
C0. Introduction

C0.1

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

MEG is an energy company focused on sustainable in situ thermal oil production in the southern Athabasca oil region of Alberta, Canada. MEG is actively developing innovative enhanced oil recovery projects that utilize steam assisted gravity drainage ("SAGD") extraction methods to improve the responsible economic recovery of oil as well as lower carbon emissions. MEG transports and sells thermal oil (known as Access Western Blend or "AWB") to customers throughout North America and internationally. MEG owns a 100% working interest in approximately 410 square miles of mineral leases. GLJ Ltd. ("GLJ"), an independent qualified reserves and resources evaluator, estimated that the leases it had evaluated, as of December 31, 2022, contained approximately 1.94 billion barrels of gross proved plus probable ("2P") bitumen reserves at the Christina Lake Regional Project (CLRP). For information regarding MEG's estimated reserves contained in the report prepared by GLJ, please refer to the Corporation's most recently filed Annual Information Form ("AIF"), which is available on the Corporation's website at www.megenergy.com and is also available on the SEDAR+ website at www.sedar.com.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.**Reporting year****Start date**

January 1 2022

End date

December 31 2022

Indicate if you are providing emissions data for past reporting years

No

Select the number of past reporting years you will be providing Scope 1 emissions data for

<Not Applicable>

Select the number of past reporting years you will be providing Scope 2 emissions data for

<Not Applicable>

Select the number of past reporting years you will be providing Scope 3 emissions data for

<Not Applicable>

C0.3

(C0.3) Select the countries/areas in which you operate.

Canada

C0.4

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

CAD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C-OG0.7

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

Row 1

Oil and gas value chain

Upstream

Other divisions

Grid electricity supply from gas

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, a Ticker symbol	MEG

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual or committee	Responsibilities for climate-related issues
Board-level committee	The Board of Directors (Board) is responsible for overall stewardship and oversight of the Corporation and activities of management. The Board is responsible for the oversight of climate-related issues impacting the Corporation, including overseeing processes to identify, assess and manage climate risks and opportunities, including an annual review of the corporations Enterprise Risk Management (ERM) process, which outlines climate-related risks. They also focus on developing the Corporation's approach to governance issues, principles, practices, and disclosure; overseeing and monitoring metrics and targets to assess and manage climate risk and opportunities; and reviewing ESG disclosures. The Board delegates responsibility for certain ESG matters to the four Board committees from time to time based on mandate and expertise: Governance and Nominating Committee (GNC), Audit Committee, Human Capital and Compensation Committee (HCCC), and Health, Safety and Environment and Reserves Committee (HSERC). The HSERC is responsible for overseeing the implementation of policies and procedures to monitor and mitigate environmental risks, including climate change. The HSERC manages information on climate-related issues and makes recommendations to the Board regarding strategies to mitigate climate-related risks. Examples of actions taken include review and approval of continued strategic investments in MEG's proprietary eMSAGP technology. The Board and HSERC are updated by the CEO, COO, and representatives of the Corporation's Executive ESG and Health, Safety & Environment (HSE) Committees quarterly on GHG performance, climate strategy, advancement of emissions reducing technology solutions, climate policy developments (including carbon pricing mechanisms) and other climate-related topics as applicable. The HCCC assists the Board to ensure that climate matters are reflected in compensation policies and guidelines as well as the Corporation's corporate goals and objectives related to compensation. In 2022, the Board approved the 2023 Corporate Performance Scorecard and CEO objectives which linked performance (5%) to Steam Oil Ratio (SOR, a GHG Intensity Measure) and 5% to advancing decarbonization plans.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – all meetings	<ul style="list-style-type: none"> Reviewing and guiding annual budgets Overseeing major capital expenditures Overseeing acquisitions, mergers, and divestitures Reviewing innovation/R&D priorities Overseeing and guiding employee incentives Reviewing and guiding strategy Overseeing and guiding the development of a transition plan Monitoring the implementation of a transition plan 	<Not Applicable>	<p>The Board of Directors (Board) is responsible for the overall stewardship of, and for overseeing the conduct of, the Corporation and activities of management, who are responsible for the day-to-day conduct of the business. Under their mandate, the Board is responsible to oversee environmental, social and governance (ESG) issues, including (a) overseeing and monitoring management processes relating to the identification, assessment and management of ESG risks and opportunities, including climate-related issues, emissions, air and water impacts, and land and wildlife management, (b) developing the Corporation’s approach to corporate governance issues, principles, practices and disclosure; (c) approving and monitoring a code of business conduct and ethics for directors, officers, employees and contractors; (d) overseeing and monitoring of metrics and targets used by the Corporation to assess and manage ESG risk and opportunities; and (e) reviewing the Corporation’s ESG reporting on ESG matters. The Board delegates responsibility for certain ESG matters to the four Board committees from time to time based on mandate and expertise: Governance and Nominating Committee (GNC), Audit Committee, Human Resource and Compensation Committee (HRCC), and Health, Safety and Environment and Reserves Committee (HSERC). For example, the HCCC assists the Board to ensure that ESG matters are reflected in the Corporation’s compensation policies and guidelines as well as the Corporation’s corporate goals and objectives related to compensation. The HSERC assists the board in fulfilling its stewardship mandate with respect to ensuring compliance and with applicable laws pertaining to environment, including climate change and GHG, and reviewing and supervising MEG’s policies and procedures designed to mitigate climate risks and liabilities. The HSERC is updated by the CEO, COO, and representatives of the Corporation’s Executive ESG and HSE Committees quarterly on our GHG performance, climate strategy, advancement of emissions reducing technology solutions, climate policy developments (including carbon pricing mechanisms) and other climate-related topics as applicable. In 2022, the Board also approved the 2023 Corporate Performance Scorecard and CEO objectives which linked performance (5%) to Steam Oil Ratio (SOR, a GHG Intensity Measure) and 5% to advancing decarbonization plans. Other examples of actions taken include review and approval of continued strategic investments in MEG’s proprietary eMSAGP technology.</p>

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	<p>Every year, each director completes a confidential effectiveness survey for the Board and for each committee to which that director is assigned. The Board survey includes an assessment of the Board’s responsibilities and operations, assessment of the Chair of the Board, and individual director self-assessments. The Board committee surveys include an assessment of each committee’s responsibilities and operations, an assessment of each committee chair, and individual self-assessments of the committee members. The Governance and Nominating Committee (GNC) also considers the composition of the Board’s committees to ensure they possess an appropriate balance of the skills necessary for such committees to discharge their roles. This process uses a skills matrix, which helps identify gaps in skills, expertise and industry experience. In 2021, an assessment of the Board and committees by senior management of the Corporation was added to the annual Board assessment process.</p> <p>The GNC will consider the right combination of knowledge and experience with ESG matters to ensure that the Board provides appropriate oversight of and contributions to discussions related to ESG matters impacting the Corporation. The Board discharges its responsibilities for ESG matters directly; however, in the execution of its responsibility for ESG matters, the Board may assign responsibility for certain aspects of ESG to the Board committees from time to time. 100% of the Corporation’s Board members have ESG skills and expertise, including greenhouse gas emissions management, knowledge of scope 1 and scope 3 emissions, reservoir and facility optimization including SOR management and cogeneration. Refer to MEG’s Management Information Circular for further details.</p>	<Not Applicable>	<Not Applicable>

C1.2

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

Position or committee

Chief Executive Officer (CEO)

Climate-related responsibilities of this position

- Managing annual budgets for climate mitigation activities
- Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D)
- Managing climate-related acquisitions, mergers, and divestitures
- Providing climate-related employee incentives
- Developing a climate transition plan
- Implementing a climate transition plan
- Integrating climate-related issues into the strategy
- Conducting climate-related scenario analysis

Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Managing public policy engagement that may impact the climate
Managing value chain engagement on climate-related issues
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities

<Not Applicable>

Reporting line

Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line

Quarterly

Please explain

Our management team is responsible for executing corporate strategy including assessment and management of climate risks/opportunities, with the ultimate responsibility resting with the CEO. The CEO, subject to the direction of the Board, is responsible for the general supervision and control over business affairs of the Corporation including managing ESG priorities, policies, procedures, and practices, including climate change and reports to the full Board on the company's ongoing climate performance and status of climate initiatives quarterly. The CEO is supported by two committees, the Executive ESG Committee (ESG Committee) and the Corporate Health, Safety & Environment Committee (HSE Committee).

Position or committee

Safety, Health, Environment and Quality committee

Climate-related responsibilities of this position

Managing annual budgets for climate mitigation activities
Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D)
Managing climate-related acquisitions, mergers, and divestitures
Providing climate-related employee incentives
Developing a climate transition plan
Implementing a climate transition plan
Integrating climate-related issues into the strategy
Conducting climate-related scenario analysis
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Managing public policy engagement that may impact the climate
Managing value chain engagement on climate-related issues
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities

<Not Applicable>

Reporting line

CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line

Quarterly

Please explain

The Corporate Health, Safety & Environment Committee (HSE Committee) is responsible for the implementation and functioning of the climate change program (including regulatory compliance and corporate performance targets), reports quarterly to the HSERC of the Board and communicates learnings across MEG to drive continuous improvement. It consists of senior, interdisciplinary subject matter experts from across MEG including Health & Safety, Environment and Regulatory, Operations, Projects, Reservoir & Production Engineering, Drilling and Completions, Enterprise Services, Human Resources and Marketing. It ensures proper due diligence in the development, implementation and functioning of HSE programs. Meetings are held monthly where potential issues, trends, enhancement opportunities, and performance against objectives and targets are discussed. Its primary function is to assist MEG in carrying out its responsibilities by reviewing, reporting, and making recommendations on MEG's policies, management systems and programs with respect to HSE and exercising due diligence in ensuring these are implemented and functioning properly. With regards to climate, the HSE committee is responsible for the implementation and functioning of the climate change program. Climate-related topics addressed by the HSE committee include GHG emissions performance, methane management, flaring activities, electricity trends, equipment efficiency, as well as climate policy and regulatory change. HSE Committee outreach activities included the implementation of the Technology Innovation and Emission Reduction Regulation, review of the draft Clean Fuels Regulation, and ensuring operational performance and efficiency measures are aligned with the corporation's goals and staying informed of impacts associated with anticipated regulatory change.

Position or committee

Sustainability committee

Executive ESG Committee

Climate-related responsibilities of this position

Integrating climate-related issues into the strategy
Conducting climate-related scenario analysis

Coverage of responsibilities

<Not Applicable>

Reporting line

CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line

Quarterly

Please explain

The Executive ESG Committee (ESG Committee) assists the CEO in assessing and managing climate risks and opportunities and providing guidance on climate strategy and disclosure. It is comprised of senior leadership including the CEO, CFO, COO, Senior VP Legal & General Counsel, SVP Human Resources and VP, Public Policy &

Government Relations. It provides guidance and oversight with respect to ESG strategy, priorities, and corporate disclosure, and is responsible for embedding ESG into practices and behaviours, including climate-related issues. Meetings are held at least quarterly to discuss policies, practices and disclosure, current and emerging trends and regulations, the identification, assessment and management of risks and opportunities, and metrics and targets to advance strategy. Specific duties include (a) assist the CEO in setting MEG's general strategy with respect to ESG matters, (b) consider and recommend policies, practices and disclosures; (c) oversee MEG's reporting and disclosure with respect to ESG; (d) assist the CEO in overseeing internal and external communications regarding MEG's position on ESG; (e) monitor and keep the CEO apprised of current and emerging ESG matters that may affect the business, operations, performance or public image of MEG or are otherwise pertinent to MEG and its stakeholders, and to make recommendations with respect to policies, practices and disclosure regarding such matters; (f) assist the CEO in the identification, assessment and management of ESG-related risk and opportunities, including climate-related risks and opportunities. In 2022, the ESG Committee approved ESG disclosure and performance enhancements, and evaluated bitumen and electricity GHG intensities, 2030 and 2050 climate targets and potential technological developments. The ESG Committee oversaw climate change disclosure improvements, and enhanced climate-related financial disclosure aligned with TCFD recommendations.

C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	

C1.3a

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

Entitled to incentive

Chief Executive Officer (CEO)

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Performance indicator(s)

Progress towards a climate-related target
 Achievement of a climate-related target
 Implementation of an emissions reduction initiative
 Reduction in emissions intensity

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

The individual performance weighting contributes 20% of the CEO's short-term incentive compensation. The 2022 CEO objectives related to climate change include: continuing to advance on all aspects of ESG, including CO2 technology solutions, 2030 and 2050 GHG targets, alignment with TCFD, a 2022 ESG report and sustainable finance options. MEG's annual bonus structure is tied to performance against the Corporate Scorecard 10% of which is linked to GHG and emissions reduction and technology advancement. Overall, 35% of the Scorecard is related to ESG metric performance.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

The Corporation has adopted CEO objectives which are fully transparent to both employees and shareholders. The purpose of the objectives is to set and ensure alignment on the strategic objectives across the organization. The individual performance weighting contributes 20% of the CEO's short-term incentive compensation. The 2022 CEO objectives related to climate change include: continuing to advance on all aspects of ESG, including CO2 technology solutions, 2030 and 2050 GHG targets, alignment with TCFD, a 2022 ESG report and sustainable finance options. A portion of the CEO's annual incentives are also linked to environmental performance indicators including the management of climate-related issues as identified in the Corporate Performance Scorecard. In 2022, 5% of MEG's Corporate Performance Scorecard is linked to a GHG emissions performance metric and 5% to technology development.

Entitled to incentive

Corporate executive team

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Performance indicator(s)

Progress towards a climate-related target
 Achievement of a climate-related target
 Implementation of an emissions reduction initiative
 Reduction in emissions intensity

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

The 2022 CEO objectives related to climate change include: continuing to advance on all aspects of ESG, including CO2 technology solutions, 2030 and 2050 GHG targets, alignment with TCFD, a 2022 ESG report and sustainable finance options. The corporate executive team objectives align with the CEO objectives to focus the organizations commitment to the climate transition plan. MEG's annual bonus structure is tied to performance against the Corporate Scorecard 10% of which is linked to GHG and emissions reduction and technology advancement. Overall, 35% of the Scorecard is related to ESG metric performance.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

A portion of the corporate executive teams' annual incentives are linked to environmental performance indicators including the management of climate-related issues. Both performance and strategic indicators reflect the Corporation's continued focus on ESG priorities and initiatives, including supporting the Corporation's climate strategy. ESG indicators made up greater than 35% of our Corporate Performance Scorecard in 2022. In 2022, 5% of our Corporate Performance Scorecard is linked to a GHG emissions performance metric and 5% to technology development.

Entitled to incentive

All employees

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Performance indicator(s)

Progress towards a climate-related target
 Achievement of a climate-related target
 Implementation of an emissions reduction initiative
 Reduction in emissions intensity

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

The 2022 CEO objectives related to climate change include: continuing to advance on all aspects of ESG, including CO2 technology solutions, 2030 and 2050 GHG targets, alignment with TCFD, a 2022 ESG report and sustainable finance options. All employees within the organization set goals and objectives to support the CEO objectives to focus the organizations commitment to the climate transition plan. MEG's annual bonus structure is tied to performance against the Corporate Scorecard 10% of which is linked to GHG and emissions reduction and technology advancement. Overall, 35% of the Scorecard is related to ESG metric performance.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

A portion of employee annual incentives are linked to environmental performance indicators including the management of climate-related issues. Both performance and strategic indicators reflect the Corporation's continued focus on ESG priorities and initiatives, including supporting the Corporation's climate strategy. ESG indicators made up greater than 35% of our Corporate Performance Scorecard in 2022. In 2022, 5% of our Corporate Performance Scorecard is linked to a GHG emissions performance metric and 5% to technology development.

C2. Risks and opportunities

C2.1

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

Yes

C2.1a

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

	From (years)	To (years)	Comment
Short-term	1	2	The short-term horizon in MEG's strategic planning is 1 to 2 years. In the context of climate, this time frame aligns with the review cycle of greenhouse gas regulations.
Medium-term	2	5	The medium-term horizon includes MEG's strategic planning time frame.
Long-term	5	30	The long-term horizon considers MEG's reserve life and the Government of Canada's (GOC) commitment to develop a plan to achieve net zero GHG emissions (scope 1 and scope 2) by 2050. This timeframe is in line with recent research from the IPCC which suggests the commitments made under the Paris Agreement must go beyond 2030 GHG emissions reductions to limit global warming to 1.5°C. This would require anthropogenic GHG emissions to reach net zero by approximately 2050. MEG's long-term target to achieve net zero GHG emissions (scope 1 and scope 2) by 2050 and its involvement with the Pathways Alliance are important elements of the long-term horizon.

C2.1b

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

Climate-related risk is an element of MEG's Enterprise Risk Management (ERM) system which uses a risk matrix based on likelihood and impact severity to identify, assess, and prioritize strategic risks i) Definition: MEG defines substantive financial and strategic impact as having the potential to materially negatively impact the enterprise value of the corporation. ii)+iii) Metrics/Thresholds: Enterprise value could be negatively impacted by reduced forecast free cash flow or higher cost of capital due to increased risk in the business, higher costs, or reduced revenue among other factors. Financial and strategic risks with the ability to impact value by 5% or more are considered material. The potential of climate related risks are classified as catastrophic on an unmitigated basis and the combination of one or more impacts could result in an enterprise value impact of more than 30%, unmitigated. Investment in mitigation activity is required to reduce risk to less than 30% potential value impact classified as major. iv) Scope: The mentioned definitions and thresholds apply regardless of where in the value chain the risk/event is located (operations and supply chain).

C2.2

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

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

The Board is responsible for a) understanding the principal risks of the Corporation's business and confirming that systems are in place that effectively monitor and manage those risks with a view of the long-term viability of the Corporation, b) overseeing the Corporation's enterprise risk management (ERM) program, including its design and structure and assessment of its effectiveness, c) overseeing the Corporation's principal risks directly or, where the Board determines it to be appropriate, delegating the oversight of certain individual risks to a committee of the Board, and d) approving management's approach to ERM and its mitigation practices, including the identification, assessment and mitigation of principal risks, and satisfying itself as to the effective oversight of risk management of individual risks by the Board or its committees through periodic reports from the committee chair or management as appropriate. The Health, Safety and Environment and Reserves Committee (HSERC) provides direction and oversight of climate-related matters including climate-related risk. The senior leadership team is accountable for the management of climate-related risk and delegating management of specific risks throughout the organization. As such, climate change risks, opportunities and mitigation strategies are monitored continuously and reported monthly to MEG's HSE Committee and quarterly to the Board and HSERC. Potentially material climate change risks are communicated to shareholders in MEG's AIF and other continuous disclosure documents publicly available on SEDAR, the filing system for Canadian Securities Administrators. MEG uses a value-driven ERM philosophy to identify key strategic risks. ERM is integrated into strategic planning, business planning, operating practices, marketing, compliance monitoring, operating performance measurement and facility design. MEG's entire leadership team is engaged in evaluation and ranking of risk areas across the organization. Risks identified in MEG's assessments are tracked in a corporate risk register and evaluated based on impact severity and likelihood of occurrence, based on current and potential future operating conditions and business or political environment. Impact severity considers financial impact to enterprise value and free cash flow; health, safety and environmental impact; and reputational impact. Likelihood is ranked from remote to frequent. An overall risk rating is obtained by considering both impact severity and probability. Risks with a risk rating of 'low' are monitored by routine procedures and operations. Risks with a risk rating of 'high' require immediate risk treatment and mitigation plans. MEG defines substantive financial and strategic impact as having the potential to materially negatively impact the enterprise value of the corporation. Metrics/Thresholds: Enterprise value could be negatively impacted by reduced forecast free cash flow or higher cost of capital due to increased risk in the business, higher costs, or reduced revenue among other factors. Financial and strategic risks with the ability to impact value by 5% or more are considered material. The potential of climate related risks are classified as catastrophic on an unmitigated basis and the combination of one or more impacts could result in an enterprise value impact of more than 30%, unmitigated. Investment in mitigation activity is required to reduce risk to less than 30% potential value impact classified as major. iv) Scope: The mentioned definitions and thresholds apply regardless of where in the value chain the risk/event is located (operations and supply chain). MEG has also established a cross functional management team (HSE Committee) to examine GHG operational performance and identify risks and areas of opportunity for efficiency improvement. Recommendations inform capital investments, operating strategy as well as overall corporate strategy development. Opportunities identified and assessed by this team include production technology enhancements, operational efficiency projects (including capital projects), carbon capture and storage opportunities as well as value-added downstream technologies. The ERM process also identifies how the company currently mitigates risk and how it plans to mitigate risk in the future; including additional resources required. A case study of how our process has been used for a transition risk has been our response to climate regulation. Operating in Alberta, MEG is subject to the Technology Innovation and Emissions Reduction Regulation (TIER) as a large emitter, which includes facility-specific benchmarks and sector based high-performance benchmarks. The stringency of the benchmark began to increase annually in 2021 and is currently set to increase by 2% annually until 2028 and 4% annually in 2029 and 2030. MEG is therefore subject to an increasing cost of regulatory compliance for GHG emissions. The potential impacts of this risk include financial impact to enterprise value and free cash flow. The task was to identify possible mitigations to reduce compliance costs associated with the regulation which prompted MEG to consider possible investments in technologies to reduce GHG. The ERM process has helped drive the introduction of several technological strategies to enhance bitumen recovery while also improving GHG performance. These include utilization of infill wells, non-condensable gas injection to maintain reservoir pressure and solvent injection on selected wells. MEG continues to advance these bitumen recovery technologies including eMSAGP and optimized well designs, including the introduction of autonomous flow control devices to manage steam injection. As a result of the application of proprietary technologies and optimizations MEG achieved a companywide SOR of 2.36 in 2022 and performed better than the TIER facility-specific benchmark. The risk of wildfire provides a case study of how MEG process has been used to manage physical climate risks. In 2016, wildfires caused significant loss and impacted production at oil and gas facilities in Alberta. Climate change could increase the frequency of these events including the severity of extreme temperatures. Wildfire could cause damage to MEG's infrastructure, impact accessibility to MEG's properties and cause interruptions to production. MEG has utilized data from the latest IPCC Fifth Assessment Report (AR5) to update a climate change assessment with recent climate trend comparisons locally and projections of changes in temperature, precipitation and other extreme events that could be expected out to 2080. MEG has identified the risk of wildfires in the ERM and identified mitigations through engineering design and operational procedures. An example of a mitigative action taken is a Fire Smart program and a lightning strike detection system. As a result, we are better prepared to protect infrastructure from wildfire hazards.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & Inclusion	Please explain
Current regulation	Relevant, always included	Current GHG emission regulations are identified, assessed, and captured in the corporate risk register, included in corporate budgets if applicable as well as corporate strategy decisions. MEG considers international, federal, and provincial regulations. Many GHG emission regulations are designed to increase in stringency over time to achieve jurisdictional goals and targets. MEG regularly assesses and monitors emissions performance of its development plans to understand potential current and future financial implications. MEG has introduced several strategies including enhanced bitumen recovery technologies. In addition, our Christina Lake Regional Project generates electricity and steam through the use of cogeneration. Examples of current regulation include the federal GHG Pollution Pricing Act (GGPPA) and TIER. On June 21, 2018, the GGPPA came into force which includes: a fuel charge and an output-based pricing system for industrial facilities. On December 6, 2019, the federal government confirmed equivalency with the government of Alberta's TIER under the Emissions Management and Climate Resilience Act. It includes facility-specific benchmarks and sector-based high-performance benchmarks. The stringency of the benchmark began to increase annually in 2021 and is currently set to increase by 2% annually until 2028 and 4% annually in 2029 and 2030. MEG will continue to implement its bitumen recovery enhancement strategies and monitor the outcomes and implications for MEG under TIER. The fuel charge under Part 1 of the GGPPA came into force in Alberta on January 1, 2020, after the Government of Alberta adopted the Carbon Tax Repeal Act in 2019. MEG's exposure to Part 1 of the GGPPA is minimal as all facility operating emissions are regulated under the TIER Regulation. Further, the TIER Regulation received federal equivalency with Part 2 of the GGPPA in December 2019 eliminating the risk of duplicative regulation and/or pricing.
Emerging regulation	Relevant, always included	Changes to the political landscape and regulatory regimes can lead to emerging regulations. There will likely be some financial impact of emerging GHG regulation on most oil sands industry participants, however the extent of the impact is not always known. In 2022, the Government of Canada released the 2030 Emissions Reduction Plan which outlines future commitments to reach a net-zero electricity grid by 2035 in the form of a proposed Clean Electricity Standard, further measures to reduce methane emissions from the oil and gas sector and efforts to cap and cut emissions from the oil and gas sector at the pace and scale needed to get to net zero GHG emissions (scope 1 and scope 2) by 2050. Additional consultation material was released by the Government of Canada in 2022 to support the proposed measures and MEG is actively engaged in both ongoing consultations and analysis of potential long-term impacts on the organization. To mitigate this risk, a multidisciplinary team regularly monitors climate policy developments and emerging regulations for potential operational and financial impacts. Findings are communicated monthly to the corporate HSE Committee and at least quarterly to the Board and applicable Board Committees to be factored into corporate strategy and planning. MEG actively consults with the federal and provincial governments/regulators on policy and regulatory issues and provides input into new and existing legislation to properly reflect a balanced approach to sustainable development.
Technology	Relevant, always included	MEG considers transitional risks associated with a global transition to a less carbon-intensive economy. MEG competes with global petroleum producers as well as with other industries (alternative energy suppliers) in supplying energy, fuel, and related products to consumers. Technological advancements and innovations can impact the demand for MEG's products (including bitumen and electricity) by potentially improving the price and availability of alternative energy supplies and improving the carbon performance of petroleum competitors. MEG continuously monitors the supply and demand parameters of its products as well as opportunities for technological advancement and innovation. Due to its low decline, low-cost structure and high-quality asset, MEG is well positioned and continuously working towards being the last ethically, environmentally, and economically produced barrel of oil and intends to be a leader in the carbon energy future. The transition to a less carbon-intensive economy is creating technological development opportunities to improve emissions intensities. MEG has introduced a number of technological strategies to enhance bitumen recovery including utilization of infill wells, non-condensable gas injection to maintain reservoir pressure and the application of solvent injection on selected wells. MEG continues to advance its bitumen recovery technologies including eMSAGP. In 2021, MEG joined the Pathways Alliance. Formed in 2021, the Alliance has the stated goal of achieving net zero GHG emissions (scope 1 and scope 2) from all oil sands operations by 2050 through a collaborative CO2 pipeline and carbon capture / storage project, among other emissions-reduction technologies.
Legal	Relevant, always included	MEG's corporate risk assessment process has identified the potential for climate-related legal risks. This includes the failure to comply with GHG legislation and regulations which may result in the imposition of significant fines and penalties. For example, under the Emissions Management and Climate Resilience Act, a corporation that is guilty of an offence is liable to a fine of up to \$1,000,000. MEG mitigates this risk by tracking its performance regarding current regulation and regularly monitors climate policy developments and emerging regulations. Performance and potential operational and financial impacts from climate policy developments and emerging regulations are communicated monthly to the Corporate HSE Committee and quarterly to the Board of Directors. MEG has also identified climate-related legal risks including the risk of climate-related litigation against MEG's directors and officers, for misleading and incomplete disclosure with respect to climate change. Such claims may be material or may be indeterminate, may affect the financial condition or results of operations, or may cause MEG to incur significant costs or devote significant resources in defense of any litigation. MEG protects its officers and directors against such litigation with insurance, which also covers securities claims against the organization.
Market	Relevant, always included	The availability of pipeline capacity and other transportation and storage facilities for MEG's bitumen could affect MEG's operating results. MEG's corporate risk register identifies reputational climate-related risks which could impact this availability. In terms of reputational risk, the development of the Alberta oil sands has received considerable attention on environmental and social impacts including climate change and GHG emissions. The influence of anti-fossil fuels activists (with a focus on oil sands) has negatively affected the expansion of pipeline capacity ex-Western Canada, increasing competition for market access. In addition, future legislation or policies that limit the purchase of bitumen produced from the oil sands may be adopted by jurisdictions further limiting markets for MEG's products. In terms of physical risk, potential increases in extreme weather events may impede operation of pipelines and storage infrastructure as well as refineries. Marketing risks are mitigated by utilizing a network of pipelines, and storage facilities to optimize market access for the transport and sale of bitumen to current and emerging crude oil markets throughout North America and internationally. The transportation network includes transportation capacity on the Flanagan South and Seaway pipeline systems providing pipeline transportation directly to U.S. Gulf Coast refineries and export terminals, the Trans Mountain Expansion Project providing access to Canada's West Coast beginning Q1 2024, and storage capacity in Alberta and strategic locations in the U.S. with marine export capacity with certain U.S. Gulf Coast terminals. This combination of pipeline access, storage capacity and marine export capacity advances MEG's strategy of having long-term, broadening, and reliable market access to world oil prices.
Reputation	Relevant, always included	Reputational impacts which include the potential loss of stakeholder or shareholder trust are included in MEG's risk assessment. Development of the Alberta oil sands has received considerable attention on the subjects of environmental and social impacts including climate change and GHG emissions. The influence of anti-fossil fuels activists (with a focus on oil sands) targeting equity and debt investors, lenders and insurers and changes in consumer behaviour may result in policies which reduce support for, or investment in, the Alberta oil sands sector. In addition, evolving decarbonization policies of institutional investors, lenders and insurers could affect the Corporation's ability to access capital pools. Certain insurance companies have taken actions or announced policies to limit available coverage for companies which derive some or all of their revenue from the oil sands sector. As a result of these policies, premiums, and deductibles for some or all of the Corporation's insurance policies could increase substantially. In some instances, coverage may become unavailable or available only for reduced amounts of coverage. As a result, the Corporation may not be able to extend or renew existing policies, or procure other desirable insurance coverage, either on commercially reasonable terms, or at all. Negative consequences which could arise as a result of changes to the current regulatory environment include, but are not limited to, changes in environmental and emissions regulation of current and future projects by government authorities, which could result in changes to facility design and operating requirements, potentially increasing the cost of construction, operation, and abandonment. In addition, legislation or policies that limit the purchase of crude oil or bitumen produced from the oil sands may be adopted in domestic and/or foreign jurisdictions, which, in turn, may limit the world market for this crude oil, reduce its price and may result in stranded assets or an inability to further develop oil resources. MEG is committed to further integrate ESG practices throughout the business including advancing its climate change strategy, continuing to monitor and manage risks and drive more impactful disclosure.
Acute physical	Relevant, always included	Climate change may introduce new acute physical risks including fires, lightning, earthquakes, extreme cold weather or extreme weather events such as storms. These may cause damage to MEG's infrastructure, impact accessibility to MEG's properties and cause interruptions to production. These are identified in the ERM process and cannot be controlled; therefore, these risks are mitigated through engineering design and operational procedures. For example, MEG implements a Fire Smart program to protect infrastructure from wildfire hazards and conditions equipment against other extreme weather events. MEG assesses hazards such as trees that could potentially strike infrastructure such as power lines as a result of weather conditions and has a trouble tree program in place. MEG's facilities are located in a geographical area that is not prone to significant weather events such as hurricanes or flooding. The area does experience extreme weather temperatures and MEG's facilities are designed to handle these extreme temperatures and standards are in place to ensure reliability and worker health and safety, therefore the potential impact of these risks is low. MEG has updated its previous climate change risk assessments with more recent data and modelling information from the latest Intergovernmental Panel on Climate Change's (IPCC) Fifth Assessment Report (AR5). The assessment update provided more recent climate trend comparisons locally and projections of changes in temperature, precipitation and other extreme events that could be expected out to 2050 and 2080. The intent of the revision was to support design reviews and develop mitigations (if necessary) to minimize the impacts of potential changes in environmental extremes.
Chronic physical	Relevant, always included	Climate change may introduce new chronic physical risks including changes to seasonal weather patterns including changes in temperature extremes and precipitation patterns. These may cause damage to MEG's infrastructure, impact accessibility to MEG's properties and cause interruptions to production. These are identified in the ERM process and cannot be controlled; therefore, these risks are mitigated through engineering design and operational procedures. The design of MEG's facilities ensure that storm water run-off facilities have sufficient capacity to manage potential increase in flows and storm events and were designed to handle 1 in 100-year 24-hour rainfall events. MEG also has an extensive environmental monitoring program in place for water and wetlands that will identify trends and support appropriate adaptation of operating practices and facilities which includes wetland and culvert monitoring to ensure unobstructed flow of surface water across site infrastructure and prevent flooding. MEG's facilities are located in a geographical area that is not prone to significant weather events such as hurricanes or flooding. The area does experience extreme weather temperatures and MEG's facilities are designed to handle these extreme temperatures and standards are in place to ensure reliability and worker health and safety. Therefore, the potential impact of these risks is low. MEG has updated its previous climate change risk assessments with more recent data and modelling information from the latest Intergovernmental Panel on Climate Change's (IPCC) Fifth Assessment Report (AR5). The assessment update provided more recent climate trend comparisons locally and projections of changes in temperature, precipitation and other extreme events that could be expected out to 2050 and 2080. The intent of the revision was to support design reviews and develop mitigations (if necessary) to minimize the impacts of potential changes in environmental extremes.

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Current regulation	Carbon pricing mechanisms
--------------------	---------------------------

Primary potential financial impact

Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

In 2022 MEG's operational GHG emissions were regulated under the Government of Alberta's Technology Innovation and Emissions Reduction Regulation ("TIER Regulation"). TIER includes facility-specific benchmarks and sector based high-performance benchmarks. In 2022, the stringency of the intensity-based facility-specific benchmark increased by 1% over the prior year and as of 2023 will continue to increase by 2% annually until 2028, and 4% annually in 2029 and 2030. Under Alberta policy, the carbon price increased from \$50/tonne in 2022 to \$65/tonne in 2023. In 2021, the federal government established the Federal Benchmark for Carbon Pollution Pricing for 2023 to 2030 that will increase by \$15/year to reach \$170/tonne in 2030. Alberta will need to maintain equivalency with Federal climate policy including the price of carbon. In each year, all else equal, compliance costs for MEG would expect to increase as target intensity is lowered and cost per tonne increases. As such, current GHG emissions regulations, including forecast increases annually in the price of carbon, are identified, assessed, and captured in the corporate risk register, included in corporate budgets if applicable as well as corporate strategy decisions. We regularly assess and monitor emissions performance of our development plans to understand the potential current and future financial implications of regulations and the carbon price. Measures are taken to reduce emissions to lessen the impact of increasing stringency and carbon pricing of current regulations. Incrementally, further increases in the stringency of GHG regulations over time to achieve jurisdictional goals and targets, may be implemented and may include strengthened GHG emissions performance benchmarks and rising carbon prices. This could continue to impact compliance costs and MEG's cost competitiveness due to increased direct (operating) costs. Failure to comply with GHG legislation and regulations may also result in the imposition of significant fines and penalties.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

2000000

Potential financial impact figure – maximum (currency)

4000000

Explanation of financial impact figure

The potential financial impact figure estimates potential increased annual costs of compliance to current carbon pricing mechanisms in the short-term horizon. It assumes projected annual emissions and the current performance under Alberta TIER regulation to forecast a carbon compliance deficit and uses 2023 carbon pricing of \$65/tonne.

Cost of response to risk

2000000

Description of response and explanation of cost calculation

We have a long history of reducing the GHG intensity of our production and we are proud of the significant progress we have made to date. With cogeneration, energy efficiency and proprietary reservoir technology advancements that reduce SOR, we have decreased our bitumen GHG intensity by approximately 15% below the in-situ industry average. A key pillar of our climate change strategy to manage this risk includes the advancement of innovative technology through investment in research and development, and through collaboration. Our strategy includes identifying and implementing carbon efficiencies and assessing opportunities to decarbonize which will reduce forecast regulatory compliance costs in years to come as well as achieving our carbon reduction targets. We actively engage with stakeholders to assess and bring low carbon technology opportunities to fruition including through the Pathways Alliance. We have committed to support global and national objectives to address climate change, in particular the goal of the Paris Agreement and have set a target to achieve net zero GHG emissions (scope 1 and scope 2) by 2050 in support of these objectives, as well as a mid-term target of reducing absolute GHG emissions (scope 1 and scope 2) by 0.63 megatonnes per annum by 2030, representing a reduction of approximately 30% absolute scope 1 and scope 2 emissions from 2019 levels. Activities undertaken to support this plan include, but are not limited to process tank emissions management, fugitive emissions management, and CO2 storage research and evaluation, some of which costs are partly offset by government grants. Additional costs into future years are anticipated as larger-scale technology solutions are adopted.

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms
---------------------	---------------------------

Primary potential financial impact

Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

In 2022 MEG's operational GHG emissions were regulated under the Government of Alberta's Technology Innovation and Emissions Reduction Regulation ("TIER Regulation"). TIER includes facility-specific benchmarks and sector based high-performance benchmarks. In 2022, the stringency of the intensity-based facility-specific benchmark increased by 1% over the prior year and is scheduled to increase by 2% per year in 2023 until 2028 and 4% annually in 2029 and 2030. Under Alberta policy, the carbon price increased from \$50/tonne in 2022 to \$65/tonne in 2023 and will continue to increase annually by \$15/tonne until 2030 when the price reaches \$170/tonne. The TIER is subject to an annual equivalency test against the Federal system to maintain its applicability within Alberta and avoid the imposition of a Federal backstop. This test requires that both regulated emissions coverage and pricing remains equivalent to the Federal benchmark. There are further regulatory changes expected to support Canada's international climate commitments, contained within the Net-Zero Emissions Accountability Act that guides the legally binding process to set five-year national emissions-reduction targets and establish Emission Reduction Plans (ERP). The first ERP, released in 2022, suggests the intent to cap emissions from the oil and gas sector at some point, reduce emissions from the oil and gas sector by 42% below 2019 levels by 2030, and further limit emissions from power generation through a national Clean Electricity Standard. The details and timing of these changes is currently unknown and poses a degree of regulatory uncertainty on the sector. There is uncertainty regarding the ultimate GHG emission regulatory regime that will be applicable to MEG due to the potential changes in regulatory and government regimes.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

30000000

Potential financial impact figure – maximum (currency)

150000000

Explanation of financial impact figure

The estimated financial impact represents the range of the potential cost of compliance in 2030 associated with various regulatory outcomes that could evolve considering the stated initiatives within the Federal ERP and Federal Benchmark for Carbon Pollution Pricing, if emissions were unmitigated and growth is limited.

Cost of response to risk

2000000

Description of response and explanation of cost calculation

We have a long history of reducing the GHG intensity of our production and we are proud of the significant progress we have made to date. With cogeneration, energy efficiency and proprietary reservoir technology advancements that reduce SOR, we have decreased our bitumen GHG intensity by approximately 15% below the in-situ industry average. A key pillar of our climate change strategy to manage this risk includes the advancement of innovative technology through investment in research and development, and through collaboration. Our strategy includes identifying and implementing carbon efficiencies and assessing opportunities to decarbonize which will reduce forecast regulatory compliance costs in years to come as well as achieving our carbon reduction targets. We actively engage with stakeholders to assess and bring low carbon technology opportunities to fruition including through the Pathways Alliance. We have committed to support global and national objectives to address climate change, in particular the goal of the Paris Agreement and have set a target to achieve net zero GHG emissions (scope 1 and scope 2) by 2050 in support of these objectives, as well as a mid-term target of reducing absolute GHG emissions (scope 1 and scope 2) by 0.63 megatonnes per year, representing a reduction of approximately 30% absolute scope 1 and scope 2 emissions from 2019 levels. Activities undertaken to support this plan include, but are not limited to process tank emissions management, fugitive emissions management, and CO2 storage research and evaluation, some of which costs are partly offset by government grants. Additional costs into future years are anticipated as larger-scale technology solutions are adopted.

Comment**Identifier**

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Other, please specify (Increased severity and frequency of extreme weather events such as cyclones and floods)
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Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Physical risks from climate change can include event driven (acute) natural events. Our only facility, CLRP, is in the southern Athabasca region of Alberta, Canada, an area that experiences a wide range of temperature extremes (-40°C to +40°C). Severe weather patterns or catastrophic weather events such as wildfires, extreme cold weather, storms or flooding also occur in this area and have the potential to damage our facility, infrastructure, or impact accessibility to MEG's properties (via road or air) resulting in material interruptions to production. A specific example of a physical climate risks is the risk of wildfire. MEG operates in Alberta where in 2016 the Fort McMurray wildfires caused significant loss and impacted production at oil and gas facilities. Climate change has the potential to increase the frequency of these events by increasing the frequency and severity of extreme temperatures. Wildfire could cause damage to MEG's infrastructure and/or camps, impact accessibility to MEG's properties and cause interruptions to production.

Time horizon

Long-term

Likelihood

Exceptionally unlikely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

250000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Estimated financial impact includes impact of business interruption and damage to facilities and/or camps associated with acute events-based risk. The impact estimate assumes a full plant outage for up to 1 month which results in lost revenue due (net of avoided cost) to lost production of ~\$250 million based on 2023's average commodity price environment to date plus ~\$100 million for damages to facilities and camps. Damages to facilities and camps should be recoverable under MEG's property insurance, resulting in a ~\$250 million estimated impact net of insurance recoveries. Estimated cost of response reflects a portion of the annual premium for MEG's property insurance coverage.

Cost of response to risk

1000000

Description of response and explanation of cost calculation

Impacts of extreme weather events or catastrophic events such as wildfires are identified in the ERM process. Consideration of acute physical risks is incorporated into engineering design of facilities and supporting infrastructure, including importantly, the segregation of phases of production, and the risks are further mitigated through appropriate maintenance and operational procedures. To understand this risk further, MEG has updated its previous climate change risk assessment completed in 2008 with more recent data and modelling information from the latest Intergovernmental Panel on Climate Change's (IPCC) Fifth Assessment Report (AR5). The assessment update provided more recent climate trend comparisons locally and projections of changes in temperature, precipitation and other extreme events that could be expected out to 2050 and 2080. The intent of the revision was to support design reviews and develop mitigations (if necessary) to minimize the impacts of potential changes in environmental extremes. Significant mitigation measures are already in place. For example, MEG manages wildfire risk through the implementation of a Fire Smart program which protects infrastructure from fire hazards and has in place an Emergency Response Plan (ERP) which includes a wildfire supplement. The ERP monitors, classifies and communicates wildfire risk as well as outlines wildfire season preparation and evacuation. MEG also purchases property and business interruption insurance which would protect MEG against a severe weather event that causes damage to the facility resulting in prolonged shut down. MEG's business interruption insurance coverage also protects against shutdowns in critical third-party infrastructure (e.g., damage to Access Pipeline because of severe weather). MEG's property insurance is subject to a \$5 million deductible and MEG's business interruption is subject to a 60-day retention period. As a result, we are better prepared to protect infrastructure from wildfire hazards or other physical acute climate risks. The cost of response to risk reflects a portion of MEG's total insurance costs. As climate change data is better understood, additional investment in the plant to protect against severe weather may be required.

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

Yes

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

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient production and distribution processes

Primary potential financial impact

Reduced direct costs

Company-specific description

In 2022, MEG operations were subject to the Technology Innovation and Emissions Reduction (TIER) Regulation. TIER came into effect in Alberta starting January 1, 2020 and is Alberta's industrial greenhouse gas emissions pricing regulation and emissions trading system. Facilities regulated under TIER must reduce emissions to meet facility specific benchmarks or a high-performance benchmark. The regulation prescribes facility-specific benchmarks based on historical facility performance. As of January 1, 2020, a 10% emission intensity reduction requirement applied and increases in stringency by 1% per year. The stringency is further set to increase to 2% per year in 2023 until 2028 and 4% annually in 2029 and 2030 for oil sands operations. Facilities that reduce emissions below the benchmark can generate emissions performance credits which can be used to offset future costs or monetized. The compliance options for facilities that exceed their benchmark remain unchanged from those established under the Carbon Competitiveness Incentive Regulation (CCIR). Under TEIR there continues to be an opportunity for MEG to earn emissions performance credits by reducing emissions below the benchmark through advancing innovative operational efficiencies, reducing fuel usage and ultimately reducing operational costs. Specifically, MEG uses cogeneration and its proprietary eMSAGP process to reduce steam requirements for production, thus reducing the energy intensity and carbon intensity of its production process. MEG is also deploying other advanced physical and digital techniques to optimize the SOR.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

9500000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

In 2022, MEG had a surplus of emission performance credits registered within the Alberta Carbon Registries that had the potential for monetization at a rate realistically slightly below the 2022 Alberta carbon pricing of \$50/tonne. MEG was under no obligation to market these credits in 2022 and this figure only represents the potential value of a market sale.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

Our corporate strategy addresses both business risks and opportunities arising from climate change. This includes the need to reduce GHG emissions to meet regulatory requirements and provide low-carbon energy. We have a long history of reducing our GHG intensity and have made significant progress to date. With cogeneration, energy efficiency and proprietary reservoir technology advancements that reduce SOR, we decreased our bitumen GHG intensity by approximately 15 % below the in-situ industry average. One key pillar of our strategy to manage climate change risk is the advancement of innovative technology to reduce carbon intensity of production and advance carbon capture through investment in research and development, and through collaboration. Part of this strategy includes a significant focus on optimizing steam generation to reduce greenhouse gas emissions and reduce fuel use. An important metric for this purpose is Steam-Oil Ratio (SOR), the quantity of steam used to produce a barrel of oil. SOR is a key measure of efficiency for SAGD projects, with a lower SOR indicating that steam is more efficiently utilized. By decreasing the amount of steam used, MEG can reduce per barrel water and fuel requirements which results in lower GHG intensity and more economic projects. In 2022, the SAGD industry average SOR was 3.0 while recovery optimization efforts have enabled MEG to achieve a companywide SOR of 2.36 in 2022. It is through these measures that CLRP has been able to generate a surplus of emission performance credits.

Comment

Explanation of cost to realize opportunity: there is no cost to the seller when activating a transaction on the Alberta Carbon Registries

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of new products or services through R&D and innovation

Primary potential financial impact

Increased revenues resulting from increased production capacity

Company-specific description

The transition to a less carbon-intensive economy is creating technological development opportunities to improve emissions intensities. MEG has introduced several technological strategies to optimize bitumen recovery including utilization of infill wells, well spacing, non-condensable gas (NCG) injection to maintain reservoir pressure and well optimization strategies that include developing/deploying autonomous flow control devices. MEG continues to advance its bitumen recovery technologies and anticipates further benefits as autonomous flow control device deployment increases.

Time horizon

Medium-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Technology development is still underway and commercial scale implications are considered financially sensitive due to the proprietary nature of the technology.

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation

MEG manages the potential cost impact associated with changes to GHG legislation by investing in reservoir enhancement technologies. The most recent well optimization and design strategy has been integrated at a low cost where the technology benefits have offset the alternative technology lifecycle design costs. Therefore, MEG considers well optimization to be a low-cost strategy. It is estimated that the well optimizations adopted in 2022 enabled MEG to reduce its companywide SOR to 2.36 for 2022.

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Climate legislation is driving the demand for low carbon energy generation creating a demand for our cogeneration produced electricity and potential for future increase and expansion. In 2015, the Government of Alberta introduced the Climate Leadership Plan to reduce carbon emissions which included a phase out of coal-generated electricity within the province by 2030. The electricity transition within the province outlines the need for approximately two-thirds of the replacement capacity to be comprised of natural gas generation. MEG has significant cogeneration capacity (provided through natural gas) that is positioned to benefit from the transitional power market in Alberta. Incrementally, MEG could continue to expand its cogeneration capacity if it expands production capacity and further increase revenues by selling electricity into the grid to meet demand for lower carbon electricity in Alberta.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

144000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The potential financial impact is calculated as the power sales price x power sales in 2021 as reported in the 2021 Annual Report.

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation

Cogeneration is the process of recovering waste heat from electricity generation to efficiently produce steam. MEG operates two cogeneration facilities at its CLRP facility. Cogeneration uses natural gas more efficiently than standalone steam generators or single-cycle gas turbine generators. The steam generated from cogeneration is used for SAGD bitumen recovery and electricity to power the plant site, with excess power sold to Alberta's power grid. The electricity provided to the power grid has a lower carbon footprint than the provincial average, helping to reduce total GHG intensity for provincial consumers. The use of cogeneration reduces the net greenhouse gas intensity of MEG's bitumen and provides a stable source of baseload power as coal-fired generation is phased out in Alberta. Reducing electrical power production below the electricity performance standard (established under TEIR) enables MEG to earn emissions performance credits that can offset costs.

Comment

The potential financial impact is calculated as the power sales price x power sales in 2022 as reported in the 2022 Annual Report.

C3. Business Strategy

C3.1

(C3.1) Does your organization’s strategy include a climate transition plan that aligns with a 1.5°C world?

Row 1

Climate transition plan

Yes, we have a climate transition plan which aligns with a 1.5°C world

Publicly available climate transition plan

Yes

Mechanism by which feedback is collected from shareholders on your climate transition plan

We have a different feedback mechanism in place

Description of feedback mechanism

MEG recognizes the importance of regular and constructive communication with shareholders and MEG’s Shareholder Engagement Policy identifies how MEG’s Board engages with shareholders and provides an overview of how shareholders can communicate or provide feedback to the Board and management. MEG supports an open and transparent process for shareholders to contact the Board on various matter including environmental, social and government matters such as climate-related transition plans if applicable. Shareholder communication is managed by the Board Chair. Shareholder questions to management are managed by the Investor Relations Department. On an annual basis MEG provides information through the management proxy circular and encourages shareholder participation in the annual general meeting, which provide information and a valuable opportunity to discuss corporate governance, executive compensation practices and other important matters. Information is also communicated through the Annual Information Form and ESG Report. Additional feedback mechanisms include quarterly conference calls, press releases, shareholder presentations and investor and industry conferences.

Frequency of feedback collection

More frequently than annually

Attach any relevant documents which detail your climate transition plan (optional)

Shareholder Engagement Policy
Shareholder-Engagement-Policy.pdf

Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future

<Not Applicable>

Explain why climate-related risks and opportunities have not influenced your strategy

<Not Applicable>

C3.2

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

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	Yes, qualitative and quantitative	<Not Applicable>	<Not Applicable>

C3.2a

(C3.2a) Provide details of your organization’s use of climate-related scenario analysis.

Climate-related scenario		Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios	IEA SDS	Company-wide	<Not Applicable>	<p>Parameters: Global oil demand, price of oil, implementation of carbon pricing and pace of low-carbon solution technology development, among others.</p> <p>Assumptions: Energy Supply, Demand and Use: Global oil demand peaks in the mid 2030's at 103mb/d. Use by advanced economies declines by 3mb/d to 2030, offset by 8mb/d increases in emerging markets / developing economies. OPEC rises to 36% of global production in 2030 and 43% in 2050. Oil demand remains steady at 102mb/d by 2050.</p> <p>Pricing: Robust oil demand results in a benchmark commodity price of US\$82/bbl (real 2021 \$) by 2030 with a gradual increase to US\$95/bbl by 2050.</p> <p>GHG Emissions: Not adequate to reduce GHG emissions to the 2-degree Paris-aligned goal. Global energy-related emissions reach 37 Gt in 2025 and fall to 32 Gt by 2050. Analytical choices: MEG’s financial viability, strategy and business model resilience is assessed on whether MEG can generate the cash flow required to cover incremental carbon costs incurred between now and 2050.</p> <p>Time horizons: 1) Present day to 2030 which is relevant as we assess and implement near-term strategies based on current economics and regulations, including Phase 1 of the Pathways Alliance CCS project which plays a significant role in reducing MEG’s absolute bitumen emissions by 0.63 mmt (by YE 2030); 2) From 2030 to 2050, incorporates estimated costs to reduce absolute emissions to zero by 2050 including capital and operating costs associated with CCS (as part of subsequent phases of the Pathways Alliance Initiative), process improvements and employing other technology as required.</p> <p>Data sources: IEA scenarios for global oil demand, carbon pricing, and pace and cost of CCS; federal and provincial carbon pricing, and additional carbon technology costs from various research.</p>
Transition scenarios	IEA STEPS (previously IEA NPS)	Company-wide	<Not Applicable>	<p>Parameters: Global oil demand, price of oil, implementation of carbon pricing and pace of low-carbon solution technology development, among others.</p> <p>Assumptions: Energy Supply, Demand and Use: Global oil demand peaks at ~100mb/d in the mid-2020's and drops to 93 mb/d in 2030. Use by advanced economies falls by 7.5mb/d by 2030 and increases by 4mb/d in developing economies. New upstream projects still needed to offset existing field declines. Oil demand falls further to 57mb/d by 2050.</p> <p>GHG Emissions: Emissions peak in the mid 2020's, fall to 31.5 Gt in 2030 and fall to 12.5 Gt by 2050. Reflects updated Nationally Determined Contributions including India's 2070 net zero target. Pricing: Declining oil demand in the late 2020s results in a benchmark commodity price of US\$64/bbl (real 2021 \$) by 2030 with a gradual decrease to US\$60/bbl by 2050.</p> <p>Analytical choices: MEG’s financial viability, strategy and business model resilience is assessed on whether MEG can generate the cash flow required to cover incremental carbon costs incurred between now and 2050.</p> <p>Time horizons: 1) Present day to 2030 which is relevant as we assess and implement near-term strategies based on current economics and regulations, including Phase 1 of the Pathways Alliance CCS project which plays a significant role in reducing MEG’s absolute bitumen emissions by 0.63 mmt (by YE 2030); 2) From 2030 to 2050, incorporates estimated costs to reduce absolute emissions to zero by 2050 including capital and operating costs associated with CCS (as part of subsequent phases of the Pathways Alliance Initiative), process improvements and employing other technology as required.</p> <p>Data sources: IEA scenarios for global oil demand, carbon pricing, and pace and cost of CCS; federal and provincial carbon pricing, and additional carbon technology costs from various research.</p>

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

Business model resiliency is a foundational commitment at MEG. It means generating attractive returns and integrating ESG matters into our business strategies to ensure value creation today and tomorrow. We conducted climate scenario analysis to better understand the potential effects of climate change on our business model and strategy in a range of plausible futures. MEG operates a single project referred to as the Christina Lake Regional Project (CLRP). All of our bitumen and electricity production, proved, and probable reserves and scope 1 and 2 emissions are associated with CLRP. As such, the climate scenario analysis focused on this project. While recognizing that both transitional and physical risks could impact MEG, given the design of our facility and the location in which we operate, we selected to focus on transition risks as a starting point, as we determined these risks are more likely to have a significant impact on MEG’s financial viability and resilience. These risks include policy and regulation, market, reputational and technology risks. Focal Question: Is MEG’s business model and strategy resilient to climate-related transitional risks within the potential scenarios evaluated and will MEG maintain financial viability? MEG utilized the two IEA scenarios (STEPS and APS) to address this focal question because they are commonly used, well documented, align with TCFD recommendations and were utilized for both qualitative and quantitative analysis. Addressing the focal question within the STEPS creates a base case for comparison of other scenarios. The APS addresses the focal question within the context of a major transformation of the global energy system. It also supports MEG’s commitment to support the Paris Agreement and MEG’s net zero (scope 1 and scope 2 GHG emissions) goals.

Results of the climate-related scenario analysis with respect to the focal questions

The results of our analysis provide us confidence in our ability to generate consistent free cash flow in a variety of future demand and pricing scenarios. Accordingly, we are able to achieve our various operating and financial objectives in both scenarios. As the world transitions to a lower carbon economy, our long-life assets with low decline rates, coupled with our steadfast commitment to reducing greenhouse gas emissions positions MEG to be a resilient business and a supplier of responsibly sourced oil.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	<p>Potential risks and opportunities including those related to a changing climate regulatory landscape, a growing shift to low-carbon energy and opportunities for technological innovation and efficiency improvements (as reported in C2.3a) have influenced our product-related strategy, in that we strive to provide a lower GHG intensity barrel of bitumen (product) to market by focusing on reducing our steam-oil ratio (SOR). SOR is a key measure of efficiency, with a lower SOR indicating that steam, and in turn natural gas, is more efficiently utilized. By decreasing the amount of steam used, MEG can reduce its per barrel water and natural gas requirements which results in a lower greenhouse gas emissions intensity and more economic projects. Strategic decisions made to reduce SOR include the introduction of various technologies to enhance bitumen recovery including reduced well-pair spacing, non-condensable gas (NCG) injection to maintain reservoir pressure and use of 4D seismic and autonomous flow control devices (AFCD) to identify "cold" spots and allocate steam more efficiently in the reservoir. This strategy includes the development and implementation of MEG's patented proprietary eMSAGP technology. Partly as a result of these strategic initiatives, MEG reduced companywide SOR to 2.36 in 2022 (in comparison to a 3.0 industry average) and a GHG intensity of 15% below industry average. Most recently, climate-related risks have compelled MEG to set a medium-term 2030 absolute emissions reduction goal (0.63 mmt reduction), a 2050 net-zero target and to join the Pathways Alliance. Formed in 2021, the Alliance has the stated goal of achieving net zero GHG emissions from all oil sands operations (Scope 1 and Scope 2) by 2050 through a collaborative CO2 pipeline and carbon capture / storage project, among other technologies. The magnitude of these opportunities is significant, and the effects are anticipated to be realized over the short (1-2 year), medium (2-5 year) and long (5-30 year) term timescale. MEG is continually monitoring the climate regulatory landscape including carbon pricing signals to evaluate potential future technology development.</p>
Supply chain and/or value chain	Yes	<p>The availability of pipeline capacity and other transportation and storage facilities for MEG's bitumen could affect MEG's operating results. MEG is aware that physical climate risks, such as increases in extreme weather events may impede operation of pipelines and storage infrastructure as well as refineries, impacting MEG's ability to bring product to market. This risk is incorporated into MEG's long-term marketing strategy. Marketing risks are mitigated by utilizing a network of pipelines and storage facilities to optimize market access for the transport and sale of bitumen to current and emerging crude oil markets throughout North America and internationally. The transportation network includes transportation capacity on the Flanagan South and Seaway pipeline systems providing pipeline transportation directly to U.S. Gulf Coast refineries and export terminals, capacity, beginning in Q1 2024, on the Trans Mountain Expansion Project providing access to Canada's West Coast, rail transloading capacity and storage capacity in Alberta and strategic locations in the U.S. with marine export capacity with certain U.S. Gulf Coast terminals. This combination of pipeline access, rail and storage capacity and marine export capacity advances MEG's strategy of having long-term, broadening, and reliable market access to world oil prices. The potential impact of climate related risks and opportunities on MEG's supply chain has also impacted MEG's strategy. Access to highline power generated through cogeneration has allowed MEG to provide electricity to remote areas surrounding our facility to support our drilling program. In the past, drilling would have been powered with diesel engines. Now, with electricity from cogeneration, we have equivalent power capabilities with an approximate 60% reduction in emissions related to drilling activities. This strategic decision reduces exposure to potential carbon pricing for fuels such as diesel.</p>
Investment in R&D	Yes	<p>The changing climate regulatory landscape and a growing shift to low-carbon energy as well as opportunities for technological innovation and efficiency improvements (as reported in C2.3a) have influenced MEG's strategy to invest in R&D and innovation in reservoir technologies, an aspect of which is the development and implementation of our patented and proprietary eMSAGP technology which helps reduce our SOR, GHG emissions intensity and water use intensity while maintaining or improving oil recovery. It involves drilling additional production wells between SAGD well pairs, injecting a non-condensable gas to maintain reservoir pressure, and reducing steam injection. The resulting overall SOR for eMSAGP is approximately 25% less than SAGD. By applying the eMSAGP process to significant portions of the reservoir, we have achieved an average SOR of 2.36 in 2022 at the CLRP (in comparison to a 3.0 industry average). This technology allows MEG to provide a lower GHG emission intensity production to market. The magnitude of this identified opportunity is significant, and effects are anticipated to be realized in the short-term timescale and beyond. In 2021, MEG carried out a carbon capture study for our CLRP facilities with a mid-stream service provider to evaluate the cost of capturing and compressing CO2 using an amine-based process. In addition to the capture study, MEG also conducted a study to evaluate the feasibility of local CO2 storage in the vicinity of our CLRP operations with partial funding received from Alberta Innovates.</p> <p>We actively explore innovative technologies to partially upgrade MEG's bitumen product to maximize pipeline capacity and decrease diluent requirements. This includes hosting a demonstration pilot at MEG's facilities and supplying feedstock to a bench-scale pilot. We are examining opportunities to reduce Scope 3 emissions through the development of alternative, non-combustion uses for bitumen such as asphalt and carbon fibre. These activities include supplying feedstocks and other support for Alberta Innovates Carbon Fibre Grand Challenge and investigating market opportunities for other bitumen-derived products.</p> <p>MEG is continually monitoring the climate regulatory landscape including carbon pricing signals to evaluate potential future technology development.</p>
Operations	Yes	<p>As part of the growing shift to low-carbon energy, in 2015 the Government of Alberta introduced the Climate Leadership Plan to reduce carbon emissions including a phase out of coal-generated electricity in the province by 2030. The Climate Leadership Plan outlined the need for approximately two-thirds of the replacement capacity to be natural gas generation. This climate opportunity incentivized MEG to use industrial cogeneration technology (COGEN), one key element in our energy management strategy. The natural gas turbines that make up this COGEN technology generate electricity that is used in our operations, with surplus power sold into the Alberta electricity grid. The heat from the turbines is recovered by a heat recovery steam generator for use in the thermal heavy oil recovery process, resulting in more efficient use of natural gas and a thermal efficiency of 86%. Our power has an emissions intensity roughly 40% that of coal. We exported over 70% of our total generated power onto the provincial power grid amounting to ~1% of the total Alberta grid demand in 2022. The electricity provided to the power grid has a lower GHG footprint than the provincial average, helping to reduce total GHG intensity for provincial consumers. The use of COGEN also reduces the net GHG intensity of our oil, helping MEG exceed emissions regulations and generate carbon credits, and add value and support the changing electricity market structure. COGEN provides a stable source of baseload power as coal-fired generation is phased out in Alberta.</p>

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Capital expenditures Capital allocation Acquisitions and divestments Access to capital Assets Liabilities	<p>Revenues: The impact of climate risk has contributed to political activism and delays in the development of pipeline infrastructure. Historically, the lack of takeaway capacity has led to the widening of light / heavy oil differentials which decreases the realizations on MEG's blend barrels and in turn decreases revenue. Additionally, over the long-term a decline in demand for carbon-based energy could reduce global benchmark commodity pricing which in turn would reduce blend revenue. MEG's financial planning includes scenario and sensitivity analysis of various pricing environments and macro industry trends including the pace of infrastructure development. To manage the risk associated with price volatility, MEG periodically enters into physical and financial risk management contracts.</p> <p>Direct Costs: MEG's financial planning includes a forecast of the direct costs associated with climate change, namely regulatory costs associated with current regulations around GHG compliance and the cost of carbon. Sensitivities are also conducted with respect to a range of potential future regulatory outcomes. MEG's business plan continues to focus on implementation of technology that reduces SOR, energy cost and GHG emissions, including the application of eMSAGP. Planning assumes that such technologies will continue to be applied across future developments, providing economic and climate change benefits. MEG conducts scenario analysis to determine the sensitivity of the company's cash flows to changes in carbon taxation and pricing. MEG's reservoir technologies, including eMSAGP, have helped reduce the capital intensities required for future growth by as much as half. The application of eMSAGP costs significantly less than the capital intensity required to complete large scale projects.</p> <p>Capital expenditures/Capital allocation: The changing regulatory landscape has created an opportunity for MEG to improve its oil production performance. MEG has incorporated the cost of carbon in calculating the return on capital investments. MEG's reservoir technologies, including eMSAGP, have helped reduce the capital intensities required for future growth by as much as half. MEG expects its capex obligation within the Pathways project to track with its share of total emissions amongst the operators in the Alliance and is expected to be partly offset by the federal government's recently announced Investment Tax Credit as well as the expectation of further support from the provincial government. The benefits of Phase 1 Pathways capital spending are expected to be realized in the 2030+ timeframe and could include reduced carbon cost obligations, credits generated for excess emissions reduced, etc. The cost of carbon included in running project economics is dynamic and will be updated to reflect regulatory changes, cost estimate updates, etc.</p> <p>Acquisitions and divestments: From a financial planning perspective, environmental performance, climate change impacts and carbon costs are key elements considered in the evaluation of acquisitions or divestments.</p> <p>Access to capital: MEG's development plan and related analysis undertaken as part of our financial planning process is focused on reducing MEG's reliance on external capital markets, in part, because climate change activism has impacted access to capital and increased cost of external financing. MEG is focused on reducing debt outstanding and funding capital from internally generated cash flow. MEG's balance sheet management strategies are conservative, ensuring continuing access to debt capital markets. To combat capital market risks, MEG has increased its public disclosure with respect to its comprehensive efforts to manage all ESG performance including climate change measures. Where possible, the changing regulatory landscape has created an opportunity for MEG to invest in R&D and innovative reservoir technologies.</p> <p>Assets: Climate regulations are considered in the development timeframe of long-term assets such as the Surmont and May River projects. In 2019, MEG elected to defer the development of Surmont, given market conditions, reducing total probable reserves. Any future development will be in alignment with MEG's net-zero by 2050 emissions target. To remain in alignment with our net zero (scope 1 and scope 2 GHG emissions) goals, future greenfield growth will contemplate the use of lower / zero-carbon technologies such as small modular nuclear reactors and solvents.</p> <p>Liabilities: MEG uses progressive reclamation plans to minimize the footprint of disturbance and return the land to a state of equivalent capability. Physical risks from climate change are event driven and include longer-term shifts in climate patterns. Primary factors which could affect MEG's reclamation plans include fires and seasonal weather patterns. Fires can impact revegetation activities and success. Higher rainfall events can cause erosion issues and shorter winter seasons can impact accessibility to sites. MEG participates in working groups including the Faster Forests program by Canada's Oil Sands Innovation Alliance, the Industrial Footprint Reduction Options Group, and the Regional Industry Caribou Collaboration. MEG encourages innovation and application of industry leading oil sands construction, reclamation, and restoration best management practices. The magnitude of this risk is anticipated to be low with an expected timescale of short to long term.</p>

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

	Identification of spending/revenue that is aligned with your organization's climate transition	Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy
Row 1	No, and we do not plan to in the next two years	<Not Applicable>

C4. Targets and performance

C4.1

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

Intensity target

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Is this a science-based target?

No, and we do not anticipate setting one in the next two years

Target ambition

<Not Applicable>

Year target was set

2022

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

<Not Applicable>

Intensity metric

Other, please specify (metric tons CO2e per m3 of bitumen)

Base year

2013

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)

0.415

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)

0

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

0.415

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

100

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

100

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure

<Not Applicable>

% of total base year emissions in all selected Scopes covered by this intensity figure

100

Target year

2022

Targeted reduction from base year (%)

12

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

0.3652

% change anticipated in absolute Scope 1+2 emissions

16

% change anticipated in absolute Scope 3 emissions

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)

0.368

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)

0

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

0.368

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]

94.3775100401606

Target status in reporting year

Achieved

Please explain target coverage and identify any exclusions

This intensity-based target was a component of MEG's 2022 Corporate Performance Scorecard which was approved by the Board in late 2021 and was incorporated to emphasize the commitment to environmental, social and governance (ESG) matters and the Corporation's commitment to operational excellence and achieving strong financial and operating results. Achievement of the target is an aspect of overall compensation across the organization. The target covers the Scope 1 and 2 emissions from the Christina Lake Regional Project, without any exclusions.

Plan for achieving target, and progress made to the end of the reporting year

<Not Applicable>

List the emissions reduction initiatives which contributed most to achieving this target

Reservoir advancements were pivotal to the success in 2022 in reducing the steam to oil ratio (SOR) which has a direct impact on greenhouse gas emissions intensity. Specifically, it is estimated that the well optimizations adopted in 2022 enabled MEG to achieve a companywide SOR of 2.36 in 2022.

Target reference number

Int 2

Is this a science-based target?

No, and we do not anticipate setting one in the next two years

Target ambition

<Not Applicable>

Year target was set

2021

Target coverage

Product level

Scope(s)

Scope 1

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

<Not Applicable>

Intensity metric

Other, please specify (metric tonnes CO2e per m3 of bitumen)

Base year

2013

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)

0.412

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)

0

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

0.412

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

79

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

100

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure

<Not Applicable>

% of total base year emissions in all selected Scopes covered by this intensity figure

79

Target year

2030

Targeted reduction from base year (%)

30

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

0.2884

% change anticipated in absolute Scope 1+2 emissions

56

% change anticipated in absolute Scope 3 emissions

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)

0.367

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)

0

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

0.367

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]

36.4077669902912

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

MEG's CLRP facility generates two product types, bitumen, and electricity. This target corresponds to the emissions associated with the bitumen production from the generation of steam and electricity use.

Plan for achieving target, and progress made to the end of the reporting year

MEG's path to net zero may include but is not limited to the following solutions: subsurface technology development, a phased approach to CCS deployment including assessing both local and regional storage options, continued optimization and improvements in energy efficiency, and offset opportunities and nature-based solutions that are aligned with our business. MEG's first milestone to net zero will be to achieve a 30% reduction in (scope 1 and scope 2) bitumen GHG emissions intensity from 2013 levels by 2030 to ensure we remain on pace. We have achieved an approximate 10% reduction in bitumen GHG intensity already and aim to have another 20% reduction by 2030. Progress made in 2022 includes: 1. Continued participation in the Pathways Alliance where MEG along with five other oil sand operators, who collectively represent 95% of Canada's Oil Sands production, work collectively with the federal and Alberta governments to achieve net zero GHG emissions (scope 1 and scope 2) from oil sands operations by 2050. A key component of this initiative is a 400 km CO2 pipeline connecting oil sands facilities in Fort McMurray, Christina Lake, and Cold Lake region of Alberta to a carbon sequestration hub near Cold Lake. For further information visit: <https://www.oilsandspathways.ca/>. The Pathways Alliance welcomed a formal announcement of a federal investment tax credit for capital invested in CCUS projects in April 2022 and has been advancing discussions with government and other stakeholders throughout the year to establish tenure, regulatory and consultation frameworks to support the large-scale project. 2. Determining a new absolute emission target of reducing both Scope 1 and 2 emission by 0.63 megatonnes per annum by year-end 2030, representing a reduction of approximately 30% absolute Scope 1 and Scope 2 emissions from 2019 levels. This new target was publicly released in early 2023

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

C4.2

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

Target(s) to reduce methane emissions

Net-zero target(s)

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number

Oth 1

Year target was set

2021

Target coverage

Company-wide

Target type: absolute or intensity

Absolute

Target type: category & Metric (target numerator if reporting an intensity target)

Methane reduction target	Other, please specify (Fugitive Gas Release in E3m3)
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Target denominator (intensity targets only)

<Not Applicable>

Base year

2019

Figure or percentage in base year

79

Target year

2022

Figure or percentage in target year

75

Figure or percentage in reporting year

168

% of target achieved relative to base year [auto-calculated]

-2225

Target status in reporting year

Expired

Is this target part of an emissions target?

Yes, this target is encompassed within Int1 and Int2. Fugitive emissions are captured in the intensity target referenced in CC4.1b and 4.2b which includes all associated methane emissions. In addition, the Int1 target reported in C4.1b captures methane emissions from combustion while the target reported in 4.2b is focused specifically on fugitive sources.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions

This target was established to support MEG's ongoing efforts to reduce GHG emissions and control the unintentional release of methane as well as in response to the AER Annual Methane reporting requirement. In 2022, resources were directed specifically towards achieving this target through a Methane Task Force focused on improving the performance of production and process tank pressure relieving valves. This is an absolute reduction target to demonstrate year-over-year improvement. In MEG's operations, methane primarily results from releases of fugitive and vent emissions which account for less than 0.5% of total facility emissions. Due to the small contribution of methane to MEG's total scope 1 GHG emissions, MEG includes the methane target in the overall intensity target. MEG recognizes that reducing methane emissions is an important aspect of addressing climate change and we continue to look at ways to minimize unintentional releases.

The 2022 target was not achieved for fugitive volume released despite absolute and emissions intensity reductions on a facility-wide basis in the reporting year. The fugitive emissions management plan (FEMP) employed by MEG detected and quantified leaking emission sources and they were managed in accordance with a risk-based approach to repairs through a multidisciplinary team. Although MEG prioritizes repairs in a timely manner the nature of the leaks identified in 2022 required either larger design changes or equipment outages to perform safely. An action plan to repair all leaks was established in the reporting year and each was scheduled for service according to outage/safety requirements. MEG has implemented a FEMP for managing fugitive emissions from equipment leaks, a primary source of methane emissions. The plan utilizes several inspection techniques including comprehensive leak surveys, permanent instrument monitoring, and targeted monthly and quarterly monitoring. This has proven to be an effective approach to managing methane as it has consistently comprised less than 1% of total releases. Leaks are documented, tracked, and repaired. In addition, MEG's only operating facility, CLRP, is subject to gas conservation requirements, which means overall venting and flaring is virtually eliminated in normal operating conditions and flaring or venting only occurs when it is necessary to maintain safe plant operations.

Plan for achieving target, and progress made to the end of the reporting year

<Not Applicable>

List the actions which contributed most to achieving this target

<Not Applicable>

Target reference number

Oth 2

Year target was set

2022

Target coverage

Company-wide

Target type: absolute or intensity

Absolute

Target type: category & Metric (target numerator if reporting an intensity target)

Methane reduction target	Other, please specify (Vent gas volume in E3m3 per month)
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Target denominator (intensity targets only)

<Not Applicable>

Base year

2019

Figure or percentage in base year

2.1

Target year

2022

Figure or percentage in target year

15

Figure or percentage in reporting year

12.3

% of target achieved relative to base year [auto-calculated]

79.0697674418605

Target status in reporting year

Achieved

Is this target part of an emissions target?

Yes, this target is encompassed within Int1

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions

This target was established to support MEG's ongoing efforts to reduce GHG emissions and limit routine and non-routine venting of methane to the atmosphere as well as in response to the AER Annual Methane reporting requirement, which came into effect for the 2019 calendar year. In 2022, resources were directed specifically towards achieving this target through a Methane Task Force focused on process optimization and process tank pressure relieving valves. This is an absolute limit on monthly vent volumes, equating to no greater than 15 e3m3 per month. In MEG's operations, methane primarily results from releases of fugitive and venting emissions which account for less than 0.5% of total facility emissions. Venting emissions are captured in the intensity target referenced in CC4.1b and 4.2b which includes all associated methane emissions. In addition, the Int1 target reported in C4.1b captures methane emissions from combustion while the target reported in 4.2b is focused specifically on venting sources. Due to the small contribution of methane (from fugitives and venting) to MEG's total scope 1 GHG emissions, MEG includes the methane target in the overall intensity target. MEG recognizes that reducing methane emissions is an important aspect of addressing climate change. MEG's only operating facility, CLRP, is subject to gas conservation requirements, which means overall venting and flaring is virtually eliminated in normal operating conditions and flaring or venting only occurs when it is necessary to maintain safe plant operations.

Through the Methane Task Force, MEG has established a series of procedures to identify, document and mitigate potential vent emissions throughout the facility. This has been a cross-functional effort involving participation at the operations and management level to successfully implement the various supports to manage vented volumes and review on a monthly basis. In addition to the identification and repair of vent sources, a significant effort has been made to ensure accurate emissions quantification methods are applied along with a comprehensive approach to inventory management.

Plan for achieving target, and progress made to the end of the reporting year

<Not Applicable>

List the actions which contributed most to achieving this target

Proactive management and operator awareness has contributed to successfully managing facility venting. The Methane Task Force team has implemented further design changes into 2023 that are expected to reduce venting in future years.

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number

NZ1

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Int1

Int2

Target year for achieving net zero

2050

Is this a science-based target?

No, and we do not anticipate setting one in the next two years

Please explain target coverage and identify any exclusions

In 2020, the Board committed to supporting the Paris Agreement and approved MEG's long-term goal of reaching net zero GHG emissions (Scope 1 and Scope 2) by 2050. This target covers 100% of our Scope 1 and Scope 2 emissions.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Yes

Planned milestones and/or near-term investments for neutralization at target year

MEG's path to net zero may include but is not limited to the following solutions: subsurface technology development, a phased approach to CCS deployment including assessing both local and regional storage options, continued optimization and improvements in energy efficiency, and offset opportunities and nature-based solutions that are aligned with our business. MEG's first milestone to net zero will be to achieve a 30% reduction in (scope 1 and scope 2) bitumen GHG emissions intensity from 2013 levels by 2030 to ensure we remain on pace. We have achieved an approximate 10% reduction in bitumen GHG intensity already and aim to have another 20% reduction by 2030. Progress made in 2022 includes: 1. Continued participation in the Pathways Alliance where MEG along with five other oil sand operators, who collectively represent 95% of Canada's Oil Sands production, work collectively with the federal and Alberta governments to achieve net zero GHG emissions (scope 1 and scope 2) from oil sands operations by 2050. A key component of this initiative is a 400 km CO2 pipeline connecting oil sands facilities in Fort McMurray, Christina Lake, and Cold Lake region of Alberta to a carbon sequestration hub near Cold Lake. For further information visit: <https://www.oilsandspathways.ca/>. The Pathways Alliance welcomed a formal announcement of a federal investment tax credit for capital invested in CCUS projects in April 2022 and has been advancing discussions with government and other stakeholders throughout the year to establish tenure, regulatory and consultation frameworks to support the large-scale project. 2. Determining a new absolute emission target of reducing both Scope 1 and 2 emissions by 0.63 megatonnes per annum by year-end 2030, representing a reduction of approximately 30% absolute Scope 1 and Scope 2 emissions from 2019 levels. This new target was publicly released in early 2023.

Planned actions to mitigate emissions beyond your value chain (optional)

C4.3

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

Yes

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	2	
To be implemented*	4	62800
Implementation commenced*	1	43000
Implemented*	1	2900
Not to be implemented		

C4.3b

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

Initiative category & Initiative type

Fugitive emissions reductions	Oil/natural gas methane leak capture/prevention
-------------------------------	---

Estimated annual CO2e savings (metric tonnes CO2e)

2900

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Mandatory

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

145000

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

250000

Payback period

1-3 years

Estimated lifetime of the initiative

3-5 years

Comment

In 2022, resources were directed specifically towards achieving this target through a Methane Task Force (MTF) focused on process optimization and process tank pressure relieving valves. This is an absolute limit on monthly vent volumes, equating to no greater than 15 e3m3 per month. In MEG's operations, methane primarily results from releases of fugitive and venting emissions which account for less than 0.5% of total facility emissions. Due to the small contribution of methane (from fugitives and venting) to MEG's total scope 1 GHG, MEG includes the methane target in the overall intensity target. MEG recognizes that reducing methane emissions is an important aspect of addressing climate change. CLRP is subject to gas conservation requirements, which means overall venting and flaring is virtually eliminated in normal operating conditions and flaring or venting only occurs when it is necessary to maintain safe plant operations. Through the MTF, MEG has established a series of procedures to identify, document and mitigate potential vent emissions throughout the facility. This has been a cross-functional effort involving participation at the operations and management level to successfully implement the various supports to manage vented volumes and review on a monthly basis. In addition to the identification and repair, a significant effort has been made to ensure accurate emissions quantification methods are applied along with a comprehensive approach to inventory management.

C4.3c

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

Method	Comment
Compliance with regulatory requirements/standards	One driver for emissions reduction activities and projects is the year-over-year reduction requirement that our operations are subject to. As of January 1, 2020, MEG's Christina Lake Regional Project is subject to Alberta's TIER regulation, which has facility-specific benchmarks and sector based high-performance benchmarks which the facility is required to meet or face a financial penalty. The stringency of facility-specific benchmarks is further subject to an annual tightening rate.
Dedicated budget for energy efficiency	MEG has budgeted for future carbon compliance costs associated with Alberta's TIER requirements. MEG also carries annual budget to support investigation of emissions reduction opportunities, including joint industry partnerships.
Internal price on carbon	MEG uses an internal price of carbon set at \$50/tonne CO2e in 2022 and escalating by \$15/tonne each year to \$170/tonne CO2e in 2030, in alignment with the pricing structure announced by the Canadian Federal government out to 2030.
Partnering with governments on technology development	A greenhouse gas intensity target is a component of our Corporate Performance Scorecard and reflects the integration of emissions reduction activities directly into executive and employee compensation.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation

Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon

Other, please specify (TIER cogeneration calculation methodology)

Type of product(s) or service(s)

Other	Other, please specify (Cogeneration Electricity)
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Description of product(s) or service(s)

The Christina Lake Regional Project co-generation facility uses natural gas more efficiently and produces two products: electricity and steam for oil production. The low intensity electricity that we generate offsets the higher-intensity Alberta power grid. Approximately 70% of electricity generated by MEG is sold to the Alberta power grid.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

Other, please specify (Internal Methodology)

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Gate-to-gate

Functional unit used

MWh

Reference product/service or baseline scenario used

Alberta Power Generation Average as published in Canada's 2023 Edition of the National Inventory Report (Table A13-10)

Life cycle stage(s) covered for the reference product/service or baseline scenario

Gate-to-gate

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

138000

Explain your calculation of avoided emissions, including any assumptions

MEG has published an Electricity GHG Intensity for power generation occurring at the CLRP facility in 2022. The intensity is approximately 30% of the most recently estimated average for power generation in Alberta (as published in the 2023 Edition of the National Inventory report). The avoided emissions estimated assumes that MEG has displaced an equivalent amount of power that would have otherwise been generated at the Alberta power generation average in the reporting year.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

2

C-OG4.6

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

In our operations, methane primarily results from the release of fugitive emissions, and to a smaller degree, venting. We proactively manage methane emissions through facility design, flare and vent controls, and fugitive emissions programs. A cross-functional team meets regularly to implement our methane management program and identify reduction opportunities. Our operational focus on minimizing the release of methane is further supported by annual methane reduction targets adopted in 2019 in line with Alberta's methane emissions reduction framework, which aims to reduce methane emissions by 45% by 2025 through progressive reduction measures. Our approach includes the following design controls: 1. We operate a gas-conserving facility by design, where all produced gas is recycled as fuel gas for steam generation and reservoir co-injection. In 2022, we conserved greater than 99.6% of produced gas. 2. Our flare and vapour recovery system are used to control the release of process gases that would otherwise be vented to atmosphere. 3. Process valve set points are monitored and carefully configured to maintain safe operations, while limiting over-pressuring events that can result in releases to atmosphere. In addition to the design controls listed above, we have implemented a fugitive emissions management plan (FEMP) which utilizes several inspection techniques, including comprehensive survey leak detection with Optical Gas Imaging (OGI) conducted three times annually, permanent instrument monitoring, and targeted monthly and quarterly monitoring. All identified leaks are consolidated in a central tracking system, where they are analyzed to identify trends and inform pro-active methane reduction planning decisions. Most leaks are corrected at the time of identification. If they cannot be completed upon identification, a device repair or replacement program is arranged within 30 days. With the execution of this program, we have continuously reduced fugitive emissions year over year. We are evaluating alternative detection technologies such as drone surveys that can provide an aerial enhancement to identify leaking equipment. We have focused on reducing emissions from process tanks, which are located at our production facility to store fluids, such as bitumen and diluent. The tanks are operated under pressure to manage the volume throughput and are blanketed with sweet natural gas for the purpose of process control and process safety management. Under normal operating conditions, all tank vapours are captured and returned to the fuel system. In the rare event that a tank experiences a sudden pressure increase, a safety device will lift, allowing the excess pressure to temporarily relieve as a vent; however, in some situations the device may fail to reseal properly, resulting in a continued fugitive release. In 2017, we recognized an opportunity to improve the management of these releases and focused efforts on improving detection and evaluating reliable replacement seals. As a result, we reduced the emission contribution associated with fugitive tank releases by more than 80% over the past five years.

C-OG4.7

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

Yes

C-OG4.7a

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

Reducing methane emissions is an important aspect of addressing climate change. We have implemented a fugitive emissions management plan (FEMP) for managing fugitive emissions from equipment leaks, a primary source of methane emissions at MEG. The plan includes comprehensive survey leak detection with Optical Gas Imaging (OGI) conducted three times annually, along with permanent instrument monitoring, and targeted monthly and quarterly monitoring for the full facility and well pads. All identified leaks are consolidated in a central tracking system, where they are analyzed to identify trends and inform pro-active methane reduction planning decisions. Through MEG's FEMP, leaks are documented, tracked, and repaired. A device repair or replacement program is arranged within 30 days of any identified leak, excluding minor leaks requiring major production outage. We have also begun to evaluate alternative detection technologies such as drone surveys that can provide an aerial enhancement to identify leaking equipment. Based on the consolidated survey results, we prioritize retrofitting and replacing pressure relief devices using trends such as recurring leaks. An engineering review of any chronic leaking device is performed, when required, to determine more appropriate control measures (e.g., replacement of the component with a more robust or rugged design or installation of a leak capture and treatment system). With the execution of the repair and retrofit program, MEG has continuously reduced its fugitive emissions year-over-year. This has proven to be an effective approach to managing methane as it has consistently comprised less than 1% of total releases. The FEMP has been developed in accordance with CAPP Best Management Practice: Management of Fugitive Emissions at Upstream Oil and Gas Facilities (Requirements in AER Directive 60 as of 2018). We have focused on reducing emissions from process tanks, which are located at our production facility to store fluids, such as bitumen and diluent. The tanks are operated under pressure to manage the volume throughput and are blanketed with sweet natural gas for the purpose of process control and process safety management. Under normal operating conditions, all tank vapours are captured and returned to the fuel system. In the rare event that a tank experiences a sudden pressure increase, a safety device will lift, allowing the excess pressure to temporarily relieve as a vent; however, in some situations the device may fail to reseal properly, resulting in a continued fugitive release. In 2017, we recognized an opportunity to improve the management of these releases and focused efforts on improving detection and evaluating reliable replacement seals. As a result, we reduced the emissions contribution associated with fugitive tank releases by more than 80% over the past five years.

C-OG4.8

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

MEG's facility is a gas conserving facility, which means overall venting and flaring is virtually eliminated in normal operating conditions. MEG has a gas conservation efficiency target of 90% where gas conservation = (Solution gas production – Flared – Vented) / (Solution gas production) × 100. In 2022 MEG had an overall gas conservation of >95%. MEG only flares or vents when it is absolutely necessary to maintain safe plant operations. In 2022, GHG emissions from flaring activities contributed to 0.30% of MEG's total GHG emissions. Due to the low contribution from flaring to overall GHG emissions, MEG does not set separate GHG emissions targets for flaring. Flaring emissions are captured in the Int1 and Int2 targets reported in C4.2b. MEG does, however, set internal key performance indicators for flaring activities.

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

No

Name of organization(s) acquired, divested from, or merged with

<Not Applicable>

Details of structural change(s), including completion dates

<Not Applicable>

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	No	<Not Applicable>

C5.2

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

Scope 1

Base year start

January 1 2013

Base year end

December 31 2013

Base year emissions (metric tons CO2e)

1896700

Comment

Normalized annual emissions over baseline period. Base year start is 01/01/2013 and base year end is 12/31/2015.

Scope 2 (location-based)

Base year start

January 1 2013

Base year end

December 31 2013

Base year emissions (metric tons CO2e)

500

Comment

Normalized annual scope 2 emissions over baseline period. Base year start is 01/01/2013 and base year end is 12/31/2015.

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 1: Purchased goods and services

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 2: Capital goods

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 4: Upstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 5: Waste generated in operations

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 6: Business travel

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 7: Employee commuting

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 11: Use of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 12: End of life treatment of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

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

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

Other, please specify (● TIER Quantification Methodology (March 2021) ● Environment Canada: Canada's Greenhouse Gas Inventory)

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

2368081

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

C6.2

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

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

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

Comment

C6.3

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

Reporting year

Scope 2, location-based

383

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1, Scope 2, or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source of excluded emissions

Scope 3 emissions where data is not readily available or reliable

Scope(s) or Scope 3 category(ies)

Scope 3: Capital goods

Scope 3: Upstream transportation and distribution

Scope 3: Employee commuting

Scope 3: Processing of sold products

Scope 3: Use of sold products

Scope 3: End-of-life treatment of sold products

Relevance of Scope 1 emissions from this source

<Not Applicable>

Relevance of location-based Scope 2 emissions from this source

<Not Applicable>

Relevance of market-based Scope 2 emissions from this source

<Not Applicable>

Relevance of Scope 3 emissions from this source

Emissions are not relevant

Date of completion of acquisition or merger

<Not Applicable>

Estimated percentage of total Scope 1+2 emissions this excluded source represents

<Not Applicable>

Estimated percentage of total Scope 3 emissions this excluded source represents

Explain why this source is excluded

MEG has not undertaken a full value chain assessment of Scope 3 emissions and the percentage contribution of excluded sources is not known. At this time, the data necessary to complete an evaluation is not considered reliable to a reasonable degree of accuracy.

Explain how you estimated the percentage of emissions this excluded source represents

MEG has not undertaken a full value chain assessment of Scope 3 emissions and the percentage contribution of excluded sources is not known. At this time, the data necessary to complete an evaluation is not considered reliable to a reasonable degree of accuracy.

C6.5

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

Purchased goods and services

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Fuel usage for drilling activities were included as Scope 3 emissions in 2018. As of 2019 they are included as Scope 1 emissions as per the TIER boundary changes.

Capital goods**Evaluation status**

Not evaluated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Additional scope 3 categories will be investigated in the future.

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

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

1611

Emissions calculation methodology

Other, please specify (Fuel usage is obtained from suppliers or from MEGs internal fuel usage tracking system and emissions are calculated using fuel specific emission factors.)

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

100

Please explain

This includes camp site and site service heating.

Upstream transportation and distribution**Evaluation status**

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

MEG extracts primary resources (Bitumen) and therefore minimal upstream transportation or distribution emissions exist. This category is not applicable to MEG.

Waste generated in operations**Evaluation status**

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

996

Emissions calculation methodology

Other, please specify (Fuel usage is obtained from suppliers and emissions are calculated using fuel specific emission factors .)

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

100

Please explain

This includes emissions associated with transportation of waste off site.

Business travel**Evaluation status**

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

1962

Emissions calculation methodology

Other, please specify (Fuel usage is obtained from suppliers and emissions are calculated using fuel specific emission factors.)

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

100

Please explain

This includes air travel of employees and contractors to MEG CLRP operation.

Employee commuting

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Employees commuting to the corporate office are considered negligible.

Upstream leased assets

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

668

Emissions calculation methodology

Other, please specify (Head office natural gas for heat and electricity usage obtained from head office management company.)

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

100

Please explain

This includes emissions at MEG's head office including emissions from electricity use and natural gas for heating.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

10803

Emissions calculation methodology

Other, please specify (Energy consumption obtained from value chain partner and emissions are calculated using source specific emission factors.)

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

100

Please explain

This includes downstream pipeline and storage emissions to Edmonton hub.

Processing of sold products

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

MEG bitumen is processed in various upgrading and refining facilities in North America.

Use of sold products

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Oil produced by MEG is used as a feedstock for a number of products thus end use of sold products is not known to MEG and could include transportation fuels, plastics, chemicals, and other hydrocarbon-based products. The Scope 3 emissions will vary based on end product.

End of life treatment of sold products

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Oil produced by MEG is used for a number of products thus end of life treatment of sold products is not known to MEG and could include transportation fuels, plastics, chemicals, and other hydrocarbon-based products. The Scope 3 emissions for end-of-life treatment will vary based on the end product.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

MEG does not own any downstream leased assets. This category is not applicable to MEG.

Franchises

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

MEG does not operate any franchises. This category is not applicable to MEG.

Investments

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

MEG is not a financial institution. This category is not applicable to MEG.

Other (upstream)

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

No other (upstream) Scope 3 categories are applicable at this time.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

No other (downstream) Scope 3 categories are applicable at this time.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10

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

Intensity figure

0.000387

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

2368464

Metric denominator

unit total revenue

Metric denominator: Unit total

611800000

Scope 2 figure used

Location-based

% change from previous year

31

Direction of change

Decreased

Reason(s) for change

Change in revenue

Please explain

The decrease in emission intensity was influenced primarily by the increase in annual revenue associated with the increase in the average blend sales price realized in 2022 compared to the year prior.

Intensity figure

0.068

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

2368464

Metric denominator

Other, please specify (barrel of bitumen production)

Metric denominator: Unit total

34798370

Scope 2 figure used

Location-based

% change from previous year

5

Direction of change

Decreased

Reason(s) for change

Other emissions reduction activities

Please explain

Bitumen intensity decreased in 2022 from the prior year primarily from a reduction in SOR that resulted from a broader development strategy that focused on enhanced completions design and optimized inter-well spacing.

C-OG6.12

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

Unit of hydrocarbon category (denominator)

Thousand barrels of oil sands (includes bitumen and synthetic crude)

Metric tons CO₂e from hydrocarbon category per unit specified

58

% change from previous year

3

Direction of change

Decreased

Reason for change

Bitumen intensity decrease as a result of focused well optimization strategies including well spacing and enhanced well completions design that lowered overall steam to oil ratio thereby lowering emissions intensity. Additional reductions may be realized over time as these strategies are expanded field wide.

Comment

C-OG6.13

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

Oil and gas business division

Upstream

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

0.021

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

0

Details of methodology

Reflects fugitive methane release as a proportion of total purchased natural gas throughput.

C7. Emissions breakdowns

C7.1

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

Yes

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO ₂ e)	GWP Reference
CO ₂	2347212	IPCC Fourth Assessment Report (AR4 - 100 year)
CH ₄	11990	IPCC Fourth Assessment Report (AR4 - 100 year)
N ₂ O	8503	IPCC Fourth Assessment Report (AR4 - 100 year)
SF ₆	376	IPCC Fourth Assessment Report (AR4 - 100 year)

C-OG7.1b

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

Emissions category

Combustion (excluding flaring)

Value chain

Upstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

2338292

Gross Scope 1 methane emissions (metric tons CH4)

173

Total gross Scope 1 emissions (metric tons CO2e)

2351077

Comment

Emissions category

Flaring

Value chain

Upstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

8920

Gross Scope 1 methane emissions (metric tons CH4)

48

Total gross Scope 1 emissions (metric tons CO2e)

10157

Comment

Emissions category

Venting

Value chain

Upstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

0

Gross Scope 1 methane emissions (metric tons CH4)

173

Total gross Scope 1 emissions (metric tons CO2e)

2502

Comment

Emissions category

Fugitives

Value chain

Upstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

0

Gross Scope 1 methane emissions (metric tons CH4)

159

Total gross Scope 1 emissions (metric tons CO2e)

4346

Comment

C7.2

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

Country/area/region	Scope 1 emissions (metric tons CO2e)
Canada <i>MEG only operates one facility in Canada.</i>	2368081

C7.3

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

- By facility
- By activity

C7.3b

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

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
CLRP	2368081	55.66638	-110.71404

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Electric utility generation activities	338939
Oil and gas production activities (upstream)**	2029142

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

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

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	2029142	<Not Applicable>	
Oil and gas production activities (midstream)	0	<Not Applicable>	MEG does not have midstream activities.
Oil and gas production activities (downstream)	0	<Not Applicable>	MEG does not have downstream activities.
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

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

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Canada <i>MEG only operates one facility in Canada. MEG consumed a small amount of indirect power in 2020 during turnaround activities.</i>	383	

C7.6

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

- By facility

C7.6b

(C7.6b) Break down your total gross global Scope 2 emissions by business facility.

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
CLRP	383	

C7.7

(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

Not relevant as we do not have any subsidiaries

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

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

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)		0	MEG generates electricity through the use of cogeneration and sells excess supply to the Alberta electricity grid. In 2022, MEG did not purchase any electricity and therefore Scope 2 emissions are 0.
Oil and gas production activities (midstream)			MEG does not have midstream activities
Oil and gas production activities (downstream)			MEG does not have downstream activities.
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.9

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

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change		Not applicable.
Other emissions reduction activities	73293	Decreased	3	Reduction in SOR that resulted from a broader development strategy that focused on enhanced completions design and optimized inter-well spacing.
Divestment	0	No change		Not applicable.
Acquisitions	0	No change		Not applicable.
Mergers	0	No change		Not applicable.
Change in output	2268	Increased	0.1	Slight gross emissions increase as a result of increased bitumen production.
Change in methodology	0	No change		Not applicable.
Change in boundary	0	No change		Not applicable.
Change in physical operating conditions	0	No change		Not applicable.
Unidentified	0	No change		Not applicable.
Other	0	No change		Not applicable.

C7.9b

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

Location-based

C8. Energy

C8.1

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

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

C8.2

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

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

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	12379720	12379720
Consumption of purchased or acquired electricity	<Not Applicable>	0	613	613
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	0	12380333	12380333

C8.2b

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

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

C8.2c

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

Sustainable biomass

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

Comment

Other biomass

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

Comment

Other renewable fuels (e.g. renewable hydrogen)

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

Comment

Coal

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

Comment

Oil

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

Comment

Gas

Heating value

HHV

Total fuel MWh consumed by the organization

12326045

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

5588356

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

6568674

Comment

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value

HHV

Total fuel MWh consumed by the organization

53675

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

Comment

This includes diesel and propane.

Total fuel

Heating value

HHV

Total fuel MWh consumed by the organization

12379720

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

222691

MWh fuel consumed for self-generation of steam

5588356

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

6568674

Comment

C8.2d

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	1339927	405280		
Heat	135212	135212		
Steam	10158038	10158038		
Cooling				

C8.2g

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

C9. Additional metrics

C9.1

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

C-OG9.2a

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

	In-year net production	Comment
Crude oil and condensate, million barrels	0	MEG does not have crude oil and condensate in its production portfolio.
Natural gas liquids, million barrels	0	MEG does not have natural gas liquids in its production portfolio.
Oil sands, million barrels (includes bitumen and synthetic crude)	34.8	MEG is a sustainable in situ thermal oil production company.
Natural gas, billion cubic feet	0	MEG does not have natural gas in its production portfolio.

C-OG9.2b

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

MEG reports its reserves and other oil and gas information in accordance with the National Instruments 51-101 – Standards for Disclosure for Oil and Gas Activities, the standard governing reporting of petroleum reserves and resources for Canadian publicly traded companies. The Instrument requires all Canadian reporting issuers engaged in oil and gas activity to provide disclosure of their estimated oil and natural gas reserves and related future net revenues on an annual basis; and all disclosure to be prepared or audited in accordance with the Canadian Oil and Gas Evaluation Handbook.

C-OG9.2c

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

	Estimated total net proved + probable reserves (2P) (million BOE)	Estimated total net proved + probable + possible reserves (3P) (million BOE)	Estimated net total resource base (million BOE)	Comment
Row 1	1448.4	1582.2	2308.8	Amounts per 2022 GLJ Reserve Report

C-OG9.2d

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

	Net proved + probable reserves (2P) (%)	Net proved + probable + possible reserves (3P) (%)	Net total resource base (%)	Comment
Crude oil/ condensate/ natural gas liquids	0	0	0	MEG does not have crude oil and condensate in its production portfolio.
Natural gas	0	0	0	MEG does not have natural gas liquids in its production portfolio.
Oil sands (includes bitumen and synthetic crude)	100	100	100	MEG is a sustainable in situ thermal oil production company.

C-OG9.2e

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

Development type

Oil sand/extra heavy oil

In-year net production (%)

100

Net proved reserves (1P) (%)

100

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

100

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

100

Net total resource base (%)

100

Comment

MEG is a sustainable in situ thermal oil production company.

C-OG9.5a/C-CO9.5a

(C-OG9.5a/C-CO9.5a) Break down, by fossil fuel expansion activity, your organization's CAPEX in the reporting year and CAPEX planned over the next 5 years.

	CAPEX in the reporting year for this expansion activity (unit currency as selected in C0.4)	CAPEX in the reporting year for this expansion activity as % of total CAPEX in the reporting year	CAPEX planned over the next 5 years for this expansion activity as % of total CAPEX planned over the next 5 years	Explain your CAPEX calculations, including any assumptions
Exploration of new oil fields	0	0	0	There was no exploration of new oil fields performed during 2022 and no exploration of new fields is planned within the next 5 years.
Exploration of new natural gas fields	0	0	0	The Corporation focuses solely on situ oil sands development and therefore does not explore for or develop natural gas fields.
Expansion of existing oil fields	0	0	0	
Expansion of existing natural gas fields	0	0	0	The Corporation focuses solely on situ oil sands development and therefore does not explore for or develop natural gas fields.
Development of new coal mines	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Expansion of existing coal mines	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

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

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

	Investment in low-carbon R&D	Comment
Row 1	Yes	

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

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

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)	Average % of total R&D investment planned over the next 5 years	Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan
Other, please specify (Other energy efficiency measures in the oil and gas value chain)	Pilot demonstration	10		10	Diluent is used in the in-situ industry for oil and water separation, as well as transportation of heavy oil. We actively explore innovative technologies to partially upgrade MEG's bitumen product to maximize pipeline capacity and decrease diluent requirements. This includes hosting a demonstration pilot at MEG's facilities and supplying feedstock to a bench-scale pilot. We are examining opportunities to reduce Scope 3 emissions through the development of alternative, non-combustion uses for bitumen such as asphalt and carbon fibre. These activities include supplying feedstocks and other support for Alberta Innovates Carbon Fibre Grand Challenge and investigating market opportunities for other bitumen-derived products. For every barrel of bitumen produced there is approximately 0.45 barrels of diluent used to transport the bitumen to downstream customers. The diluent used at CLRP is produced by Canadian and American suppliers and transported by pipeline to our operations, where it is injected at multiple locations in the central processing facility and downstream shipping facilities. The heavy oil viscosity reduction project has the potential to reduce the scope 3 GHG emissions associated with producing and transporting heavy oil by reducing diluent use.
Carbon capture, utilization, and storage (CCUS)	Applied research and development	90		90	Alberta is well positioned to continue its leadership in CCS deployment due to the centralized nature of GHG emissions in in situ oil sands operations, and the depth and capacity of the Western Canada Sedimentary Basin to store CO2 safely and permanently. MEG is currently actively investigating the technology and costs associated with all the components of CCS. We have recently secured \$2.1MM in funding from Alberta Innovates under Alberta's TIER program to support an evaluation of local CO2 storage feasibility in the vicinity of our CLRP operations. Our next focus will be carbon capture technology and regional storage opportunities. We recognize that the commercial development and deployment of CCS technology to thermal oil production operations will require collaboration with governments and industry, as well as financial support and long-term climate policy certainty. In June 2021, MEG, along with four other oil sands operators that collectively represent 90% of Canada's oil sands production, joined together to form the Oil Sands Pathways to Net Zero Alliance to work collectively with the federal and Alberta governments to achieve net zero GHG emissions from oil sands operations by 2050. A key component of this initiative is a 400km CO2 pipeline connecting oil sands facilities in Fort McMurray, Christina Lake, and Cold Lake regions of Alberta to a carbon sequestration hub near cold lake.

C-OG9.7

(C-OG9.7) Disclose the breakeven price (US\$/BOE) required for cash neutrality during the reporting year, i.e. where cash flow from operations covers CAPEX and dividends paid/ share buybacks.
58.07

C10. Verification

C10.1

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

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

C10.1a

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

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Underway but not complete for reporting year – previous statement of process attached

Type of verification or assurance

Reasonable assurance

Attach the statement

2021-MEG-Combined-Reasonable-and-Limited-Assurance-Report.pdf

Page/ section reference

All pages. Updated 2022 statement will be posted on our website when complete <https://www.megenergy.com/sustainability/esg-disclosures/>

Relevant standard

Alberta Technology Innovation and Emissions Reduction (TIER)

Proportion of reported emissions verified (%)

100

C10.1b

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

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Underway but not complete for reporting year – previous statement of process attached

Type of verification or assurance

Reasonable assurance

Attach the statement

2021-MEG-Combined-Reasonable-and-Limited-Assurance-Report.pdf

Page/ section reference

All pages. Updated 2022 statement will be posted on our website when complete <https://www.megenergy.com/sustainability/esg-disclosures/>

Relevant standard

Canadian Institute of Chartered Accountants (CICA) Handbook: Assurance Section 5025

Proportion of reported emissions verified (%)

100

C10.2

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

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C4. Targets and performance	Progress against emissions reduction target	Alberta Technology Innovation and Emissions Reduction (TIER)	The target is derived from the TIER (Int1 in Question C4.1b). TIER is an emissions intensity-based regime requiring large emitters to reduce their emissions intensity below a prescribed level, or otherwise achieve this through a true-up obligation whereby-credits can be applied against such required level, together with or as an alternative to physical abatement, with penalties for failure to achieve compliance. Verification for TIER is completed annually. This is a reasonable level of assurance.
C6. Emissions data	Year on year emissions intensity figure	Canadian Professional Accountants – Standards for Assurance Engagements other than audits of Financial Statements and other Historical Financial Information, Handbook Section 5025.	Question C6.10, Question C6.12 Verification completed annually at a reasonable level of assurance
C7. Emissions breakdown	Year on year change in emissions (Scope 2)	Alberta Technology Innovation and Emissions Reduction (TIER)	Question C7.9 Verification completed annually at a reasonable level of assurance. MEG's CLRP facility falls under the TIER regulation in Alberta.
C7. Emissions breakdown	Year on year change in emissions (Scope 1)	Alberta Technology Innovation and Emissions Reduction (TIER)	Question C7.9 Verification completed annually at a reasonable level of assurance.

C11. Carbon pricing

C11.1

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

Yes

C11.1a

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

Alberta TIER - ETS

Canada federal fuel charge

C11.1b

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

Alberta TIER - ETS

% of Scope 1 emissions covered by the ETS

100

% of Scope 2 emissions covered by the ETS

100

Period start date

January 1 2022

Period end date

December 31 2022

Allowances allocated

2023285

Allowances purchased

36359

Verified Scope 1 emissions in metric tons CO₂e

2368081

Verified Scope 2 emissions in metric tons CO₂e

0

Details of ownership

Facilities we own and operate

Comment

C11.1c

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

Canada federal fuel charge

Period start date

January 1 2022

Period end date

December 31 2022

% of total Scope 1 emissions covered by tax

100

Total cost of tax paid

68768

Comment

The Federal Fuel Charge applies to fuels purchased that are beyond the scope of the Output-Based Pricing System, which was deemed to be equivalent to Alberta's Technology Innovation and Emission Reduction Regulation (TIER) for the 2022 calendar year. The Federal Fuel Charge is paid on fuel use beyond the regulated facility boundary, encompassing use for camp heating.

C11.1d

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

MEG is managing compliance with regulations by minimizing emissions through emissions reduction initiatives and efficiency upgrades. This is accomplished through operation of cogeneration facilities, implementation of reservoir production enhancements, and operational practices such as our methane management program. A case study of how we have applied our strategy is our significant efforts to optimize steam generation. MEG identified that steam production is a significant source of energy usage and therefore a significant contributor to carbon emissions. Optimizing steam usage would therefore support compliance with regulations. An important metric for this purpose is Steam-Oil Ratio (SOR), the quantity of steam used to produce a barrel of oil. SOR is a key measure of efficiency for SAGD projects, with a lower SOR indicating that steam is more efficiently utilized. By decreasing the amount of steam used, MEG can reduce our per barrel water and fuel requirements which results in lower greenhouse gas emissions intensity and more economic projects. MEG has taken numerous actions to reduce SOR. MEG increased the application of its patented eMSAGP reservoir production technology across additional production wells. eMSAGP involves drilling additional production wells between SAGD well pairs, injecting a non-condensable gas, like natural gas, into the reservoir to maintain reservoir pressure, and reducing steam injection. The resulting overall SOR for eMSAGP is approximately 25% less than SAGD. By applying the eMSAGP process to significant portions of the operation, we have achieved an average SOR of 2.36 in 2022 at its Christina Lake Project in comparison to a 3.0 industry average. eMSAGP has improved operational performance and reduced costs, including GHG costs linked to an increasingly stringent intensity target. Another aspect of our strategy is using an internal price of carbon to assess risks and opportunities for capital and operational investments to support project economics. In 2021, MEG joined the Pathways Alliance with the stated goal of achieving net zero GHG emissions (scope 1 and scope 2) from all oil sands operations by 2050 through a collaborative CO2 pipeline and carbon capture and storage projects, among other technologies

C11.2

(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?

No

C11.3

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

Yes

C11.3a

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

Type of internal carbon price

Shadow price

How the price is determined

Alignment with the price of a carbon tax

Objective(s) for implementing this internal carbon price

Identify and seize low-carbon opportunities
Stress test investments

Scope(s) covered

Scope 1

Pricing approach used – spatial variance

Uniform

Pricing approach used – temporal variance

Evolutionary

Indicate how you expect the price to change over time

In alignment with the Federal benchmark for carbon pollution pricing systems in Canada, MEG expects that the price will follow the minimum national price on carbon pollution for explicit price-based systems (i.e., systems that directly set a price on emissions) which is currently set to \$65 per tonne of GHG emissions calculated in carbon dioxide equivalent (CO2e) in 2023, and increases by \$15 per year to \$170 per tonne CO2e in 2030.

Actual price(s) used – minimum (currency as specified in C0.4 per metric ton CO2e)

50

Actual price(s) used – maximum (currency as specified in C0.4 per metric ton CO2e)

170

Business decision-making processes this internal carbon price is applied to

Other, please specify (The TIER compliance cost in 2022 was \$50 per tonne. MEG uses an internal price of carbon in 2022 set at \$50/tonne CO2e and escalating to \$170/tonne CO2e in alignment with the Federal Benchmark for Carbon Pollution Pricing in Canada.)

Mandatory enforcement of this internal carbon price within these business decision-making processes

Yes, for some decision-making processes, please specify (The economic assessment of projects identified to have a specific emissions impact will evaluate the evolutionary carbon price.)

Explain how this internal carbon price has contributed to the implementation of your organization's climate commitments and/or climate transition plan

MEG expects that there will continue to be a cost associated with carbon emissions into the future and is actively exploring measures to reduce emissions and thereby the associated costs. This drive is encompassed within MEG's mid-term target of reducing GHG emissions (Scope 1 and 2) by 0.6 megatonnes by year-end 2030 and long-term goal of reaching net-zero emissions (Scope 1 and 2).

C12. Engagement

C12.1

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

No, we do not engage

C12.1e

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

Currently MEG produces diluted bitumen that is transported to, and processed in, various downstream facilities. Oil produced by MEG is used as a feedstock for a number of products, thus end use of sold products is not known to MEG making it difficult to engage with customers in MEG's value chain. To date, MEG has been focusing on emissions reduction, energy efficiency and decarbonization of its only facility, CLRP. We have undertaken some initial scope 3 evaluations and based on these; the supplier portion of our scope 3 emissions is relatively small in comparison to our corporate emissions. We will continue to evaluate scope 3 emissions and value chain engagement opportunities in the future. This includes opportunities for supplier engagement including compliance & onboarding and engagement campaigns to educate suppliers about climate change.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

No, and we do not plan to introduce climate-related requirements within the next two years

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers

Yes, we fund organizations or individuals whose activities could influence policy, law, or regulation that may impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

No, and we do not plan to have one in the next two years

Attach commitment or position statement(s)

<Not Applicable>

Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan

A continuous legislative overview is conducted that informs MEG of proposed changes. A multidisciplinary team regularly monitors developments in climate change policy and consolidates that information for the business to ensure that the business interests are protected and that policy trends are understood. To ensure that corporate guidance on activities that influence policy are consistent with MEG's systematic approach to addressing climate risk across our organization, coordination meetings are held with all departments potentially influenced by the policy to review forthcoming engagement opportunities. Policy developments are communicated monthly to the corporate HSE Committee and at least quarterly to the Board of Directors/applicable Board Committees to be factored into corporate strategy and planning.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Specify the policy, law, or regulation on which your organization is engaging with policy makers

CCUS Tax Credit, Securing Pore Space

Category of policy, law, or regulation that may impact the climate

Carbon pricing, taxes, and subsidies

Focus area of policy, law, or regulation that may impact the climate

Other, please specify (Transition of Oil Sands Industry to Net Zero by 2050)

Policy, law, or regulation geographic coverage

Regional

Country/area/region the policy, law, or regulation applies to

Canada

Your organization's position on the policy, law, or regulation

Undecided

Description of engagement with policy makers

Through involvement in the Pathways Alliance, MEG is focused on gaining multi-level government support to facilitate the various initiatives that will be necessary to achieve net zero GHG emissions (scope 1 and scope 2) from operations by 2050. In order to build out CCUS, there are many other supporting systems that need to be accessed prior to commercial deployment which include securing underground storage rights, approvals to construct a carbon transportation network and economical demonstration of capture at scale. In addition to CCUS, MEG is supportive of other policy solutions that will allow emission reductions to occur such as energy efficiency, electrification, and process improvements.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

No, we have not evaluated

Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?

The policies are considered central to the successful implementation of CCUS which is one key element to achieving our climate-related goals. These policies will ensure adequate access to below-ground storage and outline the fiscal measures to drive project economics.

Specify the policy, law, or regulation on which your organization is engaging with policy makers

Proposed Clean Electricity Regulations, Proposed Oil and Gas Emissions Cap, Proposed Regulatory Framework for Reducing Oil and Gas Methane Emissions

Category of policy, law, or regulation that may impact the climate

Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate

Climate-related targets

Emissions – CO2

Emissions – methane

Policy, law, or regulation geographic coverage

National

Country/area/region the policy, law, or regulation applies to

Canada

Your organization's position on the policy, law, or regulation

Undecided

Description of engagement with policy makers

The policies are all currently in the consultation phase of development where public comment is being solicited by the policy makers. MEG has engaged both directly and through involvement in the Oil Sands Pathways Alliance to ensure policies are aligned with our mid-term target of reducing absolute GHG emissions (Scope 1 and Scope 2) by 0.63 megatonnes per annum by year-end 2030 and our long-term goal of net zero (Scope 1 and Scope 2).

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

No, we have not evaluated

Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?

Our goal, through engagement with policy makers is to ensure that the development of the above-mentioned policies is complementary to our climate transition plan and that the emission reduction goals will be aligned.

C12.3c

(C12.3c) Provide details of the funding you provided to other organizations or individuals in the reporting year whose activities could influence policy, law, or regulation that may impact the climate.

Type of organization or individual

Private company

State the organization or individual to which you provided funding

Pathways Alliance

Funding figure your organization provided to this organization or individual in the reporting year (currency as selected in C0.4)

957000

Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate

In 2021, MEG joined the Pathways Alliance, an alliance of oil sands companies that represents over 90% of Canada's oil sands production committed to reaching net zero GHG emissions from collective operations by 2050. The alliance, working in collaboration with Federal and Alberta governments, is focused on building a major carbon capture and storage (CCS) trunkline, connecting oil sands facilities in the Fort McMurray, Christina Lake and Cold Lake regions of Alberta, to a carbon sequestration hub in Cold Lake. The aim of this funding is to support the development of infrastructure to decarbonize oil sands production, one key element in achieving MEG's goal of net zero GHG emissions by 2050.

Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document

MEG-Energy-Corp_Annual-Information-Form_2022_FINAL.pdf

Page/Section reference

19-20, 35-38, 55-61

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

Publication

In mainstream reports, incorporating the TCFD recommendations

Status

Complete

Attach the document

MEG-Management-Information-Circular.2023.pdf

Page/Section reference

56-57

Content elements

Risks & opportunities

Comment

Publication

In voluntary sustainability report

Status

Underway – previous year attached

Attach the document

MEG-Energy-ESG-Report-2021.pdf
MEG-2022-ESG-Performance-Data-Supplement-Including-SASB-Index-FINAL.pdf

Page/Section reference

2022 - All
2021 - 12-18, 21-30, 58, 64

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

C12.5

(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

	Environmental collaborative framework, initiative and/or commitment	Describe your organization's role within each framework, initiative and/or commitment
Row 1	Other, please specify	<p>Pathways Alliance</p> <p>Through involvement in the Pathways Alliance, MEG is focused on gaining multi-level government support to facilitate the various initiatives that will be necessary to achieve net zero GHG emissions (scope 1 and scope 2) from operations by 2050. In order to build out CCUS, there are many other supporting systems that need to be accessed prior to commercial deployment which include securing underground storage rights, approvals to construct a carbon transportation network and economical demonstration of capture at scale. In addition to CCUS, MEG is supportive of other policy solutions that will allow emission reductions to occur such as energy efficiency, electrification, and process improvements.</p> <p>Pathways Alliance Details:</p> <p>As one of Canada's largest carbon dioxide (CO2) emitters, the oil sands industry has a key role to play in helping Canada meet its 2030 emissions reduction commitment and 2050 net zero goal. Canada's six largest oil sands producers are working together with governments on an ambitious and actionable plan.</p> <p>Launched in 2021, the Pathways Alliance is made up of Canadian Natural Resources, Cenovus Energy, ConocoPhillips Canada, Imperial, MEG and Suncor Energy, and represents approximately 95 per cent of oil sands production.</p> <p>Pathways' plan involves industry and government working together to reduce CO2 emissions by 22 million tonnes per year from oil sands operations by 2030 and achieve net zero Scope 1 and Scope 2 GHG emissions from operations by 2050.</p> <p>Pathways' proposed foundational project is a carbon capture and storage (CCS) network and transportation line that will have the capacity to transport captured CO2 from more than 20 oil sands facilities in northern Alberta to a hub in the Cold Lake area of Alberta for permanent underground storage. The line would also be available to other industries in the region interested in capturing and storing CO2.</p> <p>Pathways' CCS project alone could reduce annual net CO2 emissions from operations by about 10 to 12 million tonnes by 2030. The early engineering and environmental assessment work, along with engagement with local stakeholders, is well underway.</p> <p>We are also pleased to have been awarded evaluation rights from the Government of Alberta for our proposed carbon storage hub.</p> <p>The first phase of the Pathways plan, including the CCS project, is estimated to generate more than \$24 billion in investment and create an estimated 15,000 to 20,000 construction jobs between now and 2030.</p> <p>Carbon capture and storage is a proven, effective and ready technology. The geology in Alberta is ideally suited for storing CO2. This, coupled with the expertise gained through long-standing CCS projects in Alberta, Canada and around the world provides a competitive advantage for the province to enhance its standing as a world leader in CCS.</p> <p>Achieving net zero emissions from oil sands production will require multiple paths, including existing technologies such as carbon capture, while also advancing process improvements and several other technologies such as hydrogen, direct-air capture and possibly the safe deployment of emissions-free small modular nuclear reactors.</p> <p>Pathways Alliance is a model for all sectors within Canada and globally to demonstrate how competing peer companies can work together for a common goal. Achieving Pathways' ambitious goals will help address climate change, provide energy security, and ensure the sector can significantly contribute to the Canadian economy and support hundreds of thousands of jobs from coast to coast to coast.</p>

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, both board-level oversight and executive management-level responsibility		<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	Other, please specify (MEG strives to bring all abandoned wells to reclamation status within 5 years and we are committed to investing at least \$300,000 in annual caribou habitat restoration efforts between 2021 and 2025.)	SDG Other, please specify (AER Inventory Reduction Program aims to increase the amount of closure work occurring in Alberta, reduce liability & increase the amount of land being returned to equivalent capabilities)

C15.3

(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment

Yes

Value chain stage(s) covered

Direct operations

Portfolio activity

<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity

Biodiversity indicators for site-based impacts

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

MEG undertakes several monitoring programs to assess the impact of their direct operations on biodiversity both within the operational areas and in the area that surrounds the lease site. These programs include groundwater monitoring, soils monitoring, wetland monitoring, reclamation/restoration monitoring, and wildlife monitoring.

These tools and methods are implemented using accredited third-party consultants who are specialists in their respective fields. Field programs are carried out on an annual basis and reports are garnered that are provided to MEG indicating the associated outcomes. Overall, these monitoring programs show that our direct impacts are having minimal impacts on the biodiversity of the area.

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment

No and we don't plan to within the next two years

Value chain stage(s) covered

<Not Applicable>

Portfolio activity

<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity

<Not Applicable>

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

<Not Applicable>

C15.4

(C15.4) Does your organization have activities located in or near to biodiversity- sensitive areas in the reporting year?

Yes

C15.4a

(C15.4a) Provide details of your organization’s activities in the reporting year located in or near to biodiversity -sensitive areas.

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify (MEG’s operations exist within the East Side Athabasca caribou range. Caribou are listed as a threatened species under the Species at Risk Act.)

Country/area

Canada

Name of the biodiversity-sensitive area

East Side Athabasca caribou range (ESAR)

Proximity

Overlap

Briefly describe your organization’s activities in the reporting year located in or near to the selected area

To strengthen our efforts in responsibly developing and protecting the land, MEG strives to bring all abandoned wells to reclamation status within 5 years and we are committed to investing at least \$300,000 in annual caribou habitat restoration efforts between 2021 and 2025.

MEG is a certified gold member of the Wildlife Habitat Council (WHC) since 2016. The WHC’s certification program is the only voluntary sustainability standard designed for broad-based biodiversity enhancement and conservation education activities on corporate landholdings. It provides 3rd party credibility & an objective evaluation. Gold membership recognizes meaningful wildlife habitat management and conservation that goes beyond basic regulatory requirements and demonstrate a long-term commitment to managing quality habitat for wildlife, conservation education and community outreach initiatives .MEG has an array of biodiversity programs that are certified through the WHC. The largest being the caribou restoration program which we undertake in support of the threatened species and earned an award from the WHC in 2020. We also run a bat enhancement program with bat boxes placed at our site, as well as a Canadian toad habitat in support of that species which may be at risk in Alberta.

Woodland caribou is a federally-listed Species at Risk in Canada. MEG has been committed to help recovery efforts to achieve self-sustaining populations of caribou in Alberta — specifically, the local Christina herd which inhabits the area around our operations. We have been implementing habitat management and restoration within and adjacent to our lease with the intent to increase the amount of effective caribou habitat. Since 2016, we have allocated \$2.6MM to caribou restoration and are committed to continuing an equivalent or greater annual investment toward this important work in support of the local Christina herd. We have taken voluntary measures to restore and reclaim areas adjacent to our operations in the Dillon River Wildland Park. Restoration in this area will assist in caribou recovery efforts being promoted by the Province of Alberta. To date, we have restored more than 8,600 hectares of high-quality caribou habitat within the (ESAR) caribou range. In 2021 and 2022, we surrendered over 12,000 hectares of oil sands leases within caribou ranges back to the Province of Alberta for consideration in ongoing caribou range planning initiatives.

Indicate whether any of your organization’s activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

- Project design
- Scheduling
- Physical controls
- Operational controls
- Restoration

Explain how your organization’s activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

MEG’s activities could negatively affect biodiversity by reducing the amount of habitat available. This is assessed through several means including environmental impact assessments, predisturbance assessments, and monitoring programs.

Several mitigation measures are employed to reduce these impacts including wildlife crossings over above ground pipelines, reclamation implementation to return disturbed areas to equivalent functional ecosystems, adherence to construction timing to avoid the migration and breeding seasons, and a caribou restoration program to enhance habitat and reduce predator-prey dynamics.

C15.5

(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water protection Land/water management Species management Education & awareness

C15.6

(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	Response indicators

C15.7

(C15.7) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Content of biodiversity-related policies or commitments Governance Impacts on biodiversity Details on biodiversity indicators Risks and opportunities	Located within the land and biodiversity section of the reports. Our 2023 report will be available on our website once published. https://www.megenergy.com/sustainability/esg-disclosures/ MEG-Energy-ESG-Report-2021.pdf MEG-2022-ESG-Performance-Data-Supplement-Including-SASB-Index-FINAL.pdf

C16. Signoff

C-FI

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

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Chief Executive Officer (CEO)	Chief Executive Officer (CEO)

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms