.

In 2023, our partnership with Project Forest supported projects with three Indigenous communities. Repairing damaged traditional lands with the guidance of Indigenous communities is a means to advance ecological reconciliation.

One of the projects we supported in 2023 was the Swan River Ecological Reconciliation project. Project Forest worked with Swan River First Nation (“SRFN”) to understand the food bearing, medicinal and culturally significant tree and shrub species required to rewild an area previously cleared for agricultural use. In total, approximately 15,330 food-bearing and medicinal shrubs have been planted within SRFN Reserve lands through this project. “Success to me means taking my grandkids and great grandkids to the forest we’re planting with Project Forest,” says Dustin Twin, former Council member for Swan River First Nation. “We will walk on the trail, sit with our ancestors’ spirits, and pick berries. It’s a feeling of security, of knowing my community can take care of themselves.”

We continue to explore new projects with Indigenous communities across our operations, which our funding will support in future years. We look forward to collaborating with Indigenous communities on these projects which will help us to understand the importance of their traditional territory and unique culture.



Looking Forward | 2024 and Beyond

As Pembina continues to align our disclosure practices to the recommendations of the TCFD, we will leverage our governance structures and risk management processes to manage both climate and biodiversity strategy in an integrated manner.

With increasing stakeholder interest in loss of biodiversity and the impacts of our business on the environment, Pembina is actively reviewing the recommendations of the Taskforce on Nature-related Financial Disclosures (“TNFD”) released in 2023, to inform our biodiversity strategy, management processes, and future disclosure practices.

Cyber Security & Data Privacy

Analyst Corner

2024 Management Information Circular - Cyber Security (page 37)
 2023 Annual Information Form – Cyber Security (page 101)
 NIST Cybersecurity Framework



Our Approach

Information technology and data protection are essential to Pembina’s business operations. As a result, cyber security and data privacy are critical business priorities for our company.

Cyber security and data privacy are managed by our Information Services team reporting into our Senior Vice President, Corporate Services Officer with ultimate oversight by the Board of Directors.

Through our Security, Information Management and Privacy Policies we are committed to protecting the availability, confidentiality and integrity of our information. In that context, we manage and maintain the accuracy and security of personal information in accordance with applicable laws and regulations.

Cyber security is part of our OMS and is supported by a robust program for identifying and mitigating cyber security risks and enhancing the skills and capabilities of our people, processes and technology. This program consists of policies, standards, procedures and guidelines. Our cyber risk identification process detects potential risk through third-party risk assessment, maturity analysis, penetration testing, among other tactics, and assigns corrective action and oversight to the appropriate leader. Our programs align to the National Institute of Standards and Technologies Cyber Security Framework (“NIST CSF”), a recognized best practice framework for managing cyber security.



There are three core components to our cyber security and data privacy approach:

01

Governance

- > Adherence to cyber best practices and measurement of success; and
- > Routine training and testing of the workforce on cyber risks and appropriate actions.

02

Risk & Compliance

- > Focus on evolving regulatory requirements and management of our third party and supply chain risks;
- > Vulnerability and risk assessments performed on a regular basis utilizing both internal resources and external service providers; and
- > Assurance that the architecture, processes and controls are in place within our Operational Technology and Information System assets.

03

Security Operations

- > Continuous monitoring to identify potential vulnerabilities, irregular or threat activities, as well as global trends and incidents;
- > Maintaining infrastructure security through network architecture that separates our business and operational assets;
- > Automated response capabilities for cyber-attacks; and
- > Ongoing maintenance of cyber technology platforms and incident response activation capabilities.

2023 Performance

In 2023, we continued to advance our program across our three core components including:

Governance

- Continued execution of our five-year plan based on our 2021 third-party NIST CSF assessment. This plan focuses on asset management, identity management, supply chain risk management and incident response to ensure we remain aware of and aligned with the evolving industry standards and regulations.
- Positive results from employee and contractor education and training sessions. In 2023, our enhanced email security solution resulted in employees and contractors identifying and reporting more suspicious emails. With the automated response feature, employees receive immediate feedback on the assessment of the email, whether it is safe, spam, or malicious. Our internal phishing campaigns have seen a positive trend with fewer failures and more reported incidents over 2023. Our positive results are supported by strong employee participation in more than 20 awareness presentations conducted during the year.

Risk & Compliance

- Conducted two technical incident response simulations with business units, service units and our crisis management teams to ensure we are prepared for how to respond in the event of a breach.

- Integrated the additional assets acquired as part of the 2022 PGI transaction into our operational field asset register and ensured their alignment with Pembina's Cyber Security standards.
- Continued maturity of our supply chain and third-party risk processes and enhanced cyber security considerations for projects through additional checkpoints.
- Completed cyber risk assessments, third-party incident response tabletop exercises, internal and external audits throughout several business units, covering select corporate and operational field assets.

Security Operations

- Enhanced email security utilizing artificial intelligence and machine learning to assist in identifying additional malicious incoming emails.
- Reduced organizational and reputational risk through effective implementation of our Cyber Threat Intelligence Program. During 2023, a large number of potential cyber security threats were identified including compromised vendors, exposed email addresses, look alike domains and social media profiles, allowing for protective actions to ensure integrity of corporate information.

Cyber Security Risk Oversight

5

Number of times senior leadership formally briefed the Board and/or Board Committees on cyber security matters¹⁶

4

Number of directors with technology, systems, and data management skills¹⁷

Cyber Security Risk Management¹⁸

Cyber security training and compliance program implemented

Yes

Cyber security insurance policy obtained

Yes



Looking Forward | 2024 and Beyond

We remain vigilant and committed to ensuring our policies, standards, procedures and controls adapt to the ever-evolving cyber security and data privacy threats and laws.

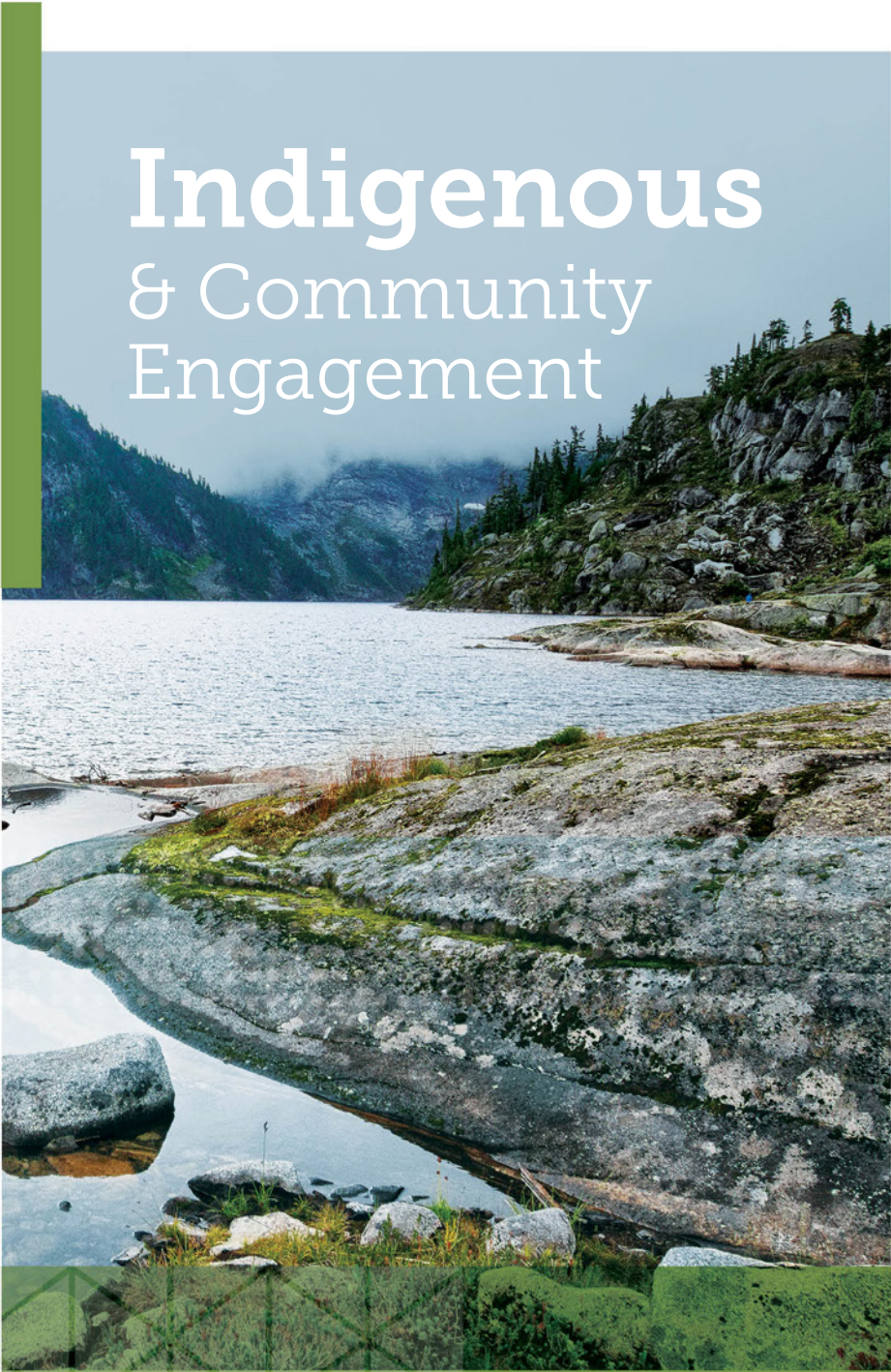
Our focus areas include continuing to mature and evolve cyber security within our operational field assets, incident prevention through ongoing education and awareness training for our employees and enhancing our incident response management to limit the impact of a potential breach to the organization. In advancing our focus areas, we look to:

- Progress our five-year plan from our previous NIST CSF assessment;
- Integrate Cyber Security Standards into our Engineering Standards for all new builds and upgrades;
- Automate our incident response capabilities to reduce the time between an incident occurring and the identification and remediation of the impacted asset; and
- Implement an identify and access management platform to govern the lifecycle management of identities and access of these identities.

¹⁶ For the period January 1, 2023 to December 31, 2023.

¹⁷ As of the date of this report.

¹⁸ As at December 31, 2023.



Indigenous & Community Engagement

Pembina acknowledges and respects those who have inhabited lands and waters since time immemorial. We recognize the profound relationships that Indigenous Peoples have with the land on which we operate and we are committed to entering into lasting and mutually-beneficial relationships with all Indigenous Peoples affected by our operations.

Our commitment to invest in the communities in which we operate is a cornerstone of Pembina’s approach to sustainability. We understand the important role we play as neighbours and are committed to giving back in ways that improve people’s lives and contribute to lasting, positive social change.

Employees volunteered more than **5,500 hours**

Launched the **Indigenous Inclusion Network**



Published our first Learnings from **Indigenous Stories and Perspectives report**

Supported nearly **300 organizations** in our operating areas

Indigenous Engagement

Analyst Corner

2024 Management Information Circular (page 39)
 2023 Annual Information Form – Indigenous Engagement (page 62-63)
 2023 Annual Information Form – Indigenous Land Claims and Consultation Obligations (pages 103-105)
 Indigenous & Tribal Relations Policy
 Learnings from Indigenous Stories and Perspectives
 Website – Indigenous Engagement



Approach

Our Indigenous & Tribal Relations Policy governs how we approach our engagement with Indigenous and Tribal communities, recognizing and respecting the spirit and intent of the United Nations Declaration on the Rights of Indigenous Peoples as a framework for Reconciliation within the context of the Canadian Constitution, existing laws and jurisprudence on Indigenous and treaty rights.

Our five-year Indigenous Engagement Strategy, launched in 2022, outlines Pembina's Path to Reconciliation, in alignment with the Truth and Reconciliation Commission of Canada Calls to Action. Our strategy was developed with input from Indigenous communities and employees across our business, and is focused on four directions:

- 1. Cultural Appreciation** – Providing Indigenous cultural awareness training and educational opportunities for Pembina senior leadership and employees, while recognizing there are many distinct Indigenous communities and Tribes with unique languages, cultures, traditions, rights, priorities and protocols.
- 2. Lifecycle Alignment** – Building, maintaining and formalizing long-term relationships with Indigenous and Tribal communities near our projects and operations, and embedding Indigenous inclusion and engagement in governance, internal policies, standards and processes for decision making.
- 3. Economic Reconciliation** – Supporting equitable access to jobs, training and education opportunities, and working with Indigenous communities to gain long-term sustainable benefits from economic development projects. This also ensures procurement opportunities are available to Indigenous contractors within Pembina's asset areas.
- 4. Community Development** – Creating long-term community relationships and collaboratively identifying sustainable partnerships based on community needs and opportunities in alignment with Pembina's community investment pillars.

Indigenous Engagement Strategy



We recognize and respect the important role that Indigenous and Tribal People and communities play in the evolution of our ESG strategy.

To truly reflect our commitment to reconciliation and long-term relationship building with Indigenous communities, **we believe Indigenous considerations and interests should be embedded throughout the E, S and G of our Indigenous Engagement Strategy.**



Environment

We have a commitment to environmental stewardship and to minimize environmental impacts on water, air, land, and biodiversity through frequent engagement with Indigenous communities across the full life cycle of our operations, including consultation on new development projects. As part of our Emergency Management program, we invite neighbouring Indigenous communities to attend and participate in full-scale exercises to observe and learn more about our mitigation procedures and to provide feedback on incident response.

Social

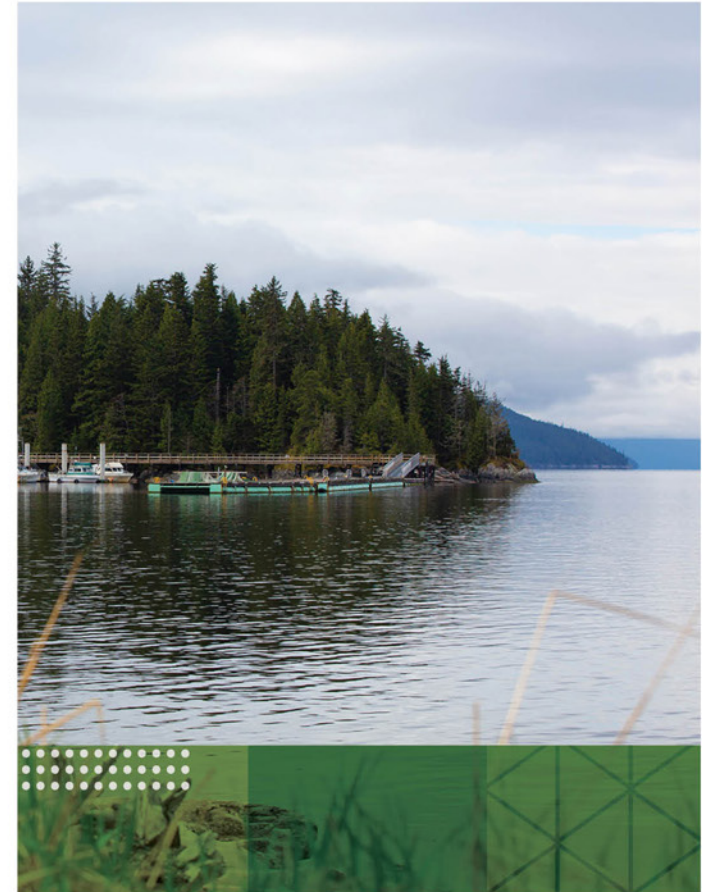
As part of our Community Investment program, we work alongside Indigenous communities to promote Indigenous values, support spiritual, social, and economic well-being and advance reconciliation and self-determination. Part of creating long-lasting and impactful partnerships includes conducting focused engagement sessions with Indigenous communities to better understand their community priorities, interests, short-term and long-term goals. The information gathered helps to inform our Indigenous Community Investment Strategy and ensure we are funding initiatives that reflect and align with community interests and values.

As part of our commitment to increase Indigenous representation in our workforce, we are implementing strategies and processes for Indigenous prescreening, recruitment, selection, and retention using the principles outlined in the Employment Equity Act (Canada). Our strategies are designed to support Indigenous candidates to work within the communities where they live and provide direct connection to their land, work and home.

We dedicate resources to assist with our prescreening process including resume building, interview preparation, and relationship building with individual candidates seeking employment opportunities within our company. This initiative is the foundation that underpins successful identification and preparation of Indigenous candidates towards application for employment opportunities within Pembina.

Governance

Pembina's existing equity partnerships include meaningful governance rights for all partners. For example, the Haisla Nation holds shared governance rights with Pembina in Cedar LNG, including the right to appoint an equal number of Directors to the Board. Working together, we believe that these partnerships and our approach to shared governance present an exciting opportunity to redefine how Indigenous communities and industry can work together to advance Reconciliation.



2023 Performance

Since the launch of our five-year strategy, we have demonstrated progress across all four directions of our Indigenous Engagement strategy.

The development of the Cultural Appreciation element of our strategy is heavily embedded and linked with our EDI strategies. Teams across Pembina work collaboratively to ensure that employees at all levels of the organization are engaged and appreciative of Indigenous culture.

To support Pembina's commitment to inclusion for Indigenous employees, partners and communities, we launched an Indigenous and Tribal Inclusion learning module. This module was developed in collaboration with Indigenous employees, the Indigenous Inclusion Network, and Pembina's Indigenous Engagement team, to ensure that content shared was representative of the experiences of Indigenous employees and Pembina's business. The module creates deeper understanding and valuing of Land Acknowledgements, Economic Reconciliation, and Pembina's commitment to Truth and Reconciliation Call to Action 92, while centering the voices of Indigenous employees.

Inspired by the Indigenous practice of storytelling, we were proud to share some of the important stories from Indigenous employees and partners in our inaugural report, [Learning from Indigenous Stories and Perspectives](#). The report was supported by Indigenous consultants who assisted with interviewing Indigenous employees, engaging with Indigenous communities for gathering content and artwork, collating community investment partnership stories, and designing the report to best connect to Indigenous communities. The artwork featured in the report was submitted by Indigenous artists who were asked to focus their artwork on the personal meaning of reconciliation.

To progress Lifecycle Alignment, we increased our engagement with Tribal Nations surrounding our U.S. operations and focused on building and maintaining relationships with Tribal Nations located in Montana and North Dakota. While our engagement with each Tribe varied, all discussions were focused on developing a deeper understanding of the Tribe's culture and history. We look forward to continuing to listen and learn from Tribal communities as we work to strengthen our relationships.

In partnership with our Business Development team and our customers, we began developing an approach to collectively engaging with Indigenous communities with our customers. By exploring how Pembina and our customers can work better, together, in our engagement with Indigenous communities, we believe different engagement and partnership opportunities will emerge.

To advance Economic Reconciliation, we look to areas of our business where we can work with Indigenous contractors. As part of the Alexis Remediation Project, Pembina worked with Backwoods Energy, a contractor wholly owned by the ANSN. Backwoods Energy was instrumental in providing the specialized labour and equipment necessary to carry out the excavation, fill, and pipeline replacement work. As part of the contracted work, the project supported building capacity in ANSN's resource management abilities through investing in the use of geospatial data management software, hardware, and training. [Refer to Biodiversity and Land Use section](#) for additional information.

Part of advancing Economic Reconciliation involves our commitment to working with Indigenous suppliers. In 2023, Pembina directed \$103 million to 99 Indigenous suppliers, an increase of 6% from 2022 due in large part to strategic alliances between Pembina, vendors and Indigenous communities for procuring services and materials.

The advancement of our Community Development approach is a collaborative effort between Pembina's Indigenous Engagement and Community Engagement teams. Working together, these teams ensure strategic alignment of Pembina's initiatives that are most important to Indigenous communities, identify potential partnerships and create long-lasting relationships.



Indigenous Inclusion Network

In 2023, we launched the **Indigenous Inclusion Network** in response to interest from Indigenous employees. Our employee-led Indigenous Inclusion Network is instrumental in creating a sense of workplace community and belonging for Indigenous employees and further contributes to innovative and inclusive business strategies and practices at Pembina.

Our purpose for creating the Indigenous Inclusion Network was multifaceted:

- Build strong relationships among Indigenous employees across all our operating areas;
- Engage allies in supporting Indigenous inclusion at Pembina and within communities;
- Create community for, with and around Indigenous cultures;
- Create a consistent, ever-present, supportive and open community amongst one another, within the company and in communities; and
- Connect the work of the Indigenous Inclusion Network to the Indigenous Engagement Strategy and the broader ESG goals of the organization.

The launch of the Indigenous Inclusion network included a Conversation for Change and concert in Grande Prairie, Alberta with over 500 Pembina employees viewing the event, the highest engagement ever for an EDI event.

Community Investment



Supporting Indigenous learning through our partnership with the University of Calgary

As part of our Community Investment Strategy, we are committed to supporting Indigenous communities through investing in opportunities that promote Indigenous values, support spiritual, social and economic well-being, and advance reconciliation and self-determination.

The Peace Wapiti School Division, within Pembina's Deep Basin and Cutbank operating area, is reflecting on and transforming their practices to better support the needs and dreams of Indigenous students. Together with the University of Calgary's Werklund School of Education and a committee of Indigenous scholars and change-makers, they engaged with the local Indigenous communities to develop a comprehensive action plan, focused on helping schools recognize and integrate local Indigenous ways of knowing and being. We are proud to support the research and development of this learning strategy with a \$500,000 donation over five years. This investment will facilitate professional development sessions for educators and career opportunity engagements with Indigenous youth.

This partnership is one of the ways Pembina supports building knowledge and understanding of Indigenous peoples as part of our own reconciliation journey.

Building mutually beneficial relationships with Indigenous communities is an important part of how we work. In 2023, Pembina's Community Engagement Team hosted events to acknowledge National Indigenous History Month, including a Kairos Blanket exercise, a traditional dance class, a barbecue at the Telus World of Science in Edmonton, an Indigenous Market Showcase and a virtual lunch and learn with an Elder to share cultural knowledge. Please refer to the Community Investment section of this report for additional information on our contributions and partnerships.



We are proud to support the research and development of this learning strategy with a **\$500,000** donation over five years

Looking Forward | 2024 and Beyond

We continue to work collaboratively across our business to embed Indigenous engagement into all aspects of our work.

In 2024, we will continue to progress our five-year Indigenous Engagement Strategy and Path to Reconciliation, including the following initiatives:

- Further progression of relationship-building throughout the lifecycle of our assets in communities where we operate;
- Implementation of Indigenous supply chain initiatives including multi-year capacity building partnerships with Indigenous vendors;
- Ongoing appreciation for Indigenous culture and learning opportunities in partnership with the Indigenous Inclusion Network, including Indigenous and Tribal cultural appreciation training, implementation of EDI 400 - Indigenous and Tribal Inclusion, and honouring National Indigenous History Month and National Day for Truth and Reconciliation;
- Continuing to advance collaboration with our customers on engagement with Indigenous communities as future development is planned;
- Exploring opportunities to broaden our alignment to other recommendations from the Truth and Reconciliation Commission of Canada's Calls to Action, outside of Call to Action 92; and
- Continuously improving our five-year strategy through engagement and feedback obtained from various Indigenous and Tribal communities in which we operate.

Community and Stakeholder Relations

Analyst Corner

[2024 Management Information Circular \(page 34\)](#)
[2023 Annual Information Form – Community Relations \(page 62\)](#)
[Community Relations Policy](#)
[Website - Community Engagement](#)



Our Approach

Pembina’s approach to community investment is guided by tailored engagement with each community. This approach enables us to better understand what the people and communities surrounding our operations value and how we can best work together. We conduct early, meaningful and ongoing engagement to understand community goals and then identify how partnerships and social investments – financial or otherwise – can support them.

Three key pillars guide our Community Investment Strategy, ensuring a balanced approach to decision making.

These pillars are aligned with our overall corporate strategic priorities and are integrated into all six of our material sustainability focus areas. The three pillars to our Community Investment Strategy are:

01 – Strong Indigenous Communities

Our goal is to work alongside Indigenous communities to promote Indigenous values, support spiritual, social and economic well-being, and advance reconciliation and self-determination.

02 – Safe, Inclusive, and Connected Communities

Our goal is to ensure communities are safe, inclusive places where all members have equal access to opportunities, services and spaces that foster a strong sense of belonging. Thriving local economies provide everyone with opportunities to succeed.

03 – A Sustainable Future

Our goal is for communities, government and industry to work together to protect the natural environment for future generations. Citizens benefit from a sustainability-driven economy that improves energy and environmental outcomes and contributes to local economic prosperity.

Through our focus on these three pillars, we aspire to create resilient, thriving communities by supporting initiatives that matter to the community and connecting employees to the communities where we work and live.

We support our employees and amplify their charitable efforts through our employee giving program called PATH (“Pembina Actions That Help”), which includes volunteer opportunities and rewards programs, donation matching, and giving campaigns that support employee-driven EDI initiatives. Giving back is a core part of our culture and we believe that supporting causes that matter to employees and communities creates positive social impact and significant value for all our stakeholders.

2023 Performance

In 2023, Pembina continued to advance its Community Investment priorities, with a total investment of \$11.5 million supporting nearly 300 organizations across our operating areas.

This investment represents an increase of 6% compared to 2022, largely due to increases in employee volunteering during work hours, in-kind giving and program delivery spend. The increased investment in program delivery includes the creation of an operations-based community engagement role, focused on enhancing relationships with our local communities and empowering strategic community investment giving by local Community Action Teams

In addition to Pembina's total investment of \$11.5 million, we contributed an additional \$700,000 in supporting our operating communities in 2023 as the operator of Aux Sable, PGI and various other joint venture partnerships.

2023 was a strong year for employee participation in Pembina's PATH program. Employee engagement through volunteering increased significantly, underscoring the importance of volunteerism to our employees. Pembina employees, working along-side our community partners, volunteered a total of 5,521 hours during work throughout 2023, an increase of 57% compared to 2022.

Pembina's employees and stakeholders also generously donated \$2.7 million to non-profit organizations throughout the year.

Pembina employees in the community



Pembina employees are proud to give back to communities where they live and work, volunteering 5,521 hours in 2023.

Looking Forward | 2024 and Beyond

Pembina will continue to pursue multi-year partnerships with organizations that are aligned with our Community Investment Strategy.

In 2024 we are focused on maximizing the impact of our funds through more targeted and financially meaningful investments in alignment with our Community Investment Strategy. For example, Pembina's \$450,000 contribution to Women Building Futures ("WBF") in late 2023 will be used in 2024 to expand the program's reach to Saskatchewan and support the development of focused programming for Indigenous women. We are grateful for the opportunity to meaningfully support the growth of this incredible organization.

Meaningful giving is also a focus at the community level, and we rely on local Community Action Teams to ensure that employees from across our operations participate in our community investment program and represent the interests of communities where they live and work. In 2024, we will work to further empower our Community Action Teams to drive strategic giving that is relevant to their communities. We look forward to the continuation of an operations-based community engagement role supporting the success of these teams and furthering our relationships with local communities.

Given the successes of 2023, this year we will remain focused on creating employee volunteering opportunities aligned to our Community Investment program priorities. We believe that providing volunteer and giving opportunities creates space for engagement and helps create further positive social impact and connection. These opportunities may include mentoring and skills-based volunteering through WBF, planting native and culturally significant plants and trees with Project Forest and serving breakfast to children across our operations with the Breakfast Club of Canada.



Women Building Futures

Pembina is committed to meaningful community investment partnerships with transformative impacts on our communities. In 2023, we were proud to make a total contribution of over \$450,000 to WBF in support of our shared vision of creating opportunities for women in the skilled trades. This 2023 contribution continues a nine-year history of Pembina working together with WBF to remove barriers, increase women’s earning potential and create economic resiliency.

This collaboration between Women Building Futures, Pembina and our partners is not just about workforce development; it is a dedicated effort to reshape the narrative for women in power engineering. This partnership is a testament to what can be achieved when we work together to lead positive change in the workplace and empower women.

- Carol Moen, President & CEO of WBF

Since 2021, Pembina has partnered with WBF and industry peer Inter Pipeline to offer a Power Engineering Career Accelerator (“PECA”) program for women across Alberta. The PECA program is an introductory program that covers basic safety certifications and workplace readiness, prepares participants to pursue Power Engineering at an accredited post-secondary institution and supports them with steam time placements. PECA graduates are positioned to pursue an in-demand career that will increase their earning potential and create economic resiliency.

As a partner in the PECA program, Pembina provides in-facility experience to students. Current PECA program student, Kateryna Svidrak, completed her first placement at Pembina’s Redwater facility and says, “I definitely think that I have learned skills that I can use in my future. Through this placement, I have learned how to work with a team, communicate with others and navigate unknown situations.” She goes on to say, “the WBF program helps to create a connection with other women who work in the same field and build lifelong friendships.”

Part of what makes the WBF program a success is mentorship. Shauna Petrock, a Sr. Analyst in the Technical Training department at Pembina’s Redwater facility, shares her experience of what it means to her to be involved in the WBF program as a mentor and trainer, “I’m passionate about WBF because throughout my career as a Power Engineer, I’ve noticed a gap when it comes to women in the field. I participate in this partnership because I want to help support women that are trying to get into the industry, as well as women currently working in the industry to succeed, continue to grow and climb.”

Equally as impactful is the mentorship received as a student of the WBF program. Annette Donnenworth, an Operator at Pembina’s Redwater facility, completed both the Journeywoman Start program and Rope Tech certification through WBF. In 2021, she graduated from the PECA program and reflects on her experience: “the mentorship part of the program is great because when you come to a new site, you don’t know how to navigate the waters. Being able to have a safe space to ask somebody questions is invaluable,” she shares.



The more young girls see women in the industry, the easier it’s going to be for them to join. The program gives you the opportunity to have someone to talk to and help prepare you. You gain the confidence to enter a male dominated field.

- Annette Donnenworth, Operator at Pembina’s Redwater facility

Data Tables & Appendices

ESG Performance Tables ¹

Activity Metrics

Physical Throughput	Units	2023	2022	2021
Total Throughput ²	Barrel of oil equivalent	1,074,136,401	1,091,715,865	N/C
Pipeline Transportation				
Total Kilometres of Liquids Pipelines	Kilometres	14,399	N/C	N/C
Total Kilometres of Natural Gas Pipelines	Kilometres	1,891	N/C	N/C

Governance

Total Economic Value Generated and Distributed ³	Units	2023	2022	2021
Direct Economic Value Generated ^{4,5}	\$ millions	3,994	4,247	3,938
Direct Economic Value Distributed ^{4,6}				
Operating and General & Administrative Expenses ^{4,7}	\$ millions	639	671	502
Employee Wages and Benefits ⁸	\$ millions	486	479	440
Total Tax Paid ^{4,9}	\$ millions	312	406	435
Payments to Providers of Capital ^{4,10}	\$ millions	2,066	2,427	1,944
Community Investments ¹¹	\$ millions	7	7	6
Income Taxes Paid				
Canadian Income Taxes Paid ¹²	\$ millions	225	330	321
U.S. Income Taxes Paid ¹³	\$ millions	11	4	34
Competitive Behaviour				
Political Contributions	\$ millions	0.000	0.005	0.005

- 1 Use of N/C in these tables signifies that the content is a new metric for Pembina and historical values have not been calculated or reported.
- 2 Total Throughput decreased 1.6% in 2023 due to lower production volumes resulting from asset dispositions, wildfire impacts and the Northern Pipeline outage.
- 3 This economic section accounts for all Pembina entities excluding equity accounted investees. "Equity accounted investees" means Pembina's working interest in PGI, Alliance Pipeline, Aux Sable, Ruby Pipeline, CKPC, Veresen Midstream, Grand Valley I Limited Partnership, Fort Corp, Cedar LNG and Alberta Carbon Grid. In 2022, Pembina contributed its equity interest in Veresen Midstream to PGI as part of the 2022 PGI transaction. In 2023, CKPC was dissolved and Pembina sold its interest in Ruby Pipeline.
- 4 The terms are non-GAAP financial measures as they are financial measures that are not specified, defined or determined in accordance with GAAP. Please refer to the "Non-GAAP and Other Financial Measures" section of this document for additional information regarding these non-GAAP measures. This report also refers to certain other terms commonly used to satisfy sustainability reporting requirements. These terms are not necessarily used by Pembina in the management of business.
- 5 Direct Economic Value Generated represents net revenue. Together with Direct Economic Value Distributed, these metrics indicate the value created for stakeholders. Values have decreased since 2022 primarily due to lower commodity market prices, as well as revenue from the field-based gas processing assets contributed to PGI now being reflected in share of profit from equity accounted investees, lower recoverable power costs, and the impact of the unplanned outage on the Northern Pipeline system in the first quarter of 2023. These decreases were offset by higher volumes and increased tolls on certain pipeline systems.
- 6 Direct Economic Value Distributed includes operating and general and administrative costs, employee wages and benefits, payments to providers of capital, total tax paid, and community investments. Together with Direct Economic Value Generated, these metrics indicate the value created for stakeholders. Historical 2021 values were amended to correct the interest included. Values have decreased since 2022 due to lower share buybacks, lower taxes paid, and the timing of dividend payments.
- 7 Operating and General & Administrative Expenses includes operating expenses plus general and administrative expenses less employee wages and benefits, property taxes, and community investments. This metric is included within Direct Economic Value Distributed. Values have decreased since 2022 primarily due to lower operating expenses associated with the field-based gas processing assets contributed in the 2022 PGI transaction, and lower recoverable power costs. These decreased costs are partially offset by costs associated with the unplanned outage on the Northern Pipeline system in the first quarter of 2023, and fixed fee income related to shared service agreements with joint ventures previously netted against general and administrative expenses in 2022.
- 8 Employee Wages and Benefits includes salaries and wages, share based compensation, short-term incentive plans, pension plans, and other employee benefits. This metric is included within Direct Economic Value Distributed.
- 9 Total Tax Paid includes current income taxes and property taxes. This metric is included within Direct Economic Value Distributed.
- 10 Payments to Providers of Capital includes common and preferred share dividends paid, interest paid, and repurchase of common share costs. This metric is included within Direct Economic Value Distributed. The decrease in 2023 compared to 2022 is due to lower share repurchases and lower dividends paid due to the timing of payouts.
- 11 Community Investments include direct cash investments in the reporting period to support initiatives within the communities where we work. This metric is included within Direct Economic Value Distributed.
- 12 Current Canadian income taxes paid. Values have decreased from 2022 as 2022 instalments were higher due to the transfer of certain entities to a new jointly-owned entity.
- 13 Current U.S. income taxes paid. Values have increased from 2022 due to higher monthly instalments in 2023.

Energy Transition & Climate

Climate Change Management ^{1, 2, 3}

	Units	2023	2022	2021
Total Scope 1 GHG Emissions ^{4, 5, 6}	Tonnes of carbon dioxide equivalent	2,842,868	2,834,288	2,603,091
Methane (CH ₄) ⁷	Tonnes of carbon dioxide equivalent	173,339	159,779	118,482
Methane GHG Emissions as % Scope 1 GHG	Percentage	6	6	7
Scope 1 GHG Covered Under Emissions-Limiting Regulation ⁸	Percentage	87	82	81
Total Scope 2 GHG Emissions (Market-based) ^{9, 10}	Tonnes of carbon dioxide equivalent	1,126,088	1,305,415	1,528,015
Total Scope 2 GHG Emissions (Location-based) ¹¹	Tonnes of carbon dioxide equivalent	1,202,075	N/C	N/C
Scope 1 & 2 GHG Emissions Intensity ¹²	Tonnes of carbon dioxide equivalent per barrel of oil equivalent	0.00370	0.00379	0.00385

Scope 1 GHG Emissions Breakdown

Scope 1 GHG Emissions - Stationary Combustion	Tonnes of carbon dioxide equivalent	2,230,180	2,286,955	N/C
Scope 1 GHG Emissions - Flaring ¹³	Tonnes of carbon dioxide equivalent	536,363	389,232	N/C
Scope 1 GHG Emissions - Venting ¹⁴	Tonnes of carbon dioxide equivalent	31,937	92,101	N/C
Scope 1 GHG Emissions - Other ¹⁵	Tonnes of carbon dioxide equivalent	44,388	66,000	N/C

Scope 2 GHG Emissions Breakdown

Scope 2 GHG Emissions - Purchased Heat	Tonnes of carbon dioxide equivalent	35,093	34,213	N/C
Scope 2 GHG Emissions - Purchased Electricity ¹⁶	Tonnes of carbon dioxide equivalent	1,086,791	1,271,202	N/C

Scope 3 GHG Emissions ¹⁷

Scope 3 GHG Emissions - Fuel and Energy Related Activities ^{18, 19, 20}	Tonnes of carbon dioxide equivalent	585,843	557,011	241,847
Scope 3 GHG Emissions - Waste Generated in Operations ²¹	Tonnes of carbon dioxide equivalent	123,154	50,362	740
Scope 3 GHG Emissions - Business Travel ^{22, 23}	Tonnes of carbon dioxide equivalent	1,537	460	179
Scope 3 GHG Emissions - Employee Commuting ^{24, 25}	Tonnes of carbon dioxide equivalent	11,927	9,642	2,975
Scope 3 GHG Emissions - Upstream Leased Assets ²⁶	Tonnes of carbon dioxide equivalent	1,753	3,471	2,963
Scope 3 GHG Emissions - Investments ²⁷	Tonnes of carbon dioxide equivalent	1,065,298	1,072,634	984,068

Energy Use

Total Electricity Consumption ^{28, 29}	Gigawatt hours	2,443	2,704	2,418
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Air Quality ³⁰

NO _x Emissions ³¹	tonnes	5,778	6,060	3,189
SO _x Emissions ³²	tonnes	8,041	5,933	2,389
Volatile Organic Compounds (VOCs)	tonnes	4,483	4,864	5,267
Particulate Matter (PM ₁₀)	tonnes	338	362	268

- 1 Pembina has selected the Operational Control approach to define our organizational boundaries for GHG reporting and includes all material sources and sinks associated with facilities, pipelines, and corporate operations that are in direct operational control by Pembina and Pembina subsidiaries.
- 2 Values reported represent gross GHG emissions before accounting for offsets, credits or other similar mechanisms that have reduced or compensated for emissions. For increased transparency, GHG emissions reported include those considered below reporting thresholds under regulatory reporting regimes.
- 3 As per Pembina's GHG Inventory Methodology, Pembina recalculates base year emissions when major acquisitions, divestment and mergers meet our significance threshold of $\pm 15\%$ of Base Year Scope 1+2 emissions.
- 4 Scope 1 emission sources include stationary combustion equipment, fugitive emission leaks, flaring, incineration, venting, refrigerant usage and mobile equipment operated by Pembina. Immaterial sources of emissions from physical and chemical processing, construction activities and non-routine events such as emissions from spills are excluded from reported emissions.
- 5 Scope 1 emissions are calculated using operational activity data (e.g., fuel consumption data from meters, measured survey data and engineered estimates) multiplied by an operationally derived or applicable regulated default emission factor. Energy consumption used to quantify the scope 1 emission includes all types of fuels consumed by Pembina operations, including natural gas, diesel, gasoline, propane and jet fuel. Fuel consumption is based on a combination of third-party supplier invoices, meter readings, and system generated reports.
- 6 Pembina participates in the following applicable regulated emissions reporting programs: Environment and Climate Change Canada Greenhouse Gas Emissions Reporting Program, British Columbia Greenhouse Gas Industrial Reporting and Control Act, Alberta Specified Gas Reporting Regulations, Alberta Technology, Innovation and Emission Reduction Regulations (TIER), Saskatchewan Management and Reduction of Greenhouse Gases Regulations and Standards, Ontario Greenhouse Gas Emissions Reporting (O Reg. 390/18) and the US Environmental Protection Agency 40 CFR Part 98 Reporting Regulations.
- 7 Methane emissions increased in 2023 due to a change in methodology. To align our reported metrics with recognized reporting frameworks, Pembina now reports methane emissions in metric tonnes of carbon dioxide equivalent using the Global Warming Potentials (GWPs) values from the IPCC's Fifth Assessment Report (AR5). Historical reported methane emissions are calculated using the AR4 GWP value. Absent the change in methodology, our 2023 methane emissions would have been 3% lower than 2022.
- 8 Emissions Limiting Regulations include carbon tax or emission trade system (e.g., Alberta TIER regulations effective 2020).
- 9 Total Scope 2 GHG Emissions (Market-based) reflect emissions from purchased and imported electricity, hydrogen, and heat sources that derive emissions factors from the underlying contractual instruments. Pembina has started quantifying market-based emissions where facility specific emission factors are used if available. Due to the lack of data availability for some assets for contractual energy purchases to calculate facility specific emission factors, market-based emissions are considered equal to location-based emissions for those assets.
- 10 The decrease in Scope 2 GHG emissions in 2023 is primarily attributable to a full year of operations at the Empress Cogeneration facility. Additionally, we implemented an accounting methodology change in 2023 for upstream emissions related to electricity transmission and distribution. This change from consumption-based to generation-based accounting aligns to the most recent GHG Protocol guidance, and results in emissions from electricity transmission and distribution being recategorized as Scope 3 emissions under the Fuel and Energy Related Activities category.
- 11 Total Scope 2 GHG Emissions (Location-based) are indirect emissions from purchased and imported electricity, hydrogen, and heat consumption. Scope 2 emissions are calculated using location-based grid emission factors from the most recent 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 TIER benchmark emission intensity factor for imported heat medium and hydrogen.
- 12 Scope 1 & 2 GHG intensity has decreased 2.6% in 2023 over 2022 with a cumulative reduction of 7.0% against the 2019 adjusted baseline. While the combined Total Scope 1 and Total Scope 2 emissions decreased by 4.1% in 2023, emissions intensity reductions were moderated by lower production volumes in 2023 resulting from asset dispositions, wildfire impacts and the Northern Pipeline outage.
- 13 Scope 1 GHG Emissions - Flaring increased in 2023 primarily due to increased flaring at certain facilities and the re-classification of certain facility emissions from venting to flaring.
- 14 The decrease in Scope 1 GHG Emissions - Venting is attributable to the re-classification of a facility's emissions from venting to flaring in 2023.
- 15 The decrease in Scope 1 GHG Emissions - Other results from improved fleet fuel consumption data and fuel switching of certain fleets to biodiesel and ethanol in 2023.
- 16 The decrease in 2023 from 2022 of Scope 2 GHG Emissions - Purchased Electricity is primarily due to Empress Cogeneration facility reducing demand for purchased electricity.
- 17 The calculation of Scope 3 emissions relies on best available data and is determined using various assumptions and estimated calculations. In 2023, we further refined our methodology to enhance the accuracy of reported metrics while we continue to evaluate the relevance of additional scope 3 GHG categories for future years. Unless otherwise indicated, historical data for 2021 and 2022 has not been restated.
- 18 Emissions for this category represent the upstream emissions associated with the extraction, production, and transportation of fuels consumed by Pembina. These emissions are estimated using the volume of fuel consumed and purchased as well as location-specific upstream emission factors.
- 19 2022 emissions have been restated to include emissions sources that were omitted in prior year reporting.
- 20 The increase in 2023 emissions relates to recategorized emissions associated with electricity transmission and distribution, previously accounted for under our scope 2 reporting (see footnote 10).
- 21 Estimated Scope 3 emissions include emissions from the transportation and processing of waste generated. The increase in 2023 from 2022 is a function of increased Total Waste volumes in 2023 arising from the Alexis pipeline remediation project and higher production volumes at our facilities.
- 22 Pembina's Scope 3 emissions include business travel estimated based on supplier data.
- 23 In 2023, Pembina revised its methodology to include hotel stays as a part of business travel. 2023 emissions increased as a result of this change, as well as an increase in overall business travel.

- 24 This accounts for GHG and transportation data from municipalities, which are used to calculate the employee commuting emissions for office based staff. Field employee commuting emissions are also included as part of this calculation.
- 25 2023 employee commuting emissions were higher due to increases in both the percentage of field based employees and total employees.
- 26 Emissions in this category are those associated with our corporate headquarters in Calgary. Calculations for this metric utilize data provided by the lessor of the building. The decrease in 2023 emissions as compared to 2022 is due to a change in lessor's calculation methodology for this data. Pembina field offices are considered under operational control and are included as part of scope 1 and 2 emissions.
- 27 Values reported reflect Pembina's 50% equity interest in both Alliance Pipeline Limited Partnership and Alliance Pipeline L.P. as well as 60% interest in PGI, and only includes joint venture assets not operated by Pembina. 2022 emissions have been restated to reflect amended data provided by the Alliance Pipeline operator.
- 28 Total Electricity Consumption includes invoiced amounts from providers. This includes floating as well as UFE (Unaccounted for Energy) and Line losses where indicated and invoiced.
- 29 Total Electrical Consumption decreased in 2023 from 2022 primarily due to the first full year of operations at the Empress Cogeneration power facility.
- 30 2022 emissions have been restated to include facilities added as part of the 2022 PGI transaction that were omitted in prior year reporting.
- 31 The decrease in 2023 over 2022 is due to reduced facility throughputs in 2023 resulting from asset dispositions, wildfire impacts and the Northern Pipeline outage.
- 32 The increase in SO₂ reported is primarily due to higher sulphur content in plant inlet gas processing at the K3, Hythe and Steeprock facilities, resulting in additional emissions from acid gas incineration. Additionally, increased plant maintenance and operational interruptions from wildfires resulted in higher emissions from facility flaring.

Employee Well-Being & Culture

Total Employees (US & Canada) ¹	Units	2023	2022	2021
Full-Time Employees ²	Number	2,761	2,602	2,298
Part-Time Employees ³	Number	76	67	51
Total Employees ⁴	Number	2,837	2,669	2,349
New Hires ⁵	Number	503	630	234
Contractors ⁶	Number	433	1,371	961
Gender Inclusion (Canada) ⁷				
Women in the Workforce	Number	678	628	558
Women in the Workforce	Percentage	26	26	27
Women in Managerial Positions	Percentage	29	28	24
Women in Executive Leadership ⁸	Percentage	38	35	26
Women on the Board ⁹	Percentage	50	45	40
Racial and Ethnic Inclusion (Canada) ¹⁰				
Indigenous Employees ¹¹	Number	126	115	98
Employees that Identify as Racialized ¹²	Number	388	339	293
Disability Inclusion (Canada) ¹⁰				
Employees with Disabilities ¹³	Number	24	20	15
Employee Retention (US & Canada) ¹⁴				
Turnover Rate, Total ¹⁵	Percentage	8	9	11
Turnover Rate, Voluntary ¹⁶	Percentage	5	6	5
Age Demographics (US & Canada) ¹⁷				
Employees Aged 50+	Percentage	27	27	26
Employees Aged Between 30 and 49	Percentage	63	63	64
Employees Aged Under 30	Percentage	10	10	10

- 1 Total Employees includes personnel in all locations in Canada and the U.S.
- 2 Includes all full time, permanent employees as of December 31, 2023. Directors are exempt.
- 3 Includes all fixed term and part time employees as of December 31, 2023.
- 4 Includes all fixed term and permanent employees as of December 31, 2023.
- 5 Includes all fixed term (temporary) and permanent new hire employees in the reporting year.
- 6 In 2023, Pembina implemented a new system to improve contractor data management and aligned our contingent worker definition to reflect individual workers and exclude 'Other Contracted Services Suppliers' like global consulting firms from the total number of contractors.

- 7 Our Gender Inclusion metrics pertain to permanent employees in Canada unless otherwise stated. Total permanent employees in Canada is 2,560.
- 8 Our executive team includes our officer team as well as vice presidents in Canada and the U.S.
- 9 This data includes Board members who are women, represented as a percentage of total independent directors.
- 10 Our Diversity and Inclusion metrics are self-disclosed by employees and pertain to permanent employees in Canada.
- 11 Number of Indigenous peoples has increased in 2023. This change likely reflects progress attributable to our EDI strategy and increases in employee self-disclosure.
- 12 Number of racialized persons has increased in 2023. This change likely reflects progress attributable to our EDI strategy and increases in employee self-disclosure.

- 13 Number of Employees with Disabilities has increased in 2023. This change likely reflects progress attributable to our EDI strategy and increases in employee self-disclosure.
- 14 This data represents all permanent employees in Canada and the U.S.
- 15 This data represents all terminations for permanent employees in Canada and the US. In 2023, turnover metrics stabilized, consistent with industry.
- 16 This data represents all voluntary resignations and retirements for permanent employees in Canada and the US. In 2023, turnover metrics stabilized, consistent with industry.
- 17 This data represents all permanent and fixed term employees in Canada and the U.S.

Health & Safety ¹

Fatalities ²	Units	2023	2022	2021
Employee (Fatalities)	Number	0	0	0
Contractor (Fatalities)	Number	0	1	1
Total Recordable Injury Frequency (TRIF) ³				
Employee (TRIF) ⁴	Rate	0.38	0.33	0.49
Contractor (TRIF) ⁵	Rate	1.55	1.29	1.12
Combined (Employee & Contractor TRIF) ^{4,5}	Rate	0.77	0.67	0.74
Near Miss Frequency Rate (NMFR) ⁶				
Employee (NMFR) ⁷	Rate	2.22	2.67	3.42
Contractor (NMFR) ⁸	Rate	3.58	2.57	2.54
Combined (Employee & Contractor NMFR) ^{7,8}	Rate	2.68	2.64	3.07
Preventable Motor Vehicle Incident Frequency (MVI) ⁹				
Employee (MVI) ¹⁰	Rate	1.00	0.73	0.65
Contractor (MVI)	Rate	0.67	0.74	0.56
Combined (Employee & Contractor MVI) ¹⁰	Rate	0.81	0.73	0.61
Serious Injury or Fatality (SIF) ¹¹				
Employee (SIF) ¹²	Rate	0.00	0.04	0.04
Contractor (SIF) ¹³	Rate	0.34	0.47	0.18
Combined (Employee & Contractor SIF) ^{12,13}	Rate	0.11	0.17	0.09

1 Our Safety metrics include our Canadian and U.S. workforce.

2 A Fatality is a death resulting from a work-related injury/illness.

3 TRIF is the number of recordable injuries per 200,000 hours of work.

4 Employee TRIF increased by two injuries in 2023 over 2022. Employee recordable injuries in 2023 were primarily minor medical aid injuries from slip/trip incidents and hand tool usage. Although total incident frequency increased, the rate of serious injuries or fatalities (SIF) decreased by 35% in the reporting period.

5 Contractor TRIF increased by four injuries in 2023 over 2022. Contractor recordable injuries in 2023 were primarily minor medical aid injuries from slip/trip incidents and hand tool use.

6 A Near Miss is an incident where no loss was sustained, but given a slight shift in position or time, damage, injury, or other loss could have occurred. Near Miss Frequency Rate (NMFR) is the number of near miss incidents per 200,000 hours of work, tracked as part of our Safety Program. It is an important leading indicator to manage safety incidents.

7 Employee Near Miss Frequency Rate decreased by 17% in 2023.

8 Our Contractor NMFR increased in 2023 due to higher general activity levels, increased contractor activity for turnarounds, and pipeline expansions. We are working to strengthen our contractor safety processes with a focus on reducing injuries and serious injuries. We continue to focus on leading safety metrics including leadership field engagements and contractor inspections.

9 The number of incidents per 1,000,000 kms driven.

10 Our Employee MVI increased in 2023 by seven events that were largely low speed (<20 km/h) contact events with other parked vehicles or stationary objects. In 2024 we have introduced additional training for proper vehicle management while in congested areas, updated company vehicle specifications regarding cameras and parking sensors, and have introduced a new requirement to use spotters (where available) when backing in vehicles.

11 SIF is a fatality or injury that is either life threatening or life altering. Pembina's SIF metric includes both the number of actual and potential SIF events per 200,000 hours of work.

12 There were no Employee SIF events in 2023 compared to one SIF event in 2022. Pembina continues to focus on SIF reduction through application of leading metrics and targeted safety inspections for work scopes that are subject to Life Saving Rules.

13 In 2023, there were five Contractor SIF events compared to seven in 2022, a 35% reduction in frequency. Of the five events in 2023, there were zero fatalities, one actual SIF event and the remaining four incidents SIF potentials. Pembina continues to focus on SIF reduction through application of leading metrics and targeted safety inspections for work scopes that are subject to Life Saving Rules.

Responsible Asset Management

Integrity Management	Units	2023	2022	2021
Pipeline Repairs and In-Line Inspections (ILIs) ¹				
Natural Gas Pipelines Inspected ²	Percentage	27	6	23
Hazardous Liquid Pipelines Inspected	Percentage	33	34	29
Spill Prevention & Mitigation				
Incidents (Spills, Releases and Significant Failures)				
Reportable Pipeline Incidents ³	Number	5	5	9
Significant Reportable Pipeline Incidents ⁴	Percentage	20	40	11
Accident Releases from Rail Transportation ⁵	Number	0	0	0
Non-Accident Releases (NARs) from Rail Transportation ⁶	Number	0	1	1
Hydrocarbon Spills				
Hydrocarbon Spills ⁷	Number	5	4	4
Aggregate Volume of Hydrocarbon Spills ⁸	Barrels	269	933	79
Volume of Hydrocarbon Spills in Arctic ⁹	Barrels	0	0	0
Volume of Hydrocarbon Spills in Sites With High Biodiversity Significance ¹⁰	Barrels	0	0	0
Volume of Hydrocarbon Spills Recovered ¹¹	Barrels	268	925	79
Waste Management ¹²				
Total Waste (Non-Hazardous & Hazardous)				
Total Non-Hazardous Waste ¹³	Metric tonnes	74,001	40,874	29,809
Total Hazardous Waste ¹⁴	Metric tonnes	46,453	38,457	22,400
Total Waste Generated	Metric tonnes	120,454	79,331	52,209
Waste to Disposal (e.g., Landfill, Incineration)				
Non-Hazardous Waste (Excluding Produced and Process Water) ¹³	Metric tonnes	70,787	38,305	27,181
Hazardous Waste (Waste Disposal) ¹⁴	Metric tonnes	45,852	37,882	22,271
Total Waste to Disposal	Metric tonnes	116,639	76,186	49,452
Waste Diversion (e.g., Recycled, Treatment)				
Non-Hazardous Waste ¹⁵	Metric tonnes	3,214	2,569	2,628
Hazardous Waste (Waste Diversion)	Metric tonnes	601	576	129
Total Waste Diversion	Metric tonnes	3,815	3,145	2,757

Responsible Asset Management

Water Management

	Units	2023	2022	2021
Total Water Withdrawal ¹⁶	million m ³	2.760	2.660	1.631
Total Water Disposed (i.e., Regulated Disposal Facility or Deep Injection Well) ¹⁷	million m ³	4.200	4.381	1.798
Total Water Returned to the Environment ¹⁸	million m ³	0.847	0.945	1.095
Total Fresh Water Consumed ¹⁹	million m ³	2.280	2.044	1.096
Percentage Fresh Water Withdrawn from Regions with High or Extremely High Baseline Water Stress ²⁰	Percentage	35.5	N/C	N/C
Percentage Fresh Water Consumed from Regions with High or Extremely High Baseline Water Stress ²⁰	Percentage	36.2	N/C	N/C

Land Use & Restoration

Terrestrial Land Area Disturbed	Hectares	29,402	29,567	29,261
Impacted Area Restored ²¹	Percentage	2	6	1

Biodiversity

Land Owned, Leased and/or Operated within Areas of Protected Conservation Status or Endangered Species Habitat ²²	Percentage by land area	0.6	0.6	0.9
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- 1 Pipeline inspections follow an annual inspection plan that is designed to satisfy a range of criteria including regulatory requirements, operating history, maintenance schedules, resource availability and overall risk assessments. As a result, the percentage of pipelines inspected can vary year to year.
- 2 Following the 2022 PGI transaction the number of natural gas pipeline inspections increased due to the application of Pembina pipeline integrity management programs on these assets.
- 3 Reportable Pipeline Incidents includes reportable spills, releases of any volume or substance and significant failures from a pipeline. In 2023 we had five reportable spills of which one was considered significant: a 120 barrel ("bbl") release of NGL liquids and 473 thousand cubic meters ("e³m³") of NGL vapour were released from the Northern Pipeline System located approximately 30 km southeast of Valleyview, Alberta in January 2023. Once the site was secured, the pipeline was shut down, repaired and inspected for continued safe operation and on February 21, 2023, transportation on the system resumed. Remediation of the impacted area was successfully completed in September 2023. Re-vegetation activities are underway and reclamation progress will be monitored in 2024. The other four spills include a pipeline release of 19 bbl of condensate and three minor spills of approximately 4 bbl in total.
- 4 A Significant Incident is defined as a release of a commodity product from a pipeline that must be reported to an external agency or authority, such as a federal, provincial, or state regulator and that includes one or more of the following: a serious injury or fatality; an unintentional ignition or fire; a liquid release of greater than 8 m³ (50 bbl); or a rupture or breach of a pipe, tank or containment. In 2023 there was one significant release — see Note 3 above.
- 5 Includes all releases of hazardous material from a derailment, collision or other rail-related accident that is required to be reported to regulatory or governmental agencies.
- 6 Non-Accident Releases (NARs) from Rail Transportation include all unintentional releases of a hazardous material while in transportation, including loading and unloading while in railroad possession that is not caused by a derailment, collision or other rail-related accident.
- 7 Number of Hydrocarbon Spills provides focus on hydrocarbons versus spills of other materials. A spill is defined as reportable, greater than one barrel in volume, includes those that reach the environment (soil or water), and excludes those that were contained within impermeable secondary containment. In 2023 we had five hydrocarbon spills: two pipeline releases of 120 bbl and 19 bbl as discussed in Note 3 above, a condensate spill of 3 bbl discovered during pipeline right-of-way-maintenance, and two truck loading and unloading incidents that resulted in the release of 127 bbl of hydrocarbon liquids.
- 8 Aggregate Volume of Hydrocarbon Spills provides focus on hydrocarbons versus spills of other materials. A spill is defined as reportable, greater than one barrel in volume, includes those that reach the environment (soil or water), and excludes those that were contained within impermeable secondary containment.
- 9 Volume of Hydrocarbon Spills in Arctic is not applicable to Pembina's operations.
- 10 Volumes of Hydrocarbon Spills in Sites With High Biodiversity Significance measures if a hydrocarbon spill occurred in a drinking water or ecological resource area or specific species habitat area. A spill is defined as reportable, greater than one barrel in volume, includes those that reach the environment (soil or water), and excludes those that were contained within impermeable secondary containment. Sites With High Biodiversity Significance is a SASB definition that is currently applicable to U.S. assets and operations only.
- 11 Volume of Hydrocarbon Spills Recovered reflects the hydrocarbon volume that was removed from the environment following a spill. In 2023, following a hose break 1.3 bbl was released during truck loading at a tank farm near Fort St. John. Remediation activities commenced immediately and 90% was able to be recovered leaving 0.13 bbl following clean-up. The remaining volume was contained on-site and this location will be monitored.
- 12 Waste data is collected for both solid and liquid sources. Liquid waste is converted from m³ to metric tonnes using available data when known, or at a 1:1 ratio for disposal volumes with unknown densities.
- 13 The increase in Total Non-Hazardous Waste from 2022 to 2023 was primarily from a one-time removal of approximately 50,000 metric tonnes of contaminated debris and soil from the Alexis pipeline remediation and re-route project. In the absence of the one-time disposal activities associated with the Alexis Remediation Project, our non-hazardous waste volumes would have been 23,968 metric tonnes, a 41% reduction from our 2022 disposal volumes.
- 14 The increase in Total Hazardous Waste volumes from 2022 to 2023 is primarily due to increased production of propane and gas condensates at our Redwater facilities, resulting in higher process wastes.
- 15 Non-Hazardous Waste diverted increased in 2023 due to a change in maintenance practices at our Channahon facility creating additional volumes sent for industrial re-use. We continue to evaluate opportunities to reduce and reuse water where possible in our operations and are undertaking more frequent monitoring and analysis of our water usage data to identify potential opportunities.
- 16 The majority of our 2023 Total Water Withdrawal volumes, approximately 2.2 million m³, are associated with process water for cooling our Channahon facility, and cooling and boiler water used at the PGI KA and K3 facilities.
- 17 Total Water Disposed Volumes are higher than Total Water Withdrawal volumes due to the high volumes of produced water removed during gas processing.
- 18 Total Water Returned to the Environment decreased 10% in 2023 due to cooling requirements at our Channahon Facility as well as year over year decreases in precipitation at Vancouver Wharves where rainwater is treated as part of our water treatment system.
- 19 Total Fresh Water Consumed increased by 12% in 2023 due to operational issues at the PGI KA facility that required approximately 90,000 m³ of additional consumption and that have since been resolved and approximately 85,500 m³ of additional water consumed at Redwater for cavern and brine pond maintenance.
- 20 Our Channahon, Illinois facility is the only withdrawal location in an area identified as having high baseline water stress, according to the World Resources Institute Aqueduct Water Risk Atlas. Freshwater at Channahon is used as process water for cooling the fractionation facility.
- 21 Impacted Areas Restored reflects the proportion of Pembina's total disturbed area that has been restored in the reporting period. Restoration activity on constructed pipelines is deemed to be complete five years after construction is complete and the pipeline is put into service. Reported 2023 values reflect the restoration of 100% of the disturbed area associated with the 277 km of newly constructed pipelines in 2018.
- 22 The calculation includes disturbed lands that overlap with parks and protected area and lands identified as habitat for endangered species (e.g., Ord's Kangaroo Rat); both rely on publicly available information.

Indigenous & Community Engagement

Indigenous Engagement ¹	Units	2023	2022	2021
Indigenous Spending ²	\$millions	103.0	58.5	101.2
Indigenous Communities Engaged for Services	Number	37	36	34
Indigenous Suppliers Utilized ³	Number	99	93	100
Community and Stakeholder Relations				
Community Investment				
Cash Investments ^{4,5}	\$millions	7.4	6.9	5.6
In-Kind Investments ^{5,6}	\$millions	0.270	0.033	0.039
Organizational Stakeholder Giving ⁷	\$millions	2.7	3.0	2.1
Employee Time During Work Hours ⁸	\$millions	0.33	0.21	0.15
Other Community Investment ⁹	\$millions	0.84	0.69	0.49
Total Investments ^{10,11}	\$millions	11.5	10.8	8.4
Employee Volunteering				
Employee and Contractor Volunteering (During Work Hours) ¹²	Hours	5,521	3,522	2,456
Employee Volunteering (Average Hours per Employee During Work Hours) ¹³	Hours	1.9	1.3	1.0

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| <p>1 Our Indigenous Engagement metrics include Canadian assets only.</p> <p>2 Indigenous Spending accounts for direct and indirect procurement costs with an Indigenous business based on the proportion of ownership. An Indigenous business is majority owned by a participating First Nation, Metis, Inuit Community/Settlement or their members including a strategic partnership, corporation, joint venture, limited partnerships, other entity or a combination of them. The increase in 2023 directly relates to two major capital projects where major contractors had agreements with Indigenous communities and suppliers/vendors to complete work.</p> <p>3 Includes the number of Indigenous suppliers engaged to provide services and materials for Pembina. An Indigenous business is owned by a participating First Nation, Metis, Inuit Community/Settlement or their members including a strategic partnership, corporation, joint venture, limited partnership, other entity, or a combination of them.</p> <p>4 Includes direct cash investment to support community engagement activities.</p> | <p>5 Excludes Joint Ventures. (ACG, Aux Sable, Cedar LNG, Chinook Pathways, PGI).</p> <p>6 Increase from prior period reflects significant one time in-kind gift of land to a local community.</p> <p>7 Organizational Stakeholder Giving includes donations by permanent and fixed term employees, retirees, Board members, and other individuals and businesses that support Pembina's community engagement efforts.</p> <p>8 Employee Time During Work Hours includes all permanent and fixed term volunteer hours that support community engagement. A dollar value was determined using an average Pembina employee salary.</p> <p>9 Other Community Investments include costs associated with running the community investment function or managing contributions to the community. This would include staff salaries, overhead costs, research, travel and meals, communications, subscriptions, membership fees, etc. This number may fluctuate year-over-year based on needs.</p> | <p>10 Total Investments is the total value of Pembina's investments in the community. This includes cash investments, in-kind giving, volunteering during paid working hours, program management costs, and community contributions from outside sources that can be directly linked to our involvement.</p> <p>11 Excludes Joint Ventures (ACG, Aux Sable, Cedar LNG, Chinook Pathways, PGI) with exception of employee giving, employee volunteer hours, and program management.</p> <p>12 Employee and Contractor Volunteering (During Work Hours) includes all permanent and fixed term employee volunteer hours that support community engagement.</p> <p>13 Employee Volunteering (Average Hours per Employee During Work Hours) includes all permanent and fixed term employee volunteer hours that support community engagement.</p> |
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Climate Opportunities & Risks Appendix

Climate Opportunities

As our corporate strategy demonstrates, Pembina sees great opportunity to continue to invest in, grow, and decarbonize the core business. At the same time, we will capitalize on exciting opportunities to leverage our assets and expertise into new service offerings that proactively respond to the transition to a lower-carbon economy. The following table outlines the climate-related opportunities underpinned by our corporate strategy.

Climate-Related Opportunity	Influence on Our Corporate Strategy
<p>Products and Services</p>	<p>We see multiple opportunities that support the transition to a lower carbon economy, which involve investments in businesses, operations or assets relating to renewable or other alternative forms of energy. Our New Ventures Business Unit actively explores new opportunities centered around a lower carbon economy. Included in our evaluation process are: customer interest, alignment with our value chain, technology developments, safety requirements, financial investment required, and potential government incentives and payback. We continue to evaluate our commodity mix to identify opportunities to grow in areas where demand is expected to increase.</p>
<p>Investment in R&D</p>	<p>Pembina has many of the core competencies to adjust to a changing energy mix and is exploring opportunities for new infrastructure service, including carbon transportation and sequestration and new forms of energy including hydrogen. We also view technology as a key contributor to the energy transition and we continue to explore technology associated with CCUS, hydrogen, ammonia and solar to effectively manage our emissions and contribute positively to a lower-carbon economy. As part of our investment approach, we work with government and lending partners to access energy transition grants, incentives and financing.</p>
<p>Operations</p>	<p>In October 2021, Pembina announced its commitment to reduce the Company's GHG emissions intensity by 30% by 2030, relative to 2019 baseline emissions. This GHG reduction target informs business decisions and improves overall emissions intensity performance while increasing our long-term value and ensuring Canadian energy is developed and delivered responsibly. To meet this target, we have identified multiple pathways including operational improvements and energy efficiency projects, renewable energy projects, carbon capture and storage and other lower carbon economy investments. Through a lens of continuous improvement, we are taking steps to reduce our environmental footprint while utilizing assets more efficiently. Operational opportunities identified include:</p> <ul style="list-style-type: none"> ➤ Optimizing asset capacity; ➤ Constructing cogeneration facilities; ➤ Recovering waste heat; ➤ Reducing energy consumption; ➤ Modernizing and optimizing facilities to reduce the amount of energy consumed; ➤ Reducing flaring and venting; and ➤ Enhancing leak detection and repair programs at our facilities. <p>Refer to the GHG Emissions section for a discussion of our 2023 performance and progress against our 30 by 30 target.</p>

Climate Risk

The following table outlines potential climate-related risks to our business in the short (in the next year or two), medium (between two and five years) and long term (between five to ten years).

Risk Category	Description of Risk	Pembina's Risk Mitigation Activities ¹⁹
Current, Emerging and Changing Regulation	Various federal, provincial and state governments have announced intentions to regulate 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, impacting our financial results if we are unable to recover the resulting capital or operational costs through existing contractual terms or through higher tolls.	<ul style="list-style-type: none"> ➤ Undertaking annual scenario planning, informed by current and emerging regulation, that evaluates the potential implications of changes in the rate of decarbonization and escalating carbon tax compliance costs to test the resilience of our corporate strategy; ➤ Progressing our GHG intensity emissions reduction target; ➤ Reducing emissions from our operations through equipment modernization, system optimization and fugitive emissions management; ➤ Leveraging our diversified asset portfolio; ➤ Upholding our commercial model principles; ➤ Meeting or exceeding regulatory compliance obligations within the jurisdictions we operate in; and ➤ Actively engaging with government and public sector stakeholders on matters of legislative, regulatory or policy development.
Technology	For the world to transition to a lower carbon economy, technology will be a key factor. As energy transition technologies become more cost effective in the long term, changes in customer demand could in turn impact revenues and the Company's assets.	<ul style="list-style-type: none"> ➤ Actively exploring and investing in established and emerging technologies to effectively manage our emissions and contribute positively to a lower-carbon economy; ➤ Working with government and lending partners to access energy transition grants, incentives and financing; ➤ Investing in power purchase agreements and developing small-scale solar projects integrated with our existing assets; and ➤ Developing transformational opportunities like the proposed ACG, Cedar LNG and Pembina Low Carbon Complex projects.
Legal	For companies in the energy sector, legal risk could increase due to the number and complexity of regulatory requirements, as well as the potential for climate-related litigation.	<ul style="list-style-type: none"> ➤ Monitoring jurisdictional regulatory requirements to meet or exceed operational compliance with applicable laws and regulations; ➤ Aligning disclosure practices to evolving accounting and reporting standards; and ➤ Developing stakeholder and Indigenous engagement plans and government policy development.
Market	Changing consumer preferences, new technologies, government regulation or other external factors may result in a 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 re-lated commodities.	<ul style="list-style-type: none"> ➤ Using scenario planning to evaluate the potential implications of changes in the rate of decarbonization and energy demand to test the resilience of our corporate strategy; ➤ Continuing to invest in businesses, operations or assets relating to low carbon energy sources to ensure our long-term success and resilience; ➤ Leveraging our core competencies to adjust to the changing energy mix through exploring opportunities for new infrastructure services including carbon transportation and sequestration and new forms of energy including hydrogen; ➤ Incorporating GHG emissions reductions into our capital allocation and short-term incentive plan compensation; ➤ Supporting coastal egress to meet global demand for our products; and ➤ Actively engaging with stakeholders to identify potential risks and/or areas of concern and incorporate this input into project design and future operating plans.

¹⁹ Pembina's Risk Mitigation Activities are not intended to represent an exhaustive list

Risk Category	Description of Risk	Pembina's Risk Mitigation Activities ¹⁶
Reputation	<p>Pembina's reputation could be impacted by changing public attitudes towards climate change. 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 and reduced insurance capacity and coverage. Concerns about the effects of the use of hydrocarbons on climate change and the impact of oil and gas operations on the environment have affected certain investors' sentiments towards investing in the oil and gas industry. As a result of these concerns, some investors have announced that they are no longer willing to fund or invest in oil and gas properties or companies and/or are reducing the amount of such investments over time.</p>	<ul style="list-style-type: none"> ➤ Executing on our decarbonization strategy to reduce emissions and participate in the energy transition; ➤ Issuing our annual Sustainability Report aligned to global reporting frameworks to strengthen transparency of the information we publish on climate-related issues including, governance, opportunities, risks, and performance; ➤ Linking our financing strategy to achieving our emission reduction targets through a sustainability-linked loan. The \$1 billion sustainability-linked revolving credit facility contains pricing adjustments that reduce or increase borrowing costs based on our performance relative to our GHG emissions intensity reduction performance target. The specific terms of the new loan facility include annual targets that align with our trajectory towards our 2030 goal; and ➤ Actively engaging with investors, lenders and insurers to understand and address their concerns.
Acute Physical	<p>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 to Pembina's assets. These risks include 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.</p>	<ul style="list-style-type: none"> ➤ Maintaining policies, procedures and operating guidelines to ensure the safety of our people and assets; ➤ Engineering our facilities with specific design considerations to manage weather related risks such as stormwater and forest fires; ➤ Identifying, monitoring and mitigating slope, water and seismic threats to our pipeline systems as part of our Geohazard Management Program. All geohazard locations are ranked to define the level and frequency of inspection and monitoring; ➤ Implementing Emergency Management Plans to execute timely deployment of equipment, resources and trained personnel to support any kind of incident; ➤ Utilizing monitoring technologies for continual evaluation of geohazard risks such as in-line inspections, slope movement and river level monitoring; and ➤ Leveraging third party information such as early weather event warning systems, total annual precipitation accumulations, and snowpack levels to provide proactive operational responses.
Chronic Physical	<p>Weather conditions can affect the demand for and price of oil, natural gas and NGLs. As a result, changes in weather patterns may affect Pembina's energy transportation and midstream services. Pembina has capacity to handle typical increases in volume of throughput and storage at its facilities to meet changes in seasonal demand. Weather conditions may impact our ability to complete capital projects, maintenance and integrity projects or facility turnarounds. Unseasonable weather or work required outside of normal construction seasons can result in delays and increased costs.</p>	<ul style="list-style-type: none"> ➤ By mitigating the acute physical risks through our programs and operating practices we are also able to reduce the impact of chronic physical risks; ➤ Scheduling construction activities, where feasible, in non-winter months to minimize potential delays due to non-frozen ground conditions and/or adjusting scheduling to accommodate weather conditions; and ➤ Suspending development activity until the weather conditions are more favourable or in more extreme cases until the next preferred construction season (i.e. winter to winter).

For additional discussion on potential risks and opportunities that we have identified, please see our [Management's Discussions and Analysis](#) and [Annual Information Form](#), each for the year ended December 31, 2023.

SASB Content Index

The table shown below demonstrates the relationship between Pembina’s reporting and SASB Oil & Gas – Midstream Sustainability Accounting Standard (December 2023).

Disclosure	SASB Standard Number	Sustainability Report Reference
Greenhouse Gas Emissions		
Total Scope 1 GHG Emissions	EM-MD-110a.1	Data Tables – Energy Transition and Climate
Methane GHG Emissions as % Scope 1 GHG	EM-MD-110a.1	Data Tables – Energy Transition and Climate
Scope 1 GHG Covered Under Emissions-Limiting Regulation	EM-MD-110a.1	Data Tables – Energy Transition and Climate
Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	EM-MD-110a.2	GHG Emissions
Air Quality		
NO _x Emissions	EM-MD-120a.1	Data Tables – Energy Transition and Climate
SO _x Emissions	EM-MD-120a.1	Data Tables – Energy Transition and Climate
Volatile Organic Compounds (VOCs)	EM-MD-120a.1	Data Tables – Energy Transition and Climate
Particulate Matter (PM10)	EM-MD-120a.1	Data Tables – Energy Transition and Climate
Ecological Impacts		
Description of environmental management policies and practices for active operations	EM-MD-160a.1	Responsible Asset Management
Land Owned, Leased and/or Operated within Areas of Protected Conservation Status or Endangered Species Habitat	EM-MD-160a.2	Data Tables – Responsible Asset Management
Terrestrial Land Area Disturbed	EM-MD-160a.3	Data Tables – Responsible Asset Management
Impacted Area Restored	EM-MD-160a.3	Data Tables – Responsible Asset Management
Number of Hydrocarbon Spills	EM-MD-160a.4	Data Tables – Responsible Asset Management
Aggregate Volume of Hydrocarbon Spills	EM-MD-160a.4	Data Tables – Responsible Asset Management
Volume of Hydrocarbon Spills in Arctic	EM-MD-160a.4	Data Tables – Responsible Asset Management
Volume of Hydrocarbon Spills in Sites with High Biodiversity Significance	EM-MD-160a.4	Data Tables – Responsible Asset Management
Volume of Hydrocarbon Spills Recovered	EM-MD-160a.4	Data Tables – Responsible Asset Management
Operational, Safety, Emergency Preparedness & Response		
Number of Reportable Pipeline Incidents	EM-MD-540a.1	Data Tables – Responsible Asset Management
Percentage Significant	EM-MD-540a.1	Data Tables – Responsible Asset Management
Natural Gas Pipelines Inspected	EM-MD-540a.2	Data Tables – Responsible Asset Management
Hazardous Liquid Pipelines Inspected	EM-MD-540a.2	Data Tables – Responsible Asset Management
Accident Releases from Rail Transportation	EM-MD-540a.3	Data Tables – Responsible Asset Management
Non-Accident Releases (NARs) from Rail Transportation	EM-MD-540a.3	Data Tables – Responsible Asset Management
Discussion of management systems used to integrate a culture of safety and emergency preparedness throughout the value chain and throughout project lifecycles	EM-MD-540a.4	Governance and Responsible Asset Management
Activity Metrics		
Total metric tonne-kilometer of: (1) natural gas, (2) crude oil, and (3) refined petroleum products transported, by mode of transport (Note: Pembina does not report activity in these units)	EM-MD-000.A	Data Tables – Activity Metrics

GRI Content Index

The table shown below demonstrates the relationship between Pembina's reporting and reference to GRI metrics and disclosures.

Disclosure Title	Disclosure Number	Page
Disclosures for All Organizations		
Organizational Details, Activities, Strategy		
Organizational details	2-1	About Pembina Our Operations 2023 Annual Information Form (22) 2023 Annual Report (86)
Activities, value chain and other business relationships	2-6*	Our Operations The Alberta Carbon Grid Cedar LNG Pembina Low Carbon Complex Low-Carbon Hydrogen-as-Ammonia Project
Employees	2-7	Employee Well-Being & Culture Employee Well-Being & Culture Data Table
Workers who are not employees	2-8*	Employee Well-Being & Culture Data Table
CEO message	2-22	Message from the Board Chair & CEO 2024 Information Circular (3-4)
Policy commitments	2-23*	2024 Information Circular
Management of material topics	3-3	Management's Role
Governance and Ethics		
Governance structure and composition	2-9*	The Board's Role Governance - 2023 Performance 2024 Information Circular (19-30, 44-57)
Nomination and selection of the highest governance body	2-10*	2024 Information Circular (19-30, 45)
Chair of the highest governance body	2-11	2024 Information Circular (20)
Role of the highest governance body in overseeing the management of impacts	2-12*	About Pembina The Board's Role 2024 Information Circular (3-4, 38)
Delegation of responsibility for managing impacts	2-13*	The Board's Role Management's Role 2024 Information Circular (38)
Role of the highest governance body in sustainability reporting	2-14*	2024 Information Circular (54)
Conflicts of interest	2-15*	2024 Information Circular (35)
Communication of critical concerns	2-16*	Annual Information Form (61)
Collective knowledge of the highest governance body	2-17	2024 Information Circular (46-47)
Evaluation of the performance of the highest governance body	2-18	2024 Information Circular (50)
Remuneration policies	2-19	2024 Information Circular (58-61, 62-83)
Process to determine remuneration	2-20	2024 Information Circular (18, 58-61, 62-83)
Mechanisms for seeking advice and raising concerns	2-26*	Annual Information Form (61)

Disclosure Title	Disclosure Number	Page
Stakeholder Engagement		
Approach to stakeholder engagement	2-29	Employee Well-Being & Culture Health & Safety Integrity Management Biodiversity & Land Use Indigenous & Community Engagement
Collective bargaining agreements	2-30*	Annual Information Form (63)
Reporting Practices and Disclosures on Material Topics		
Entities included in sustainability reporting	2-2*	Reading This Report
Reporting period, frequency and contact point	2-3*	Reading This Report Back Cover 2023 Annual Report (86)
Restatement of information from previous reports	2-4	Energy Transition & Climate Data Table Employee Well-Being & Culture Data Table
External assurance	2-5*	Website - ESG Data and Reports
Compliance with laws and regulations	2-27*	Annual Information Form (105)
Membership associations	2-28	2023 CDP Climate Submission (C12.3b)
Process to determine material topics	3-1	Sustainability Focus Areas
Material topics	3-2	Sustainability Focus Areas
Topic Specific Disclosures		
Economic Performance		
Direct economic value generated and distributed	201-1	Governance Data Table Non-GAAP & Other Financial Measures
Financial implications and other risks and opportunities due to climate change	201-2*	2023 CDP Climate Submission (C2 Risks and Opportunities)
Defined benefit plan obligations and other retirement plans	201-3*	2023 Annual Report (120-123)
Indirect Economic Impacts		
Infrastructure investments and services supported	203-1*	GHG Emissions Indigenous Engagement Community & Stakeholder Relations
Procurement Practices		
Proportion of spending on local suppliers	204-1*	Indigenous & Community Engagement Data Table
Energy		
Energy consumption within the organization	302-1*	Energy Transition & Climate Data Table
Energy consumption outside of the organization	302-2*	Energy Transition & Climate Data Table
Water and Effluents		
Water withdrawal	303-3*	Responsible Asset Management Data Table
Water discharge	303-4*	Responsible Asset Management Data Table
Water consumption	303-5*	Responsible Asset Management Data Table

Disclosure Title	Disclosure Number	Page
Biodiversity		
Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	304-1*	Responsible Asset Management Data Table
Significant impacts of activities, products and services on biodiversity	304-2*	Biodiversity & Land Use Responsible Asset Management Data Table
Habitats protected or restored	304-3*	Responsible Asset Management Data Table
Emissions		
Direct (scope 1) GHG emissions	305-1	Energy Transition & Climate Data Table
Energy indirect (scope 2) GHG emissions	305-2	Energy Transition & Climate Data Table
Other indirect (scope 3) GHG emissions	305-3*	Energy Transition & Climate Data Table
GHG emissions intensity	305-4*	Energy Transition & Climate Data Table
Reduction of GHG emissions	305-5*	GHG Emissions Energy Transition & Climate Data Table
NO _x /SO _x and other significant air emissions	305-7	Energy Transition & Climate Data Table
Waste		
Management of significant waste related impacts	306-2*	Waste Management
Waste generated	306-3*	Responsible Asset Management Data Table
Waste diverted from disposal	306-4*	Responsible Asset Management Data Table
Waste directed to disposal	306-5*	Responsible Asset Management Data Table
Employment		
New employee hires and turnover	401-1*	Employee Well-Being & Culture Data Table
Occupational Health and Safety (“OHS”)		
OHS management system	403-1*	Health & Safety
Hazard identification, risk assessment, and incident investigation	403-2*	Health & Safety
Worker participation, consultation, and communication on OHS	403-4*	Health & Safety
Prevention and mitigation of OHS impacts directly linked by business relationships	403-7	Health & Safety
Work-related injuries	403-9*	Health & Safety Health & Safety Data Tables
Diversity and Equal Opportunity		
Diversity of governance bodies and employees	405-1	Employee Well-Being & Culture Data Table 2024 Information Circular (19-30)
Local Communities		
Operations with local community engagement, impact assessments, and development programs	413-1*	Biodiversity & Land Use Indigenous Engagement Community & Stakeholder Relations
Public Policy		
Political contributions	415-1*	Governance Data Table
Customer Privacy		
Substantiated complaints concerning breaches of customer privacy and losses of customer data	418-1*	Cyber Security & Data Privacy

*Partially meets the disclosures suggested by the GRI Standards

TCFD Content Index

The table shown below demonstrates Pembina's alignment to the TCFD recommendations.

Category	Disclosure	Disclosure Reference and Page Reference
Governance		
Governance (a)	Board oversight of climate-related risks and opportunities	The Board's Role
Governance (b)	Management's role in assessing and managing climate-related risks and opportunities	Management's Role
Strategy		
Strategy (a)	Identification of climate-related risks and opportunities over the short, medium, and long term	Energy Transition & Climate - Climate Opportunities Climate Opportunities & Risks Appendix Energy Transition & Climate - Climate Risks
Strategy (b)	Impact of climate-related risks and opportunities on the business, strategy, and financial planning	2023 CDP Climate Change Submissions (C3. Business Strategy)
Strategy (c)	Scenario analysis and strategy resilience	Energy Transition & Climate - Scenario Analysis and Strategy Resilience
Risk Management		
Risk Management (a)	Processes for identifying and assessing climate-related risks	Governance - Enterprise Risk Management
Risk Management (b)	Processes for managing climate-related risks	Governance - Enterprise Risk Management
Risk Management (c)	Integration of processes for identifying, assessing, and managing climate-related risks into the organization's overall risk management	2023 CDP Climate Change Submissions (C2. Risks and Opportunities)
Metrics and Targets		
Metrics and Targets (a)	Metrics used to assess climate-related risks and opportunities	Energy Transition & Climate Data Table
Metrics and Targets (b)	Disclosure of GHG emissions	Energy Transition & Climate Data Table
Metrics and Targets (c)	Targets used to manage climate-related risks and opportunities	GHG Emissions

Definitions

For capitalized terms used herein that are not otherwise defined, refer to Pembina’s Annual Information Form for the year ended December 31, 2023 filed at www.secdarplus.ca (filed with the U.S. Securities and Exchange Commission at www.sec.gov under Form 40-F) and on Pembina’s website at www.pembina.com.

Hyperlinking

Throughout this report we have provided external links, which provide additional context and further information for interested readers. These hyperlinks may change over time, and Pembina does not undertake any obligation to update such hyperlinks, except as required by applicable laws.

In addition, this report may contain links to other websites (“third-party websites”). Pembina does not assume responsibility or any liability for the accuracy or appropriateness of the information, data, opinions, advice or statements contained on third-party websites. In providing links to the other sites, Pembina is in no way acting as a publisher or disseminator of the material contained on the third-party websites and does not seek to monitor or control such third-party websites. A link to a third-party website should not be construed to mean that Pembina is affiliated or associated with the entity to which the website is linked. Pembina does not recommend or endorse any of the content on any third-party website, including, without limitation, any hyperlinks contained within third-party websites.

Forward-looking Statements

This report 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 experience and its perception of historical trends. In some cases, forward-looking

statements can be identified by terminology such as “continue”, “anticipate”, “schedule”, “will”, “expects”, “estimate”, “potential”, “planned”, “future”, “outlook”, “strategy”, “project”, “trend”, “commit”, “maintain”, “focus”, “ongoing”, “believe” and similar expressions suggesting future events or future performance.

In particular, this document contains forward-looking statements pertaining to, without limitation, the following: Pembina’s corporate strategy, priorities and expected performance, including plans and strategies to improve Pembina’s ESG performance, as well as the timing and outcomes thereof; ESG goals and targets, including those related to GHG emissions reduction and EDI; the expected impact of Pembina’s ESG initiatives on its business, operations and ESG-related performance, including statements regarding the development and implementation of ESG technology and a re-designed OMS framework, as well as the outcomes and benefits thereof; energy transition and low carbon energy, including Pembina’s initiatives and approach thereto; anticipated environmental, community and economic benefits of Pembina’s growth projects, including the Cedar LNG project, the ACG and the PLCC; the Cedar LNG project, including the size, ownership and emissions thereof and timing for a final investment decision in respect thereof; the ACG, including its anticipated capacity, environmental impact, long-term operating goals and the expected benefits thereof for Pembina and TC Energy Stakeholders; the PLCC, including statements regarding Pembina’s vision for the project, the anticipated benefits and features thereof and actions taken by Pembina in relation thereto; the expansion of Pembina’s value chain to incorporate various carbon capture and storage opportunities; the expected start-up date of the Wild Rose 2 Wind Farm; statements regarding future ESG and sustainability related disclosure, including plans to continue further alignment with the TCFD recommendations and actions taken in relation to the TNFD recommendations; expectations regarding our decarbonization strategy and related infrastructure, including the anticipated benefits and features thereof and actions taken by Pembina in relation thereto; GHG emissions reporting, including the enhancement thereof; expectations regarding the installation of air-fuel ratio control systems, including benefits thereof; Pembina’s continued commitment to meet its Women in the Workforce

and Workforce Diversity targets, as well as actions taken in relation to such targets and the outcomes thereof; Pembina’s EDI approach for 2024 and beyond, including the launch of Pembina’s People Strategy, integrating and embedding EDI initiatives into operations, advancing accessibility and psychological safety in the workplace, supporting inclusive practices in our operating areas, conducting policy assessments for EDI integration, and supporting EDI integration in Talent Acquisition and Management; Pembina’s continued focus on safety, including enhancing contractor safety performance and other health and safety priorities for 2024; strategies to protect the integrity of energy infrastructure; plans to enhance Pembina’s emergency response capacity; waste management processes and programs, including the anticipated decrease of non-hazardous waste volumes; plans regarding a water re-use initiative, reduction of freshwater use, and efforts to improve water data management practices; reclamation activities, including expectations relating thereto; plans to build partnerships to advance ESG priorities; the expectation that Pembina’s policies, standards and procedures will adapt to cyber security and data privacy threat and laws; the incorporation of ESG processes and metrics into Pembina’s supply chain processes; strategies for Indigenous engagement, inclusion and reconciliation, including plans and initiatives to progress Pembina’s five-year Indigenous Engagement Strategy and Path and our intention to continue to explore collaboration opportunities and new projects with Indigenous communities; plans to further develop continued community investment and engagement efforts; climate change risks and the related risk mitigation strategies; and the opportunities Pembina identified in the transition to a lower carbon economy and the influence they have on its strategy.

The forward-looking statements are based on certain assumptions that Pembina has made in respect thereof as at the date of this report regarding, among other things: Pembina’s ability to achieve its ESG targets, including those related to GHG emissions reduction and EDI; energy transition, including the drivers and pace thereof, as well as the benefits and risks relating thereto; the availability of individuals with the skills required for Pembina’s business and in the geographic locations in which Pembina operates necessary to achieve Pembina’s GHG and EDI targets; that current technologies are sufficient to achieve

reductions in GHG emissions targets; the availability of data, samples and information necessary to evaluate targets, goals, programs and strategies; the willingness of Indigenous stakeholders to engage in consultation and reconciliation efforts; successful collaboration with others to advance ESG goals; broad compliance with Pembina's plans, strategies, programs and goals across its reporting and monitoring systems among its employees, stakeholders and service providers; oil and gas industry exploration and development activity levels and the geographic region of such activity; that Pembina's future results of operations will be consistent with past performance and management expectations in relation thereto; the resiliency of Pembina's assets and growth opportunities under climate change scenarios; the success of Pembina's operations and growth projects; that projects will be completed and sanctioned as expected; that any required commercial agreements for projects can be reached; that counterparties to agreements will continue to perform their obligations in a timely manner; prevailing regulatory, tax and environmental laws and regulations; that all required regulatory and environmental approvals can be obtained on the necessary terms and in a timely manner; that there are no unforeseen material construction or other costs related to current and future projects or operations; that there are no unforeseen events preventing the performance of contracts or the completion of the relevant projects; the continued availability of capital at attractive prices to fund future capital requirements relating to existing and future assets and projects; the ability of Pembina to maintain current credit ratings; prevailing commodity prices, interest rates, carbon prices, tax rates and exchange rates; and certain other assumptions in respect of Pembina's forward-looking statements detailed in Pembina's Management Discussion and Analysis and Annual Information Form for the year ended December 31, 2023 and from time to time in Pembina's public disclosure documents available at www.sedarplus.ca, www.sec.gov, and through Pembina's website at www.pembina.com.

Although Pembina believes the expectations and material factors and assumptions reflected in these forward-looking statements are reasonable as of the date hereof, there can be no assurance that these expectations, factors and assumptions will prove to be correct. These forward-looking statements are not guarantees of future performance and are subject to a number of known and unknown

risks and uncertainties including, but not limited to: the failure to realize the anticipated benefits and synergies of projects and transactions; material cost-overruns in respect of projects or a material delay to the expected operational date for projects; expectations and assumptions concerning, among other things: customer demand for Pembina's services; commodity prices, interest rates, inflation and foreign exchange rates; the regulatory environment and decisions, and Indigenous and landowner consultation requirements; reliance on third parties to successfully operate and maintain certain assets; labour and material shortages; reliance on key relationship and agreements and the outcome of stakeholder engagement; the strength and operations of the oil and natural gas industry and related commodity prices; non-performance or default by counterparties to agreements which Pembina or one or more of its subsidiaries has entered into in respect of its business; actions by joint venture partners or other partners which hold interests in certain of Pembina's assets; actions by governmental and regulatory authorities, including changes in climate change initiatives, regulatory processes or increased environmental regulation; changes in the political environment, in North America and elsewhere, and public opinion; fluctuations in operating results; adverse, general economic and market conditions in Canada, North America and worldwide; constraints on, or the unavailability of adequate infrastructure and technology; ability to access sources of debt and equity capital; changes in credit ratings; litigation; technology and security risks including cyber-security risks; natural catastrophes and changes in weather patterns; and certain other risks and uncertainties detailed in Pembina's Management Discussion and Analysis and Annual Information Form for the year ended December 31, 2023 and from time to time in Pembina's public disclosure documents available at www.sedarplus.ca, www.sec.gov, and through Pembina's website at www.pembina.com.

This list of risk factors should not be construed as exhaustive. Readers are cautioned that events or circumstances could cause actual 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. 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.

Non-GAAP and Other Financial Measures

Throughout this document, Pembina has disclosed certain financial measures that are not specified, defined or determined in accordance with GAAP and which are not disclosed in Pembina's financial statements. Non-GAAP financial measures either exclude an amount that is included in, or include an amount that is excluded from, the composition of the most directly comparable financial measure specified, defined and determined in accordance with GAAP. These non-GAAP financial measures, together with financial measures specified, defined and determined in accordance with GAAP, are used by management to evaluate the performance and cash flows of Pembina and its businesses compare Pembina's sustainability related performance to its peers and to provide additional useful information respecting Pembina's financial performance and cash flows to investors and analysts.

In this document, Pembina has disclosed the following non-GAAP financial measures: direct economic value generated, direct economic value distributed, operating and general and administrative expenses, total tax paid and payments to providers of capital.

Non-GAAP financial measures disclosed in this document do not have any standardized meaning under International Financial Reporting Standards ("IFRS") and may not be comparable to similar financial measures disclosed by other issuers. The financial measures should not, therefore, be considered in isolation or as a substitute for, or superior to, measures of Pembina's financial performance, or cash flows specified, defined or determined in accordance with IFRS, including revenue, general and administrative expenses taxes paid and dividends paid.

Except as otherwise described herein, these non-GAAP financial measures are calculated on a consistent basis from period to period. Specific reconciling items may only be relevant in certain periods.

Below is a description of each non-GAAP financial measure disclosed in this document, together with, as applicable, disclosure of: the most directly comparable financial measure that is specified, defined and determined in accordance with GAAP to which each non-GAAP financial measure relates; a quantitative reconciliation of each non-GAAP financial measure to such directly comparable GAAP financial measure; the composition of each non-GAAP financial measure; and an explanation of how each non-GAAP financial measure provides useful information to investors and the additional purposes, if any, for which management uses each non-GAAP financial measure.

Direct Economic Value Generated

Direct Economic Value Generated is a non-GAAP financial measure which is defined as total revenue less cost of goods sold, including product purchases. Direct Economic Value Generated is equivalent to Net Revenue, a non-GAAP financial measure, as disclosed in our annual MD&A. Management believes that disclosing to standardized GRI metrics is a useful tool for stakeholders, and Direct Economic Value Generated is included on the GRI recommended list of metrics to disclose. Management utilizes Direct Economic Value Generated to aggregate revenue generated by each of Pembina's divisions and to set comparable objectives. The most directly comparable financial measure to Direct Economic Value Generated that is specified, defined and determined in accordance with GAAP and disclosed in Pembina's financial statements is revenue.

(\$ millions)	2023	2022	2021
Revenue	9,125	11,611	8,627
Cost of goods sold, including product purchases	(5,131)	(7,364)	(4,689)
Direct Economic Value Generated	3,994	4,247	3,938

Operating and General & Administrative Expenses

Operating and general & administrative expenses is a non-GAAP financial measure that is defined as general and administrative expenses, plus operating expenses, less corporate depreciation, employee costs, property taxes paid and community investments. Management believes that disclosing to standardized GRI metrics is a useful tool for stakeholders, and operating and general & administrative expenses is included on the GRI recommended list of metrics to disclose. The most directly comparable financial measure that is specified, defined and determined in accordance with GAAP and disclosed in Pembina's financial statements is general and administrative expenses.

(\$ millions)	2023	2022	2021
General and administrative expenses	422	399	306
Operating expenses	825	869	761
Corporate depreciation	(39)	(39)	(39)
Employee wages and benefits	(486)	(479)	(440)
Property taxes paid	(76)	(72)	(80)
Community investments	(7)	(7)	(6)
Operating and General & Administrative Expenses	639	671	502

Total Tax Paid

Total tax paid is a non-GAAP financial measure that is defined as the sum of income taxes and property taxes paid. Management believes that disclosing to standardized GRI metrics is a useful tool for stakeholders, and total tax paid is included on the GRI recommended list of metrics to disclose. The most directly comparable financial measure that is specified, defined and determined in accordance with GAAP and disclosed in Pembina's financial statements is taxes paid.

(\$ millions)	2023	2022	2021
Taxes paid	236	334	355
Property taxes paid	76	72	80
Total Tax Paid	312	406	435

Payments to Providers of Capital

Payments to providers of capital is a non-GAAP financial measure that is defined as dividends paid plus the repurchase of common shares and interest paid. Management believes that disclosing to standardized GRI metrics is a useful tool for stakeholders, and payments to providers of capital is included on the GRI recommended list of metrics to disclose. The most directly comparable financial measure that is specified, defined and determined in accordance with GAAP and disclosed in Pembina's financial statements is dividends paid.

(\$ millions)	2023	2022	2021
Dividends paid	1,579	1,651	1,521
Repurchase of common shares	50	333	17
Net interest paid	437	443	406
Payments to Providers of Capital	2,066	2,427	1,944

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pembina.com

