

W0. Introduction

W0.1

(W0.1) Give a general description of 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.

W-OG0.1a

(W-OG0.1a) Which business divisions in the oil & gas sector apply to your organization?

Upstream

W0.2

(W0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date
Reporting year	January 1 2022	December 31 2022

W0.3

(W0.3) Select the countries/areas in which you operate.

Canada

W0.4

(W0.4) Select the currency used for all financial information disclosed throughout your response.

CAD

W0.5

(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.

Companies, entities or groups over which operational control is exercised

W0.6

(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?

No

W0.7

(W0.7) 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

W1. Current state

W1.1

(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Important	Important	The availability of non-saline (fresh) water could impact MEG's operating results and domestic water supply. The primary use of non-saline water in direct operations is for steam production. More than 95% of the water used for steam generation is treated and recycled produced water (that was previously injected into the reservoir as steam to heat bitumen) while the remaining 5% is make-up water. Produced water is composed of injected steam and water from the reservoir. Make-up water sources include saline and non-saline deep groundwater from hydrocarbon-bearing-formations unsuitable for human or agriculture use. Under the Alberta Water (Ministerial) Regulation, saline (brackish) groundwater is water that has total dissolved solids (TDS) > 4000 mg/L. Non-saline (freshwater) has TDS < 4000 mg/L. Secondary uses of non-saline water include 1) the withdrawal of shallow non-saline groundwater for domestic water supply (drinking/hygiene services to operations) and 2) the withdrawal of surface non-saline water for industrial purposes such as constructing ice roads, dust suppression and exploration drilling activities. The direct use importance rating selected is "important" because MEG's operations only require a small proportion of non-saline water and MEG operates in an area with adequate water supply. Also, facility changes could be made to reduce the need for non-saline water if required. MEG does not currently operate in water stressed areas (WRI Aqueduct tool). Future dependency is anticipated to decrease as reservoir technology development and optimization projects reduce water use intensities. The primary indirect use in the supply chain of good quality non-saline is for refining purposes. Sufficient amounts of water available for use is considered important to MEG's supply chain. Potential water quality or quantity issues could impact refining capacity of refineries purchasing MEG products. The indirect future dependency is anticipated to remain then same..
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Important	The availability of saline (brackish) and produced water could impact MEG's operating results. The primary use of saline water is steam production. More than 95% of t water used for steam generation is treated, recycled produced water (previously injected into the reservoir as steam to heat bitumen). The remaining 5% is make-up water. Produced water is composed of injected steam and water from the reservoir. Produced water is essentially a by-product of MEG's process. Make-up water sources include saline and non-saline deep groundwater from hydrocarbon-bearing-formations that are unsuitable for human or agriculture use. Under the Alberta Water (Ministerial) Regulation, saline groundwater is water that has total dissolved solids (TDS) > 4000 mg/L. Non-saline (freshwater) has TDS < 4000 mg/L. MEG does not use any water from streams, rivers or lakes in its thermal operations. The importance rating for produced and non-saline water is considered "important" because an insufficient supply of produced water would impact MEG's ability to generate steam and produce bitumen however other water sources could be accessed. The future dependency is anticipated to decrease as reservoir technology development optimization projects reduce water use intensities. Additionally, MEG currently operates in the Athabasca River Basin (Mackenzie River Basin sub-basin) where the overall water risk is Low to Medium Risk (1-2) as classified by the WRI Aqueduct tool. Therefore, MEG does not currently operate in water stressed areas. In terms of indirect use, sufficient amounts of these water sources available for use is considered important to MEG's supply chain. The primary indirect use in the supply chain of brackish and/or produced water is for refining purposes. Potential water quality or quantity issues could impact refining capacity of refineries purchasing MEG products. The indirect future dependency of these water sources is anticipated to remain then same.

W1.2

(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water withdrawals – total volumes	100%	Other, please specify (Measurement and reporting are conducted on various frequencies including continuous, daily, monthly, or annually depending on the source or activity.)	Measurement methods include metering as per AER Directives 17, 42.	Water withdrawal volumes are measured at 100% of our operations (single facility, CLRP), no sites are excluded. Water use is an indicator of efficiency and MEG is required to measure the volume of all water withdrawals as regulated by the Alberta Energy Regulator (AER) and Alberta Environment & Protected Areas (AEPA). Various approvals under the Environmental Protection and Enhancement Act (EPEA), AER Directives, and Water Act Licenses outline monitoring, measuring and reporting requirements including withdrawal volumes, technical standards and frequencies. Measurement methods include metering as per AER Directives 17, 42. Measurement and reporting are conducted on various frequencies including continuous, daily, monthly, or annually depending on the source or activity. Water Act licenses include requirements for production rate, volume, water level and reporting. Surface water diversion is measured by the pump rate and truck capacity. Groundwater monitoring programs monitor usage.
Water withdrawals – volumes by source	100%	Other, please specify (Measurement and reporting are conducted on various frequencies including continuous, daily, monthly, or annually depending on the source or activity.)	Measurement methods include metering as per AER Directives 17, 42.	Water withdrawal volumes are measured at 100% of our operations (single facility, CLRP) at each source. No sites, facilities or water sources are excluded. Water use is an indicator of efficiency and MEG is required to measure the volume of all water withdrawals as regulated by the Alberta Energy Regulator (AER) and Alberta Environment & Protected Areas (AEPA). Various approvals under the EPEA, AER Directives, and Water Act Licenses outline monitoring, measuring and reporting requirements including withdrawal volumes, technical standards and frequencies. Measurement methods include metering as per AER Directives 17, 42. Measurement and reporting are conducted on various frequencies including continuous, daily, monthly, or annually depending on the source or activity. Water Act licenses include requirements for production rate, volume, water level and reporting. Surface water diversion is measured by the pump rate and truck capacity. Groundwater monitoring programs monitor usage.
Entrained water associated with your metals & mining and/or coal sector activities - total volumes [only metals and mining and coal sectors]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	100%	Daily	Measurement methods include metering as per AER Directives 17, 42.	Produced volumes are measured at 100% of our operations, (single facility, CLRP). Produced water (withdrawal and injection) is regulated by the AER and AEP. Various approvals under the EPEA, AER Directives, and Water Act Licenses outline monitoring, measuring and reporting requirements including withdrawal volumes, technical standards and frequencies. Measurement methods include metering as per AER Directives 17 and 42. Water Act licenses include requirements for production rate, volume, water level and quality and reporting. Produced water from emulsion production is separated. Produced water heading to the facility is continuously metered using magnetic and ultrasonic flow meters. Readings are monitored daily. Meters are calibrated on an annual basis. Regular water quality monitoring is also conducted at the CLRP facility for various parameters (hardness, pH, turbidity etc.) to ensure water meets criteria for steam generation.
Water withdrawals quality	100%	Other, please specify (Measurement and reporting are conducted on various frequencies including continuous, daily, monthly, or annually depending on the source or activity.)	Surface water diversion is measured by the pump rate and truck capacity. Groundwater monitoring programs monitor usage and quality. Water quality monitoring is conducted at CLRP for parameters (hardness, pH, chloride). Water in the potable treatment plant is analyzed daily for parameters such as iron, chlorine, pH, and turbidity.	Water withdrawal quality is measured at 100% of our operations (single facility, CLRP). No sites, facilities or water sources are excluded. Water use is an indicator of efficiency and water withdrawal quality is regulated by the AER and AEP. Various approvals under EPEA, AER Directives, and Water Act Licenses outline monitoring, measuring and reporting requirements including technical standards and frequencies. Measurement and reporting are conducted on various frequencies including continuous, daily, monthly, or annually depending on the source or activity. Water Act licenses include requirements for production rate, water level and quality and reporting. Surface water diversion is measured by the pump rate and truck capacity. Groundwater monitoring programs monitor usage and quality. Water quality monitoring is conducted at CLRP for parameters (hardness, pH, chloride). Water in the potable treatment plant is analyzed daily for parameters such as iron, chlorine, pH, and turbidity.
Water discharges – total volumes	100%	Continuously	Facility disposal water is collected in a series of collection tanks, and all have continuous outlet measurement. Readings from these devices are monitored. Wastewater from the facility is directed to a series of disposal wells which are instrumented with a flow meter, pressure gauge and temperature gauge and are monitored continuously. Wastewater influent (includes all grey water and sewage) is collected into holding tanks and then hauled to the Wastewater Treatment Plant (WWTP) for processing	Water discharge volumes are measured at 100% of our operations (single facility, CLRP). No sites, facilities or water sources are excluded. Water use is an important indicator of efficiency and water discharge is regulated by the AER and AEP. EPEA approvals, AER Directives, and Water Act Licenses outline monitoring, measuring and reporting requirements including technical standards and frequencies. Facility disposal water is collected in a series of collection tanks, and all have continuous outlet measurement. Readings from these devices are monitored. Wastewater from the facility is directed to a series of disposal wells which are instrumented with a flow meter, pressure gauge and temperature gauge and are monitored continuously. Wastewater influent (includes all grey water and sewage) is collected into holding tanks and then hauled to the Wastewater Treatment Plant (WWTP) for processing. This wastewater is treated and released to an effluent field, which is metered leaving the WWTP.
Water discharges – volumes by destination	100%	Continuously	Facility disposal water is collected in a series of collection tanks, and all have continuous outlet measurement. Readings from these devices are monitored. Wastewater from the facility is directed to a series of disposal wells which are instrumented with a flow meter, pressure gauge and temperature gauge and are monitored continuously. Wastewater influent (includes all grey water and sewage) is collected into holding tanks and then hauled to the Wastewater Treatment Plant (WWTP) for processing.	Water discharge volumes are measured at 100% of our operations (single facility, CLRP). No sites, facilities or water sources are excluded. Water use is an important indicator of efficiency and water discharge is regulated by the AER and AEP. EPEA approvals, AER Directives, and Water Act Licenses outline monitoring, measuring and reporting requirements including technical standards and frequencies. Facility disposal water is collected in a series of collection tanks, and all have continuous outlet measurement. Readings from these devices are monitored. Wastewater from the facility is directed to a series of disposal wells which are instrumented with a flow meter, pressure gauge and temperature gauge and are monitored continuously. Wastewater influent (includes all grey water and sewage) is collected into holding tanks and then hauled to the Wastewater Treatment Plant (WWTP) for processing. This wastewater is treated and released to an effluent field, which is metered leaving the WWTP.
Water discharges – volumes by treatment method	100%	Daily	The volume of total treated effluent released is metered leaving the WWTP.	Water discharge volumes by treatment method are monitored at 100% of our operations, which comprises of our single facility, CLRP. No sites, facilities or water sources are excluded. Domestic wastewater is regulated under an AEP EPEA Approval. Domestic wastewater is treated with coarse screening, primary clarification/sedimentation and sludge removal, aeration and microfiltration. After treatment, wastewater is released to an effluent field. The volume of total treated effluent released is metered leaving the WWTP. Both effluent and influent is recorded daily. Water treatment is also part of the oil processing facility. Regular water quality monitoring is also conducted at the CLRP facility for parameters such as hardness, pH, turbidity and others to ensure water meets criteria for steam generation.
Water discharge quality – by standard effluent parameters	100%	Daily	Water discharge quality is monitored at 100% of our operations, which comprises of our single facility, CLRP. No sites, facilities or water sources are excluded. Domestic wastewater is regulated under an AEP EPEA Approval. Domestic wastewater is treated with coarse screening, primary clarification/sedimentation and sludge removal, aeration & microfiltration. After treatment, wastewater is released to an effluent field. The volume of total treated effluent released is metered leaving the WWTP.	Water discharge quality is monitored at 100% of our operations, which comprises of our single facility, CLRP. No sites, facilities or water sources are excluded. Domestic wastewater is regulated under an AEP EPEA Approval. Domestic wastewater is treated with coarse screening, primary clarification/sedimentation and sludge removal, aeration and microfiltration. After treatment, wastewater is released to an effluent field. The volume of total treated effluent released is metered leaving the WWTP. Both effluent and influent is recorded daily. Water treatment is also part of the oil processing facility. Regular water quality monitoring is also conducted at the CLRP facility for parameters such as hardness, pH, turbidity and others to ensure water meets criteria for steam generation.
Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)	100%	Daily	Water discharge quality is monitored at 100% of our operations, which comprises of our single facility, CLRP. Any water discharged, such as industrial runoff is subject to specific regulatory approval requirements indicating the various methods that will apply. For instance, discharge volume, pH, and chloride levels and no visual presence of oil or grease.	Water discharge quality (including emissions to water) is monitored at 100% of our operations, which comprises of our single facility, CLRP. No sites, facilities or water sources are excluded. Domestic wastewater is regulated under an AEP EPEA Approval. Domestic wastewater is treated with coarse screening, primary clarification/sedimentation and sludge removal, aeration and microfiltration. After treatment, wastewater is released to an effluent field. The volume of total treated effluent released is metered leaving the WWTP. Both effluent and influent is recorded daily. Water treatment is also part of the oil processing facility. Surface water discharge is also tested to meet AER Directive 055 requirements (Cl-, pH, no visible sheen) prior to release and limits any discharge from being released directly into a waterbody or watercourse
Water discharge quality – temperature	100%	Other, please specify (MEG continually monitors the temperature of water disposed into disposal wells as per AER Directive 051. Any industrial runoff (rainwater that lands on the plant-developed area and snowmelt) is released at ambient temperature.)	Direct monitoring and estimation of ambient temperature for industrial runoff	Water discharge quality - temperature is monitored at 100% of our operations, which comprises of our single facility, CLRP. No sites, facilities or water sources are excluded. MEG continually monitors the temperature of water disposed into disposal wells as per AER Directive 051: Injection and Disposal Wells and reports the results to the AER annually as per Directive 054: Performance Presentations, Auditing and Surveillance of In Situ Oil Sands Schemes. In addition to temperature

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water consumption – total volume	100%	Continuously	Measurement methods include metering as per AER Directives 17, 42. Surface water diversion is measured by the pump rate and truck capacity.	Water consumption volumes are measured at 100% of operations (single facility, CLRP). No sites, facilities or water sources are excluded. Water use is an indicator of efficiency and consumption is regulated by the AER and AEP. Various approvals under the EPEA, AER Directives, and Water Act Licenses outline monitoring, measuring and reporting requirements including withdrawal volumes, technical standards and frequencies. Measurement methods include metering as per AER Directives 17, 42. Reporting is conducted on various frequencies including continuous, daily, monthly, or annually depending on the source or activity. Water Act licenses include requirements for production rate, volume, water level and reporting. Surface water diversion is measured by the pump rate and truck capacity. Groundwater monitoring programs monitor usage. Water quality monitoring is conducted at CLRP for parameters (hardness, pH, chloride).
Water recycled/reused	100%	Continuously	Produced water is continuously metered using flow meters which are monitored daily.	Water recycling is measured at 100% of operations (single facility, CLRP). No sites, facilities or water sources are excluded. Water use is an indicator of efficiency. The AER Directive 081 outlines water management requirements for thermal in situ oil sands and sets disposal limits, requiring recycling of produced water, ensuring effective use of make-up water. Produced water is continuously metered using flow meters which are monitored daily. Water quality monitoring is conducted for hardness.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Continuously	Source water for domestic use is pulled from a high quality groundwater source under an AER issued Water Act Licence that determines measurement requirements.	Water for WASH services is monitored at 100% of our operations, which comprises of our single facility, CLRP. No sites, facilities or water sources are excluded. Source water for domestic use is pulled from a high quality groundwater source under an AER issued Water Act Licence. This water is treated by an onsite potable water plant to meet Canadian Drinking Water Quality guidelines daily. Sanitation facilities are available in all permanent buildings as well as provided as portable wash car units at active project construction areas around the facility. Potable water is piped to the Control, Administration and Maintenance building on site and is trucked to other facilities such as camps. Water in the potable water treatment plant is analyzed daily for parameters in identified regulatory approvals/licenses which include manganese, iron, chlorine, pH, turbidity and temperature.

W1.2b

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, how do they compare to the previous reporting year, and how are they forecasted to change?

	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Please explain
Total withdrawals	15652	About the same	Other, please specify (similar production and activity levels in 2021 and 2022)	About the same	Investment in water-smart technology/process	Total water withdrawal in 2022 was about the same as 2021 due to similar activity levels. Overall recycling rates remained high in 2022 at a rate of 97%. Surface water withdrawals were lower in 2022, by approximately 17% and withdrawals from groundwater were lower by 18% from the previous year. Withdrawals from produced water increased by 1% from 2021. MEG also adopted a zero-blowdown process, the saline water withdrawal increased in 2022, by approximately 22%. In the future volumes of total water withdrawal are anticipated to remain relatively steady or fluctuate in alignment with production, however, reservoir technology development along with optimization projects have reduced water use intensities. Our definition for change: About the same is within +/- 15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.
Total discharges	15382	About the same	Other, please specify (similar production and activity levels in 2021 and 2022)	About the same	Increase/decrease in efficiency	Total water discharge volume in 2022 was about the same as 2021. Fresh surface water discharges were lower by 8% and discharges to ground water were about the same. The volume of water discharge in the future is anticipated to remain relatively steady or fluctuate in alignment with production. In part, some increases will be minimized with the application of a blowdown disposal evaporator which will improve water recycle capabilities and reduce blowdown disposal. Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.
Total consumption	270	About the same	Other, please specify (similar production and activity levels in 2021 and 2022)	About the same	Investment in water-smart technology/process	The 2022 total water consumption was about the same as 2021, as our total withdrawal and total disposal volumes were about the same. 2022 total consumption was about 11% lower than 2021. In the future volumes of water consumption are anticipated to remain relatively steady or fluctuate in alignment with production. Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.

W-OG1.2c

(W-OG1.2c) In your oil & gas sector operations, what are the total volumes of water withdrawn, discharged, and consumed (by business division), how do they compare to the previous reporting year, and how are they forecasted to change?

	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Please explain
Total withdrawals - upstream	15652	About the same	Other, please specify (Total water withdrawal in 2022 was about the same as 2021 due to similar activity levels.)	About the same	Increase/decrease in efficiency	Upstream is the only business division applicable to MEG. Total water withdrawal in 2022 was about the same as 2021 due to similar activity levels. Overall recycling rates remained high in 2022 at a rate of 97%. Surface water withdrawals were lower in 2022, by approximately 17% and withdrawals from groundwater were lower by 18% from the previous year. Withdrawals from produced water increased by 1% from 2021. In the future volumes of total water withdrawal are anticipated to remain relatively steady or fluctuate in alignment with production, however, reservoir technology development along with optimization projects have reduced water use intensities. Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.
Total discharges – upstream	15382	About the same	Other, please specify (Total water discharges in 2022 was about the same as 2021 due to similar activity levels.)	About the same	Increase/decrease in efficiency	Upstream is the only business division applicable to MEG. Total water discharge volume in 2022 was about the same as 2021. Fresh surface water discharges were lower by 8% and discharges to ground water were about the same. The volume of water discharge in the future is anticipated to remain relatively steady or fluctuate in alignment with production. In part, some increases will be minimized with the application of a blowdown disposal evaporator which will improve water recycle capabilities and reduce blowdown disposal Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.
Total consumption – upstream	270	About the same	Other, please specify (Total water consumption in 2022 was about the same as 2021 due to similar activity levels.)	About the same	Increase/decrease in efficiency	Upstream is the only business division applicable to MEG. The 2022 total water consumption was about the same as 2021, as our total withdrawal and total disposal volumes were about the same. 2022 total consumption was about 11% lower than 2021. In the future volumes of water consumption are anticipated to remain relatively steady or fluctuate in alignment with production. Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.
Total withdrawals - midstream/downstream	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total discharges – midstream/downstream	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total consumption – midstream/downstream	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total withdrawals – chemicals	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total discharges – chemicals	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total consumption – chemicals	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total withdrawals – other business division	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total discharges – other business division	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total consumption – other business division	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress, provide the proportion, how it compares with the previous reporting year, and how it is forecasted to change.

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Identification tool	Please explain
Row 1	No	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	WRI Aqueduct	MEG currently operates in the Athabasca River Basin (Mackenzie River Basin sub-basin) where the water stress is identified as "arid and low water use" as classified by the WRI Aqueduct tool.

W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	81	About the same	Other, please specify (similar amount of activity)	The water source is relevant because MEG diverts surface water for industrial purposes such as constructing ice roads, dust suppression and drilling associated with exploration and development drilling programs. All water withdrawals are licensed under the Water Act which outlines requirements including source locations and maximum annual volumes. As a result of similar need for road dust suppression and similar drilling activity in 2022, withdrawal of this source was approximately the same as the previous year. MEG utilizes no surface water from streams, rivers or lakes for process purposes. Future annual use will continue to align with variations in seasonal precipitation, capital spend, drilling activity during the year. Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	MEG does not use brackish surface water/seawater, therefore this sources is not relevant
Groundwater – renewable	Relevant	540	Lower	Other, please specify (In 2022, MEG had an increase in produced water returns so we did not need as much makeup water, resulting in lower groundwater usage.)	In 2022, MEG had an increase in produced water returns so we did not need as much makeup water, resulting in lower groundwater usage. Groundwater levels in all of the source aquifers are predicted to return to near pre-pumping levels within 50 years of the cessation of withdrawals, categorizing the sources as renewable. MEG has been able to maintain high water recycle rates reducing the need for additional make-up water withdrawals. Future volumes are anticipated to increase as steam capacity and production increase however further reductions in intensities are anticipated through reservoir technology and optimization projects. Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	MEG does not use non-renewable groundwater, therefore this sources is not relevant.
Produced/Entrained water	Relevant	15030	About the same	Other, please specify	Produced water is composed mainly of injected steam and water from the reservoir that is produced back along with the bitumen. Produced water is de-oiled and recycled. More than 95% of water utilized is recycled on an ongoing basis for steam generation. Future volumes of produced water are anticipated to increase as steam chambers mature, eMSAGP is deployed at additional wells and new SAGD wells are brought into production. In 2022, produced water volumes were similar from the year prior primarily due to sustained bitumen production. Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.
Third party sources	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	MEG does not obtain water from a third party, therefore this source is not relevant.

W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water	Relevant	98	About the same	Other, please specify (similar production and activity levels in 2021 and 2022)	Wastewater is treated to meet the parameters of MEG's EPEA approval and is then released to an effluent field adjacent to the wastewater treatment plant. The volume of total treated effluent released is metered leaving the WWTP. Both effluent and influent is recorded daily. Future trends of WWTP discharge are anticipated to increase if capital spending increase results in additional camp use. In 2022, fresh water discharge was similar to the year prior associated with similar levels of drilling activity and camp loading Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	MEG does not use brackish surface water/seawater, therefore this source is not relevant.
Groundwater	Relevant	15284	About the same	Other, please specify (similar production and activity levels in 2021 and 2022)	Water discharge to this destination is relevant because MEG discharges process wastewater that can no longer be used for steam generation into disposal wells completed in the Fort McMurray water sand. Future volumes of water discharge may increase slightly due to more wells being brought online. MEG also discharges steam into the reservoir for oil production. In 2022, groundwater discharges about the same from the year prior reflecting equivalent steam generation from the facility to maintain production. Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.
Third-party destinations	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	MEG does not obtain water from a third party, therefore this source is not relevant.

W1.2j

(W1.2j) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

	Relevance of treatment level to discharge	Volume (megaliters/year)	Comparison of treated volume with previous reporting year	Primary reason for comparison with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Tertiary treatment	Relevant	13126	About the same	Other, please specify (similar production and activity levels in 2021 and 2022)	81-90	<p>All water used for steam injection goes through tertiary water treatment in order to meet boiler feed water (BFW) quality specifications which are: TDS less than 8,000 mg/L; hardness (expressed as calcium carbonate, CaCO3) less than 0.5 mg/L; and dissolved silica of less than 90 mg/L. In addition, Total Organic Carbon (TOC) and alkalinity must be controlled to prevent fouling of the steam generators and excessive CO2 in the steam pipeline. There are no regulatory or voluntary standards for these tertiary treatment activities and treatment is conducted to meet operational specifications of equipment. The tertiary treatment process includes hot lime softeners (HLSs) to remove silica and reduce hardness and ion exchangers are used for final hardness removal. Additional filters located immediately downstream of the HLSs remove any lime carryover from the clarifier.</p> <p>In 2021, additional tertiary treatment, a mechanical vapour compression (MVC) unit was commissioned to treat water for feed to two drum boilers. The MVC uses blowdown waste from the once through steam generators and distills the fluid to remove impurities (TDS) to a level of 50 mg/L for the purpose of steam generation. The use of blowdown reduces the need for additional water withdrawals and decreases the volume of water directed to disposal. Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.</p>
Secondary treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	MEG does not utilize secondary treatment methods for discharge treatment.
Primary treatment only	Relevant	2264	About the same	Other, please specify (similar production and activity levels in 2021 and 2022)	11-20	<p>The remainder of discharge volumes constitute underground disposal of process wastewater that can no longer be used for steam generation into approved disposal wells.</p> <p>In addition, primary treatment is applied to collected surface water from MEG developed sites following regulatory standards under MEG's EPEA Approval, the Water Act and AER Directive 55. All these discharge volumes pass through filtration to remove solids present.</p> <p>Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.</p>
Discharge to the natural environment without treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	MEG does not discharge water to the natural environment without treatment, therefore this category is not relevant.
Discharge to a third party without treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	MEG does not discharge water to a third party; therefore this category is not relevant.
Other	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	MEG does not utilize any other treatment methods for discharge treatment.

W1.2k

(W1.2k) Provide details of your organization's emissions of nitrates, phosphates, pesticides, and other priority substances to water in the reporting year.

	Emissions to water in the reporting year (metric tonnes)	Category(ies) of substances included	List the specific substances included	Please explain
Row 1	0	Nitrates Phosphates Pesticides	<Not Applicable>	MEG does not emit nitrates, phosphates, pesticides, or other priority substances to water.

W1.3

(W1.3) Provide a figure for your organization's total water withdrawal efficiency.

	Revenue	Total water withdrawal volume (megaliters)	Total water withdrawal efficiency	Anticipated forward trend
Row 1	611800000	15652	390876.56529517	The anticipated forward trend is that water withdrawal efficiency will either remain steady or increase slightly in alignment with anticipated production increases.

W-OG1.3

(W-OG1.3) Do you calculate water intensity for your activities associated with the oil & gas sector?

Yes

W-OG1.3a

(W-OG1.3a) Provide water intensity information associated with your activities in the oil & gas sector.

Business division

Upstream

Water intensity value (m3/denominator)

0.09

Numerator: water aspect

Other, please specify (Total Make-up Water Intensity)

Denominator

Other, please specify (m3 of bitumen)

Comparison with previous reporting year

Lower

Please explain

MEG is focused on efficient bitumen production which includes the efficient use of water. The primary use of water in MEG's operations is steam generation. Water used for steam generation consists of produced water (more than 95%) and make-up water (5%) which includes saline and non-saline deep groundwater from hydrocarbon-bearing-formations that are unsuitable for human or agriculture use. MEG calculates and tracks the total make-up water intensity and non-saline water intensity to monitor water make-up water use. The intensity metric is used internally to measure water performance trends and drive further reductions. A key measure of efficiency for thermal in-situ projects is the steam-oil ratio (SOR), with a lower SOR indicating that steam is more efficiently utilized. By decreasing the amount of steam used, MEG is able to reduce per barrel water usage, including the amount of make-up water required. MEG's strategy to reduce SOR and water intensities involves reservoir technology development such as eMSAGP, optimization of recycling technology and optimization projects such as plant modifications. In 2022, the make-up water intensity decreased by approximately 20% from the year prior. The decrease was a result of lower make-up water demand associated with excess produced water returns and low SOR. MEG continued the deployment of eMSAGP technology at the CLRP Phase 2B wells in 2022. The future trends are anticipated to decrease as a result of the technology development strategy and optimization projects. Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.

Business division

Upstream

Water intensity value (m3/denominator)

0.08

Numerator: water aspect

Other, please specify (Non-Saline Make-up Water Intensity)

Denominator

Other, please specify (m3 of bitumen)

Comparison with previous reporting year

About the same

Please explain

MEG is focused on efficient bitumen production which includes the efficient use of water. The primary use of water in MEG's operations is steam generation. Water used for steam generation consists of produced water (more than 95%) and make-up water (10%) which includes saline and non-saline deep groundwater from hydrocarbon-bearing-formations that are unsuitable for human or agriculture use. MEG calculates and tracks the total make-up water intensity and non-saline water intensity to monitor water make-up water use. The intensity metric is used internally to measure water performance trends and drive further reductions. A key measure of efficiency for thermal in-situ projects is the steam-oil ratio (SOR), with a lower SOR indicating that steam is more efficiently utilized. By decreasing the amount of steam used, MEG is able to reduce per barrel water usage, including the amount of make-up water required. MEG's strategy to reduce SOR and water intensities involves reservoir technology development such as eMSAGP, optimization of recycling technology and optimization projects such as plant modifications. In 2022, the non-saline water intensity remained at the lowest level in operational history as a result of these strategies. MEG continued the deployment of eMSAGP technology at the CLRP Phase 2B wells in 2022. The future trends are anticipated to be maintained at this low rate as a result of the technology development strategy and optimization projects. Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.

W1.4

(W1.4) Do any of your products contain substances classified as hazardous by a regulatory authority?

	Products contain hazardous substances	Comment
Row 1	Yes	<Not Applicable>

W1.4a

(W1.4a) What percentage of your company's revenue is associated with products containing substances classified as hazardous by a regulatory authority?

Regulatory classification of hazardous substances	% of revenue associated with products containing substances in this list	Please explain
Other, please specify (Canadian Environmental Protection Act)	More than 80%	MEG operates under Canadian jurisdiction where management of substances is regulated under the Canadian Environmental Protection Act (CEPA) which defines substances as "toxic" if they enter or may enter the environment in a quantity or concentration under conditions that: 1. have or may have an immediate or long-term harmful effect on the environment or its biological diversity; 2 constitute or may constitute a danger to the environment on which life depends; or 3 constitute or may constitute a danger in Canada to human life or health. Within the Environmental Emergencies Regulations issued under CEPA, MEG has registered the product (petroleum crude oil) for its characteristics as being potentially hazardous.

W1.5

(W1.5) Do you engage with your value chain on water-related issues?

	Engagement	Primary reason for no engagement	Please explain
Suppliers	Yes	<Not Applicable>	<Not Applicable>
Other value chain partners (e.g., customers)	No	Important but not an immediate business priority	MEG does not assess value chain partner water use at this time and has no plans to do so in the next two years.

W1.5a

(W1.5a) Do you assess your suppliers according to their impact on water security?

Row 1

Assessment of supplier impact

No, we do not assess the impact of our suppliers and have no plans to do so within the next two years

Considered in assessment

<Not Applicable>

Number of suppliers identified as having a substantive impact

<Not Applicable>

% of total suppliers identified as having a substantive impact

<Not Applicable>

Please explain

MEG does not assess suppliers water use at this time and has no plans to do so in the next two years.

W1.5b

(W1.5b) Do your suppliers have to meet water-related requirements as part of your organization's purchasing process?

	Suppliers have to meet specific water-related requirements	Comment
Row 1	Yes, water-related requirements are included in our supplier contracts	<Not Applicable>

W1.5c

(W1.5c) Provide details of the water-related requirements that suppliers have to meet as part of your organization's purchasing process, and the compliance measures in place.

Water-related requirement

Complying with going beyond water-related regulatory requirements

% of suppliers with a substantive impact required to comply with this water-related requirement

<Not Applicable>

% of suppliers with a substantive impact in compliance with this water-related requirement

<Not Applicable>

Mechanisms for monitoring compliance with this water-related requirement

- Community-based monitoring
- Grievance mechanism/Whistleblowing hotline
- On-site third-party audit
- Supplier self-assessment

Response to supplier non-compliance with this water-related requirement

Retain and engage

Comment

We conduct annual contractor audits to confirm our contractor supervisors are aware of MEG policies, standards and practices. MEG contractors are expected to be aware of the regulatory requirements that overlap with their job scope and must demonstrate how they will adhere to these requirements by developing site-specific plans prior to commencing work.

Suppliers are incentivized to report through our supply contracts which request that they comply with MEG internal standards. Lack of adherence to these requirements can potentially result in dismissal from the MEG site. Regular field inspections are conducted on supplier and water sources to ensure procedures are followed and regulatory compliance. Constant QA/QC processes ensure discrepancies in water tracking data are addressed immediately. Persistent issues would result in dismissal from site.

W1.5d

(W1.5d) Provide details of any other water-related supplier engagement activity.

Type of engagement

Other

Details of engagement

Other, please specify (Onboarding & compliance. Requirement to adhere to our code of conduct regarding water stewardship and management)

% of suppliers by number

76-99

% of suppliers with a substantive impact

<Not Applicable>

Rationale for your engagement

The prevention of spills or reduction in their severity is a key environmental initiative at MEG. Prevention as well as prompt and appropriate spill response is critical to mitigating environmental impacts including impacts to any water bodies. Therefore, spill prevention, mitigation and reporting information are included as part of the mandatory site orientation that every vendor and contractor is required to take before working at CLRP. These requirements are applicable to 75-100% of suppliers by number and 76-100% of total procurement spend.

All vendors and contractors working at site, including suppliers providing water movement services receive mandatory MEG orientation which includes the importance of water as an asset to MEG. The orientation training outlines the risks associated with activities in proximity to water and best management practices to ensure water protection. Training additional to the orientation is mandatory for each individual providing water movement services. This training covers regulations under the Water Act and internal water diversion guidelines which provide direction for meeting water license requirements including procedures for withdrawing water, data tracking and record keeping. Suppliers are incentivized to report through our supply contracts which request that they comply with MEG internal standards. Lack of adherence to these requirements can potentially result in dismissal from the MEG site. Regular field inspections are conducted on supplier and water sources to ensure procedures are followed and regulatory compliance. Constant QA/QC processes ensure discrepancies in water tracking data are addressed immediately. Persistent issues would result in dismissal from site.

We evaluate, audit and manage contractors against our Contractor Health and Safety Management Standard through the ISNetwork (ISN) platform. We assess contractor practices and performance in a timely manner to ensure base compliance with MEG's HSE requirements. This assessment extends to SCM evaluations relating to pre-qualification criteria and contractual commitments. We conduct annual contractor audits to confirm our contractor supervisors are aware of MEG policies, standards and practices. MEG contractors are expected to be aware of the regulatory requirements that overlap with their job scope and must demonstrate how they will adhere to these requirements by developing site-specific plans prior to commencing work.

Impact of the engagement and measures of success

MEG tracks hydrocarbon and non-hydrocarbon spills across its operations, identifies trends so the causes are understood, and appropriate preventative measures are implemented. MEG has created a culture of transparency where vendors and contractors working at site are encouraged to bring any issues forward to MEG through its hazard identification card program. Engagement with suppliers through spill orientation and training as well as transparent communication positively impacts our efforts to prevent any impacts to water bodies. MEG measures the success of engagement by conducting audits and inspections which include worker interviews to ensure awareness of their company policies and procedures around spill prevention and reporting and how they meet or exceed those of MEG. General vendor and contractor environmental compliance is reviewed during regularly occurring Business Review Meetings. If a vendor were to have any leading indicator items (i.e., observation card findings etc.) or compliance or performance issues they would be brought up and addressed along with company-wide Health, Safety & Environment, (HSE) performance. MEG aims to ensure each vendor meets or exceeds its own HSE expectations. Any identified issues are communicated to that company's management team. Success is also measured when no spills occur, including any spills impacting water bodies.

Comment

W2. Business impacts

W2.1

(W2.1) Has your organization experienced any detrimental water-related impacts?

No

W2.2

(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

	Water-related regulatory violations	Fines, enforcement orders, and/or other penalties	Comment
Row 1	No	<Not Applicable>	

W3. Procedures

W3.1

(W3.1) Does your organization identify and classify potential water pollutants associated with its activities that could have a detrimental impact on water ecosystems or human health?

	Identification and classification of potential water pollutants	How potential water pollutants are identified and classified	Please explain
Row 1	Yes, we identify and classify our potential water pollutants	<p>MEG's HSE Management Performance Program (MPP) provides frameworks for assessing and managing risks, including potential water pollutants and includes standards such as the Chemical Handling and Storage Standard and Workplace Hazardous Materials Information System (WHMIS) and Transportation of Dangerous Goods (TDG) Standards.</p> <p>Hazard and risk assessments are conducted and documented for all work projects undertaken by value chain partners conducting work on behalf of MEG. The Chemical Handling and Storage Standard and WHMIS and TDG Standard ensure potential water pollutants associated with its activities are identified and labelled as well as chemicals on site in accordance with TDG & WHMIS. They include evaluation criteria such as material and chemical composition as well as processes to identify pollutants that can potentially enter water in case of a spill or accident. These potential hazards are eliminated or controlled as applicable.</p> <p>All policies, process and standards discussed above identify potential water pollutants throughout the value chain of the project, from construction, to drilling activities, to operations through to decommissioning and reclamation and are applicable to all of MEGs operations.</p>	<Not Applicable>

W3.1a

(W3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your activities.

Water pollutant category

Other, please specify (Hydrocarbons)

Description of water pollutant and potential impacts

Sources of hydrocarbons at in situ facilities include bitumen (produced by MEG), natural gas condensate and refined naphtha often used a diluent to transport bitumen and others such as oil, fuels, gasoline, natural gas, diesel etc. used throughout operations. A hydrocarbon itself or pollutants from hydrocarbons could degrade water and sediment quality and elevate concentrations of a specific constituent of the hydrocarbon. Impacts would depend on the nature, duration and volume of the release. A potential impact of this water pollutant is the prevention of oxygen exchange between the environment from a hydrocarbon film on the water, causing damage to aquatic life. There is also the potential for hydrocarbon released to the environment and water to have significant impacts to waterfowl that frequent the surrounding ecosystems.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Other, please specify (Compliance with effluent quality standards. Measures to prevent spillage, leaching and leakages. Community/stakeholder engagement. Emergency preparedness.)

Please explain

MEG is not permitted to release anything but industrial runoff into the environment as per regulatory requirements which also require testing of industrial runoff prior to release to ensure effluent quality standards are met. Prevention measures: MEG incorporates design features, as well as preventative maintenance to detect leakages, and pre-job inspections. All workers complete an orientation which highlights spill prevention, as well as prompt spill responses. MEG conducts inspections to ensure compliance with standards and procedures. Soil, Groundwater and Wetland Monitoring Programs in place assess water quality and quantity along with vegetation health. These programs are destined to detect potential impacts prior to leaching into water and to identify potential impacts through surface water transport or from aerial disposition. If there is suspected impact, remediation plans are implemented to minimize impacts. Emergency preparedness: MEG's emergency response plan has a section dedicated to spill response designed to prevent and mitigate pollutants reaching the water. MEG conducts spill training and ERP exercises with spill response equipment to evaluate effectiveness. Community/stakeholder: All contractors are required to meet HSE prequalification's and complete MEG Site Orientation. Both highlight the expected measures for the prevention of spills, as well as prompt and appropriate spill responses critical to mitigating impacts to surrounding environment.

Water pollutant category

Other, please specify (Chemicals)

Description of water pollutant and potential impacts

Any introduction of toxic or anthropogenic substances into the aquatic environment has the potential to result in changes to water quality. Chemicals that have the potential to be released to the environment include constituents regularly used and produced in the oil and gas industry, including various hydrocarbons such as oil, grease, fuels and coolants such as glycol and methanol. Other chemicals include natural gas condensate and refined naphtha often used as a diluent to transport bitumen. Potential impacts from chemicals could: degrade water and sediment quality and elevate concentrations of the specific chemical. Chemicals and heavy metals can be toxic to most vegetation and aquatic life in high concentrations. Aquatic life is most often impacted by reducing an organism's life span and ability to reproduce. Impacts would depend on the nature, duration and volume of the release.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
 Beyond compliance with regulatory requirements
 Industrial and chemical accidents prevention, preparedness, and response
 Requirement for suppliers to comply with regulatory requirements

Please explain

MEG is not permitted to release anything but industrial runoff into the environment as per regulatory requirements which also require testing of industrial runoff prior to release to ensure effluent quality standards are met. Prevention measures: MEG incorporates design feature, as well as preventative maintenance to detect leakages, and pre-job inspections. All workers complete an orientation which highlights spill prevention, as well as prompt spill responses. MEG conducts inspections to ensure compliance with standards and procedures. Soil, Groundwater and Wetland Monitoring Programs in place assess water quality and quantity along with vegetation health. These programs are destined to detect potential impacts prior to leaching into water and to identify potential impacts through surface water transport or from aerial disposition. If there is suspected impact, remediation plans are implemented to minimize impacts. Emergency preparedness: MEG's emergency response plan has a section dedicated to spill response designed to prevent and mitigate pollutants reaching the water. MEG conducts spill training and ERP exercises with spill response equipment to evaluate effectiveness. Community/stakeholder: All contractors are required to meet HSE prequalification's and complete MEG Site Orientation. Both highlight the expected measures for the prevention of spills, as well as prompt and appropriate spill responses critical to mitigating impacts to surrounding environment.

Water pollutant category

Other, please specify (Drilling Fluids)

Description of water pollutant and potential impacts

Any introduction of toxic or anthropogenic substances into the aquatic environment has the potential to result in changes to water quality. Potential impacts from drilling fluids could: degrade water and sediment quality and elevate concentrations of the specific constituents of the drilling fluid. Impacts would depend on the nature, duration and volume of the release. A release of drilling fluids to the environment could cause altered electrochemical makeup, changes in nutrient availability and localized impacts to aquatic life in a localized area (decreased diversity and abundance).

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Beyond compliance with regulatory requirements
Implementation of integrated solid waste management systems
Industrial and chemical accidents prevention, preparedness, and response
Requirement for suppliers to comply with regulatory requirements

Please explain

MEG is not permitted to release anything but industrial runoff into the environment as per regulatory requirements which also require testing of industrial runoff prior to release to ensure effluent quality standards are met. Prevention measures: MEG incorporates design feature, as well as preventative maintenance to detect leakages, and pre-job inspections. All workers complete an orientation which highlights spill prevention, as well as prompt spill responses. MEG conducts inspections to ensure compliance with standards and procedures. Soil, Groundwater and Wetland Monitoring Programs in place assess water quality and quantity along with vegetation health. These programs are destined to detect potential impacts prior to leaching into water and to identify potential impacts through surface water transport or from aerial disposition. If there is suspected impact, remediation plans are implemented to minimize impacts. Emergency preparedness: MEG's emergency response plan has a section dedicated to spill response designed to prevent and mitigate pollutants reaching the water. MEG conducts spill training and ERP exercises with spill response equipment to evaluate effectiveness. Community/stakeholder: All contractors are required to meet HSE prequalification's and complete MEG Site Orientation. Both highlight the expected measures for the prevention of spills, as well as prompt and appropriate spill responses critical to mitigating impacts to surrounding environment.

Water pollutant category

Other, please specify (Drill Cuttings)

Description of water pollutant and potential impacts

Any introduction of toxic or anthropogenic substances into the aquatic environment has the potential to result in changes to water quality. Potential impacts from cuttings could: degrade water and sediment quality and elevate concentrations of the specific constituents of the drill cuttings. Impacts would depend on the nature, duration and volume of the release. Drill cuttings are likely to contain hydrocarbons and elevated metals. A potential impact of this water pollutant is the prevention of oxygen exchange between the environment from a hydrocarbon film on the water, causing damage to aquatic life. There is also the potential for hydrocarbon released to the environment and water to have significant impacts to waterfowl that frequent the surrounding ecosystems.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Beyond compliance with regulatory requirements
Implementation of integrated solid waste management systems
Requirement for suppliers to comply with regulatory requirements

Please explain

MEG is not permitted to release anything but industrial runoff into the environment as per regulatory requirements which also require testing of industrial runoff prior to release to ensure effluent quality standards are met. Prevention measures: MEG incorporates design feature, as well as preventative maintenance to detect leakages, and pre-job inspections. All workers complete an orientation which highlights spill prevention, as well as prompt spill responses. MEG conducts inspections to ensure compliance with standards and procedures. Soil, Groundwater and Wetland Monitoring Programs in place assess water quality and quantity along with vegetation health. These programs are destined to detect potential impacts prior to leaching into water and to identify potential impacts through surface water transport or from aerial disposition. If there is suspected impact, remediation plans are implemented to minimize impacts. Emergency preparedness: MEG's emergency response plan has a section dedicated to spill response designed to prevent and mitigate pollutants reaching the water. MEG conducts spill training and ERP exercises with spill response equipment to evaluate effectiveness. Community/stakeholder: All contractors are required to meet HSE prequalification's and complete MEG Site Orientation. Both highlight the expected measures for the prevention of spills, as well as prompt and appropriate spill responses critical to mitigating impacts to surrounding environment.

Water pollutant category

Other, please specify (Produced Water)

Description of water pollutant and potential impacts

Any introduction of toxic or anthropogenic substances into the aquatic environment has the potential to result in changes to water quality. High temperature process water (such as produced water) has the potential to impact water quality. MEG's production often includes high chloride reservoir water from the use of produced water steam used to recover bitumen. This combined combination of hydrocarbon and chlorides could be detrimental to vegetation in and around waterbodies. Chloride is necessary for water habitats, yet high levels of chloride can have detrimental effects on an ecosystem. Chloride may impact freshwater organisms and plants by altering reproduction rates, increasing species mortality, and potentially changing the characteristics of the ecosystem in that area.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Beyond compliance with regulatory requirements
Industrial and chemical accidents prevention, preparedness, and response
Requirement for suppliers to comply with regulatory requirements
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements

Please explain

MEG is not permitted to release anything but industrial runoff into the environment as per regulatory requirements which also require testing of industrial runoff prior to release to ensure effluent quality standards are met. Prevention measures: MEG incorporates design feature, as well as preventative maintenance to detect leakages, and pre-job inspections. All workers complete an orientation which highlights spill prevention, as well as prompt spill responses. MEG conducts inspections to ensure

compliance with standards and procedures. Soil, Groundwater and Wetland Monitoring Programs in place assess water quality and quantity along with vegetation health. These programs are destined to detect potential impacts prior to leaching into water and to identify potential impacts through surface water transport or from aerial disposition. If there is suspected impact, remediation plans are implemented to minimize impacts. Emergency preparedness: MEG's emergency response plan has a section dedicated to spill response designed to prevent and mitigate pollutants reaching the water. MEG conducts spill training and ERP exercises with spill response equipment to evaluate effectiveness. Community/stakeholder: All contractors are required to meet HSE prequalification's and complete MEG Site Orientation. Both highlight the expected measures for the prevention of spills, as well as prompt and appropriate spill responses critical to mitigating impacts to surrounding environment.

W3.3

(W3.3) Does your organization undertake a water-related risk assessment?

Yes, water-related risks are assessed

W3.3a

(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

Value chain stage

Direct operations

Coverage

Full

Risk assessment procedure

Water risks are assessed as part of an established enterprise risk management framework

Frequency of assessment

More than once a year

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Enterprise risk management

Tools and methods used

Enterprise Risk Management

Contextual issues considered

Water availability at a basin/catchment level
Water quality at a basin/catchment level
Stakeholder conflicts concerning water resources at a basin/catchment level
Implications of water on your key commodities/raw materials
Water regulatory frameworks
Status of ecosystems and habitats
Access to fully-functioning, safely managed WASH services for all employees

Stakeholders considered

Customers
Employees
Investors
Local communities
NGOs
Regulators
Suppliers

Comment

Value chain stage

Direct operations

Coverage

Full

Risk assessment procedure

Water risks are assessed in an environmental risk assessment

Frequency of assessment

Every three years or more

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

International methodologies and standards

Tools and methods used

Environmental Impact Assessment

Contextual issues considered

Water availability at a basin/catchment level
Water quality at a basin/catchment level

Stakeholder conflicts concerning water resources at a basin/catchment level
Implications of water on your key commodities/raw materials
Water regulatory frameworks
Status of ecosystems and habitats
Access to fully-functioning, safely managed WASH services for all employees

Stakeholders considered

Customers
Employees
Investors
Local communities
NGOs
Regulators
Suppliers

Comment

Value chain stage

Supply chain

Coverage

Partial

Risk assessment procedure

Water risks are assessed as part of an established enterprise risk management framework

Frequency of assessment

More than once a year

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Enterprise risk management

Tools and methods used

Enterprise Risk Management

Contextual issues considered

Water availability at a basin/catchment level
Water quality at a basin/catchment level
Stakeholder conflicts concerning water resources at a basin/catchment level
Implications of water on your key commodities/raw materials
Water regulatory frameworks
Status of ecosystems and habitats
Access to fully-functioning, safely managed WASH services for all employees

Stakeholders considered

Customers
Employees
Investors
Local communities
NGOs
Regulators
Suppliers

Comment

W3.3b

(W3.3b) Describe your organization’s process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.

	Rationale for approach to risk assessment	Explanation of contextual issues considered	Explanation of stakeholders considered	Decision-making process for risk response
Row 1	EIA Application & Outcomes: Potential water-related risks associated with MEG’s direct operations are first identified and assessed through the implementation of an Environmental Impact Assessment (EIA) conducted for the full operation and throughout the value chain (full coverage) of the project, from construction, drilling, operations to decommissioning and reclamation. The EIA evaluates current conditions, water availability and quality, and identifies components of the operation that could affect groundwater quantity/ quality, surface water quality and aquatic ecosystems/ habitats. EIA outcomes are used to identify and implement design features, management practices, and mitigation and monitoring programs to ensure adequate management of potential contextual issues such as water availability and quality and minimize impact and likelihood of water-related risks. ERM Application & Outcomes: MEG uses a value-driven Enterprise Risk Management (ERM) philosophy to identify key strategic risks of MEG’s full direct operations. MEG’s entire leadership team is engaged in evaluation and ranking of risk areas across the organization. ERM is integrated into strategic and business planning, operating practices, marketing, compliance monitoring, operating performance, measurement and facility design and outcomes or the assessment drive decisions through these areas. For example, the assessment helped drive the introduction of technological strategies to enhance bitumen recovery.	MEG’s operations rely on water for the production of steam, for drilling activities, dust suppression and for potable water at camps. Both water availability and water quality can impact MEG’s ability to conduct the aforementioned activities potentially impacting MEG’s operating results and are therefore included in assessments. A number of contextual issues can in turn impact water availability and/or water quality and are also included in the assessment: MEG recognizes water is a shared resource and identifies stakeholders in terms of consultation and partnerships as part of the assessment to ensure water access and mitigate potential conflicts. Key commodities/raw natural materials (electricity, diluent) may have associated water risks and thus the potential impacts on water from commodities such as the transportation of purchased diluent using pipelines are considered. All water required for MEG’s operations is regulated by regional regulatory bodies (AER and AEPA) and therefore current and potential water regulatory frameworks can impact MEG operations and are included in the assessment. The status of ecosystems and habitats is relevant as impacts to either may lead to regulatory, reputational and operational consequences and thus are included in assessments. MEG provides WASH services at remote camps supporting its operations. Disruptions to camp operations could impact MEG’s operating results and thus this contextual issue is included in the assessment.	MEG holds itself accountable though open and transparent stakeholder engagement and considers a diverse set of stakeholders in assessments. Employees are the core of MEG’s operations and are considered in assessments to ensure a safe work environment is provided that protects people and property and the environment including water. Both employees and suppliers working on-site have the potential to impact water resources, for example in terms of spills to water sources, and are therefore included in assessments. Changes in consumer behavior may result in policies which reduce support for MEG’s sector and are therefore included. MEG is committed to responsible stewardship of investor capital and considers the preservation and enhancement of long-term value in its assessments. Regulators are included because all water required for MEG’s operations is regulated by regional regulatory bodies including the AER and AEPA. MEG’s operations fall within or are adjacent to Indigenous peoples’ traditional territories and have an impact on local and surrounding communities. Local communities are considered in assessments because it is critical to create and maintain relationships founded on respect and trust throughout project lifecycles in order for Indigenous peoples and MEG to find mutual benefit.	Water 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 risk and strategic impact as a risk, which, if it materialized, has 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 water related risks are classified moderate , meaning that the combination of one or more impacts could result in a value impact of up to 10%, unmitigated. Investment in mitigation activity is required to reduce risk to less than 5% potential value impact classified as negligible . iv) Scope: The mentioned definitions and thresholds apply regardless of where in the value chain the risk/event is located (operations and supply chain).

W4. Risks and opportunities

W4.1

(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes, both in direct operations and the rest of our value chain

W4.1a

(W4.1a) How does your organization define substantive financial or strategic impact on your business?

Water 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 or 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 free cash flow or higher cost of capital due to increased risk in the business, higher costs, or reduced revenues (among other factors). Financial and strategic risks with the ability to impact value by 5% or more are considered material. Water related risks are rated moderate, meaning that the combination of one or more impacts could result in a value impact of up to 10%, unmitigated. Investment in mitigation activity is required to reduce risk to less than 5% potential value impact. iv) Scope: The mentioned definitions and thresholds apply regardless of where in the value chain the risk/event is located (operations and supply chain).

W4.1b

(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	1	100	MEG currently operates one asset, the Christina Lake Regional Project (CLRP).

W4.1c

(W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive financial or strategic impact on your business, and what is the potential business impact associated with those facilities?

Country/Area & River basin

Canada	Mackenzie River
--------	-----------------

Number of facilities exposed to water risk

1

% company-wide facilities this represents

100%

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

100%

% company's total global revenue that could be affected

100%

Comment

MEG currently operates one asset, the Christina Lake Regional Project (CLRP)

W4.2

(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Area & River basin

Canada	Mackenzie River
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Type of risk & Primary risk driver

Acute physical	Other, please specify (Failure of water infrastructure)
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Primary potential impact

Reduction or disruption in production capacity

Company-specific description

The primary use of water in MEG's direct operations is for steam production which is injected to warm and soften bitumen so it can be pumped to the surface. More than 95% of the water used for steam generation is treated and recycled produced water (that was previously injected into the reservoir as steam to heat bitumen) while the remaining 5% is make-up water. Excess produced water and water not suitable for treatment or recycling is transported from MEG's CLRP central processing facility via two pipelines (the produced disposal line and brine disposal line) to disposal wells where the water is injected into the McMurray Formation, a deep saline reservoir that is isolated by caprock from other aquifers and aquatic ecosystems. Specifically for this risk, a failure of water infrastructure resulting in a disruption in the service of the brine disposal pipeline could impact direct operations at the central processing facility and result in a reduction in bitumen production volumes. The suspension of the brine disposal pipeline would require MEG to reduce bitumen production to a level where there is no excess produced water, allowing MEG's produced water line to be temporarily re-purposed to transport brine water to the disposal wells. A disruption could result from a pipeline rupture (due to corrosion) or failure of a critical component along the pipeline, (e.g., valve, flange), following which the pipeline would be temporarily suspended until the issue is resolved.

Timeframe

More than 6 years

Magnitude of potential impact

Low

Likelihood

Very unlikely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

20000000

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

The potential financial impact is the estimated loss of revenue from reduced bitumen production due to the suspension of the brine disposal pipeline for repair purposes. The financial impact was calculated as: reduction in bitumen production x duration of suspension x price per barrel, estimating suspension of the brine disposal pipeline would require a reduction in bitumen production by 10-15% of normal production volumes, a suspension duration of approximately 1 month, and 2022 average price per barrel of bitumen.

Primary response to risk

Other, please specify (Monitoring and maintenance programs and emergency response plan)

Description of response

MEG employs a number of risk mitigation measures with the primary objective of preventing disruption of the brine disposal pipeline operation, and the secondary objective of minimizing the impact should such a disruption occur. Primary preventative measures include: a robust pipeline integrity management program involving planned maintenance, inspections and integrity operating windows (based on criteria for appropriate water quality and operating conditions). Leak tests are scheduled and occur every 1-2 years. The secondary response measures include leak detection (both primary leak detection involving mass balance with flow meters and secondary leak detection involving groundwater monitoring along the pipeline right of way) and the flexibility to temporarily re-purpose the produced water disposal pipeline to transport brine water. MEG also has an emergency response plan in place designed to minimize the impact of a failure of the brine disposal pipeline.

Cost of response

250000

Explanation of cost of response

The annual cost of primary preventative and secondary response measures such as corrosion specialist, water monitoring and leak testing.

Country/Area & River basin

Canada	Mackenzie River
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Type of risk & Primary risk driver

Acute physical	Other, please specify (Failure of water infrastructure)
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Primary potential impact

Reduction or disruption in production capacity

Company-specific description

MEG's operations require water as an input for various processes and continuous access to water is critical to ensuring uninterrupted operations. While the vast majority of water used is recycled produced water (that was previously injected into the reservoir as steam to heat bitumen), certain central processing plant utilities require non-saline water sources from the Clearwater Formation (note, the water quality from this formation is not high enough to be considered for human consumption or agricultural purposes). This water is transported from the water source wells to MEG's central processing facility via non-saline water source pipelines. If operation of a non-saline water source pipeline is disrupted, MEG may need to reduce utility operations for several days to resolve the issue which could impact MEG's direct operations reducing bitumen production volumes. A disruption could result from a pipeline rupture (due to corrosion) or failure of a critical component along the pipeline, (e.g., valve, flange), following which the pipeline would be temporarily suspended until the issue is resolved.

Timeframe

More than 6 years

Magnitude of potential impact

Low

Likelihood

Very unlikely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

5000000

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

The potential financial impact is the estimated loss of revenue from reduced bitumen production due to the suspension of the non-saline water source pipeline for repair purposes. The financial impact was calculated as: reduction in bitumen production x duration of suspension x price per barrel, estimating suspension of the non-saline water source pipeline would require a reduction in bitumen production by 15-20% of normal production volumes, a suspension duration of approximately 5 days, and 2022 average price per barrel of bitumen.

Primary response to risk

Other, please specify (Monitoring and maintenance programs and emergency response plan)

Description of response

MEG employs a number of risk mitigation measures with the primary objective of preventing disruption of the non-saline water source pipeline operation, and the secondary objective of minimizing the impact should such a disruption occur. Primary preventative measures include: a robust pipeline integrity management program involving planned maintenance, inspections and integrity operating windows (based on criteria for appropriate water quality and operating conditions) The secondary response measures include daily mass balancing and redundant non-saline water pipeline capacity, which could be used to transfer non-saline water during the primary pipeline's outage depending on the location of the rupture or component failure. MEG also has an emergency response plan in place designed to minimize the impact of a failure of the non-saline water source pipeline.

Cost of response

250000

Explanation of cost of response

The annual cost of primary preventative and secondary response measures such as corrosion specialist, water monitoring and inspections.

(W4.2a) Provide details of risks identified within your value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Area & River basin

Canada	Other, please specify (Various – Nelson River, Mississippi River)
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Stage of value chain

Supply chain

Type of risk & Primary risk driver

Acute physical	Pollution incident
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Primary potential impact

Other, please specify (Clean-up and environmental remediation costs)

Company-specific description

MEG's diluted bitumen product is shipped across North America for sale using pipelines and, at times, held in storage at one of several locations prior to sale. Purchased diluent is similarly transported across North America to MEG's production site at CLRP using pipelines. A spill of these transported products, if it were to occur into a body of water, could present significant environmental risk. To date no such event has occurred. Contamination of a waterway in the transportation system could have a substantive financial impact on MEG. Potential impacts include liability for clean-up costs and environmental remediation or damages to third parties, realization of a discounted selling price or higher transportation costs for MEG's product going forward, and there is the potential for adverse reputational impacts, including impacts on future development of pipeline systems and limitations on market access.

Timeframe

More than 6 years

Magnitude of potential impact

Medium-low

Likelihood

Exceptionally unlikely

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)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

Share of estimated costs for clean-up, environmental remediation and/or third party damages for which MEG is potentially liable.

Primary response to risk

Upstream	Other, please specify (Prudent operations and liability and business interruption risk insurance.)
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Description of response

MEG mitigates this exposure by contracting for transportation and storage with reputable and experienced operators with excellent safety records. In some circumstances, the transportation or storage contracts assign liability to the operator. In addition, MEG purchases insurance to protect potential liability for clean-up and environmental remediation costs or damages to third parties. Reputable and experienced operators have excellent safety records and robust integrity/safety management systems (e.g. inspections, maintenance, operating processes) and emergency response protocols.

Cost of response

Explanation of cost of response

The costs of integrity/safety management and emergency response systems are incurred by the operators and are embedded in the transportation and storage costs MEG pays pursuant to various agreements. MEG's insurance premiums to protect against liability risks exceed \$1 million per year.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes, we have identified opportunities, and some/all are being realized

W4.3a

(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.

Type of opportunity

Efficiency

Primary water-related opportunity

Improved water efficiency in operations

Company-specific description & strategy to realize opportunity

MEG continually assesses opportunities to conserve water resources and improve water use efficiency. In 2021 MEG commissioned a Mechanical Vapor Compressor (MVC) unit which takes the waste stream from its steam generators, concentrates the impurities five-fold and produces a high quality water stream that can be used as boiler feedwater for the generation of steam. This is a strategic opportunity as it results in less water disposal, more effective use of circulating water within its process and contributes to a further reduction of make-up water requirements. The strategy can be seen in action via the disposal water stream which has decreased from 6500 m3/day to 1100 m3/day and an increase in bitumen production of about 13,000 bpd with the addition of the MVC and associated steam generators. The unit operated through 2022 reducing disposal by nearly 1.9MM m3 of water.

Estimated timeframe for realization

Current - up to 1 year

Magnitude of potential financial impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

284000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact

The financial impact figure is an estimated increase in revenue from the additional production. The figure was calculated by multiplying the increase in production (16,000 pbd) by the price per oil (\$60/bbl netback).

W5. Facility-level water accounting

W5.1

(W5.1) For each facility referenced in W4.1c, provide coordinates, water accounting data, and a comparison with the previous reporting year.

Facility reference number

Facility 1

Facility name (optional)

Christina Lake Regional Project

Country/Area & River basin

Canada	Mackenzie River
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Latitude

55.666

Longitude

-110.714

Located in area with water stress

No

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

Upstream

Total water withdrawals at this facility (megaliters/year)

15652

Comparison of total withdrawals with previous reporting year

About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

81

Withdrawals from brackish surface water/seawater

Withdrawals from groundwater - renewable

540

Withdrawals from groundwater - non-renewable

Withdrawals from produced/entrained water

15030

Withdrawals from third party sources

Total water discharges at this facility (megaliters/year)

15382

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

98

Discharges to brackish surface water/seawater

Discharges to groundwater

15284

Discharges to third party destinations

Total water consumption at this facility (megaliters/year)

267

Comparison of total consumption with previous reporting year

About the same

Please explain

Total water withdrawal in 2022 was about the same as 2021 due to similar activity levels. Overall recycling rates remained high in 2022 at a rate of 97%. Surface water withdrawals were lower in 2022, by approximately 17% and withdrawals from groundwater were lower by 18% from the previous year. Withdrawals from produced water increased by 1% from 2021.

Total water discharge volume in 2022 was about the same as 2021. Fresh surface water discharges were lower by 8% and discharges to ground water were about the same.

The 2022 total water consumption was about the same as 2021, as our total withdrawal and total disposal volumes were about the same. 2022 total consumption was about 11% lower than 2021.

In the future volumes of water withdrawal, water discharge and water consumption are anticipated to remain relatively steady or fluctuate in alignment with production. However, reservoir technology development along with optimization projects have reduced water use intensities and some discharge increases will be minimized with the application of a blowdown disposal evaporator which will improve water recycle capabilities and reduce blowdown disposal.

Our definition for change: About the same is within +/- <15%, Lower or Higher +/- 15% to 50%, and Much lower or Much higher +/- >50%.

(W5.1a) For the facilities referenced in W5.1, what proportion of water accounting data has been third party verified?

Water withdrawals – total volumes

% verified

Not verified

Verification standard used

<Not Applicable>

Please explain

We are waiting for more mature verification standards and/or processes to become available

Water withdrawals – volume by source

% verified

Not verified

Verification standard used

<Not Applicable>

Please explain

We are waiting for more mature verification standards and/or processes to become available

Water withdrawals – quality by standard water quality parameters

% verified

Not verified

Verification standard used

<Not Applicable>

Please explain

We are waiting for more mature verification standards and/or processes to become available

Water discharges – total volumes

% verified

Not verified

Verification standard used

<Not Applicable>

Please explain

We are waiting for more mature verification standards and/or processes to become available

Water discharges – volume by destination

% verified

Not verified

Verification standard used

<Not Applicable>

Please explain

We are waiting for more mature verification standards and/or processes to become available

Water discharges – volume by final treatment level

% verified

Not verified

Verification standard used

<Not Applicable>

Please explain

We are waiting for more mature verification standards and/or processes to become available

Water discharges – quality by standard water quality parameters

% verified

Not verified

Verification standard used

<Not Applicable>

Please explain

We are waiting for more mature verification standards and/or processes to become available

Water consumption – total volume

% verified

Not verified

Verification standard used

<Not Applicable>

Please explain

We are waiting for more mature verification standards and/or processes to become available

W6. Governance

W6.1

(W6.1) Does your organization have a water policy?

Yes, we have a documented water policy that is publicly available

W6.1a

(W6.1a) Select the options that best describe the scope and content of your water policy.

	Scope	Content	Please explain
Row 1	Company-wide	Description of business dependency on water Description of business impact on water Commitment to water stewardship and/or collective action Commitments beyond regulatory compliance Reference to company water-related targets Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change	Our water policy is a company-wide scope that highlights our responsibility to manage and protect water resources extending from our commitment to sustainable resource development. It describes our recognition that access to water is a human right and that we will incorporate the social, economic, and environmental value of water when considering business decisions and prioritize maintaining a safe and secure water supply across our value chain. The policy outlines the approach we will take and key principles to meet our goals and addresses challenges as they relate to water. The policy also highlights our dependency on water to operate our business and that the responsible use of this resource is essential to our success. Our ability to access the natural water supply is granted through regulatory approval and consultation with stakeholders that is grounded in our obligation to preserve the quality and availability of water. These obligations encompass the protection of surrounding water resources from excessive withdrawal, preserving the integrity of aquatic ecosystems where we construct and operate facilities, efficient water use in operations and extending those expectations to our suppliers and contractors. We are committed to industry leading and innovative water stewardship of this shared resource. MEG-Water-Policy_Final-Format.pdf

W6.2

(W6.2) Is there board level oversight of water-related issues within your organization?

Yes

W6.2a

(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.

Position of individual or committee	Responsibilities for water-related issues
Board-level committee	The Board of Directors is responsible for the overall stewardship of the Corporation 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 its mandate, the Board is responsible to oversee ESG issues which impact the Corporation, including (a) overseeing and monitoring management systems and processes relating to the identification, assessment and management of ESG risks and opportunities, including water-related issues. (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/manage ESG risk/ opportunities; and (e) reviewing ESG reports and other reporting on ESG matters. The Board delegates responsibility for certain ESG matters to Board committees based on mandate and expertise including the Health, Safety and Environment and Reserves Committee (HSERC). The HSERC oversees the implementation of policies and procedures to monitor and mitigate environmental risks, including water. It assists the Board in fulfilling its stewardship with respect to ensuring compliance and applicable laws pertaining to environment including water use and reviewing/ supervising policies/ procedures designed to mitigate water risks/liabilities. HRCC ensures ESG matters are reflected in compensation policies and the Corporation's corporate goals and objectives related to compensation. Examples of water-related decisions: approval of continued strategic investments in MEG's proprietary eMSAGP/ technologies and 2022 Corporate Performance Scorecard (metrics related to water risks include targets around Steam Oil Ratio (SOR) and spill volumes) and CEO Objectives, that contribute to water use efficiencies and protection of water resources.

W6.2b

(W6.2b) Provide further details on the board’s oversight of water-related issues.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - all meetings	Monitoring implementation and performance Overseeing major capital expenditures Providing employee incentives Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding corporate responsibility strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing innovation/R&D priorities Setting performance objectives	The Board of Directors is responsible for the overall stewardship of the Corporation 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 the Board of Directors mandate, the Board is responsible to oversee environmental, social and governance (ESG)s issues which impact the Corporation, including (a) overseeing and monitoring management systems and processes relating to the identification, assessment and management of ESG risks and opportunities, including water-related issues, greenhouse gas 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 managed ESG risk and opportunities; and (e) reviewing the Corporation’s ESG reports and other 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: Audit Committee, Human Resources and Compensation Committee (HRCC), Governance and Nominating Committee (GNC) and Health, Safety, Environment & Reserves Committee (HSERC). The HCCC assists the Board to ensure that ESG matters are reflected in 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 with respect to ensuring compliance with applicable laws pertaining to environment including water and reviewing and supervising policies and procedures designed to mitigate water risks/liabilities. In 2022, the Board approved the 2023 Corporate Performance Scorecard and CEO Objectives which include water related targets – GHG Compliance Intensity, Reportable Spill Intensity and Reportable Spill Count which create incentives for management of water related issues. Other examples of actions include review and approval of continued investments in eMSAGP technologies. The Board and HSERC are updated by the CEO, COO and representatives of the Executive ESG and Corporate Health, Safety & Environment (HS&E) Committees quarterly on MEG’s water-related issues and performance. The Executive ESG committee reports to the CEO and is tasked with supporting MEG’s ongoing commitment to ESG, providing guidance and oversight with respect to ESG strategy, priorities and corporate disclosures and is responsible for embedding ESG into practices and behaviors.

W6.2d

(W6.2d) Does your organization have at least one board member with competence on water-related issues?

	Board member(s) have competence on water-related issues	Criteria used to assess competence of board member(s) on water-related issues	Primary reason for no board-level competence on water-related issues	Explain why your organization does not have at least one board member with competence on water-related issues and any plans to address board-level competence in the future
Row 1	Yes	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 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. Criteria used to assess competence of board members on water-related issues include SAGD operational experience, in particular experience with water management, a critical element of SAGD operations. Criteria also include environmental, health & safety and regulatory experience all of which pertain to water-related issues as well as corporate governance experience in ESG. Refer to MEG’s Management Proxy Circular for further details.	<Not Applicable>	<Not Applicable>

W6.3

(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).

Name of the position(s) and/or committee(s)

Safety, Health, Environment and Quality committee

Water-related responsibilities of this position

Assessing water-related risks and opportunities
 Managing water-related risks and opportunities
 Monitoring progress against water-related corporate targets

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

The Corporate Health, Safety & Environment, (HSE Committee) is responsible for providing guidance and oversight with respect to HSE programs, including water-related issues. It reports quarterly to the Board HSERC. The committee owner is the COO and it consists of senior, interdisciplinary experts throughout the business. Its primary function is to assist MEG in carrying out its responsibilities by reviewing, reporting and making recommendations on policies, management systems and programs with respect to HSE and exercising due diligence in ensuring such policies, systems and programs are implemented and functioning properly. Monthly meetings discuss potential issues, trends, opportunities, and performance and targets. Monthly HSE reports and meetings address saline and non-saline water use and intensity, Water Act, water licence and regulatory compliance such as meeting disposal limits, target performance, and policy developments among other water topics.

Name of the position(s) and/or committee(s)

Other committee, please specify (Executive ESG Committee)

Water-related responsibilities of this position

Assessing water-related risks and opportunities
 Managing water-related risks and opportunities
 Setting water-related corporate targets
 Monitoring progress against water-related corporate targets

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

Reporting to the CEO, the committee is tasked with supporting MEG's commitment to ESG including water matters. Specific duties include (a) assist the CEO in setting general strategy with respect to ESG (b) consider/recommend policies and practices (c) oversee reporting and disclosure with respect to ESG matters, including preparing MEG's ESG disclosures; (d) assist the CEO in overseeing internal and external communications regarding MEG's position to approach to ESG matters, (e) monitor and keep the CEO apprised of current and emerging ESG matters that may affect the business, operations, performance or public image or are otherwise pertinent to MEG and its stakeholders, make recommendations with respect to policies, practices and disclosure regarding such matters (f) assist in the identification, assessment and management of ESG-related risk/opportunities, including water. In 2021, the committee approved water related targets and water related disclosures including CDP water.

Name of the position(s) and/or committee(s)

Chief Operating Officer (COO)

Water-related responsibilities of this position

Assessing water-related risks and opportunities
 Managing water-related risks and opportunities
 Setting water-related corporate targets
 Monitoring progress against water-related corporate targets

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

The Corporate Health, Safety & Environment, (HSE Committee) is owned by the COO and is responsible for providing guidance and oversight with respect to HSE programs, including water-related issues. It reports quarterly to the Board HSERC. The committee consists of senior, interdisciplinary experts throughout the business. Monthly meetings discuss potential issues, trends, opportunities, and performance and targets. Monthly HSE reports and meetings address saline and non-saline water use and intensity, Water Act, water licence and regulatory compliance such as meeting disposal limits, target performance, and policy developments among other water topics. The COO ultimately provides oversights and communicates with the CEO on progress towards targets.

W6.4

(W6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

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

W6.4a

(W6.4a) What incentives are provided to C-suite employees or board members for the management of water-related issues (do not include the names of individuals)?

	Role(s) entitled to incentive	Performance indicator	Contribution of incentives to the achievement of your organization's water commitments	Please explain
Monetary reward	Corporate executive team Chief Executive Officer (CEO) Chief Financial Officer (CFO) Chief Operating Officer (COO)	Improvements in water efficiency – direct operations Other, please specify (Pollution prevention)	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 include: continuing to advance all aspects of ESG, 2030 and 2050 greenhouse gas targets, alignment with TCFD, 2022 ESG report and sustainable finance options. A portion of the C-suite annual incentives are linked to environmental performance indicators including the management of climate-related issues as identified in the Corporate Performance Scorecard.	In 2022 this included Total Spill Volume, Inspection Compliance and Steam Oil Ratio (in relation to GHG Intensity). These targets directly create incentives for management of water-related issues. The spill prevention and successful regulatory inspection targets both incentivize the protection of water bodies, while steam oil ratio (SOR), also driven by GHG intensity and production efficiency, indirectly incents optimized water use as it is a key measure of efficiency for SAGD projects. A lower SOR indicates more efficient steam utilization per unit of production. By decreasing the amount of steam used, MEG is able to both reduce its GHG intensity and per barrel water usage.
Non-monetary reward	No one is entitled to these incentives	<Not Applicable>	<Not Applicable>	

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

Yes, direct engagement with policy makers

W6.5a

(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?

MEG values active engagement with government bodies to fairly represent the position of the organization and reports all lobbying activity in accordance with the Alberta Lobbyists Act which requires periodic registration of lobbying activities. Reports are publicly available. Process: A continuous legislative overview informs MEG of proposed changes. A multidisciplinary team regularly monitors developments in water policy and consolidates that information to ensure business interests are protected, and policy trends are understood. MEG engages directly with Government on policy and regulatory issues and provides input into new and existing policy, directives and regulations in order to properly reflect a balanced approach to sustainable development. MEG was an active participant in the development of the new AEPWA Surface Water Allocation Directive and in the development of the new AER water disposal limit calculations that came into effect under AER Directive 81. Inconsistency Management: To ensure that corporate guidance on activities that influence policy are consistent with MEG's approach to addressing water risk, coordination meetings are held with all departments potentially influenced by the policy to review engagement opportunities and develop strategies if inconsistencies are identified. For example, HSE Committee which is responsible for identifying potential and emerging risks and opportunities including regulatory changes meets monthly.

W6.6

(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?

Yes (you may attach the report - this is optional)

MEG-Energy-Corp_Annual-Information-Form_2022_FINAL.pdf

W7. Business strategy

W7.1

(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	> 30	Issues Integrated: securing water, reducing water requirements, regulatory frameworks, water quality & quantity, preserving ecosystems and habitats and stakeholder considerations. Why: MEG's operation rely on a supply of water to achieve long-term business objectives. Our corporate purpose "to supply the world with environmentally and socially responsible energy, while generating long term value for all our stakeholders" indicates the long term perspective on ESG matters, including water. Time horizon: facility lifetime aligned, above 60 years. How: Water-related issues are first identified by an environmental impact assessment (EIA). MEG then incorporates design features; management practices and mitigation plans to support sustainable water use and long-term objectives in facility development. Various water monitoring programs are in place to monitor program effectiveness. MEG's ERM process continues to identify water-related risks with the potential to be significant to long-term objectives. Risks are evaluated based on impact, likelihood and current/potential future business/political environments. Mitigation strategies are updated by management and reviewed by the Board. MEG's overall long-term business objective is optimizing resource development by SOR reduction. By decreasing the amount of steam used, MEG is able to reduce our per barrel water use. MEG's strategy to achieve this includes R&D investment to advance implementation of reservoir recovery technologies.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	> 30	Issues integrated: efficient use of water, conservation & protection of water resources (avoidance and mitigation of pollution). Why: MEG is committed to support sustainable water use and the protection of water resources, endorsed in our Water Policy. MEG has a dependency on water to operate our business. The responsible use of this resource is essential to our success. Time horizon: facility lifetime aligned, above 60 years. How: A strategic focus on technology drives efficiency gains in operating costs and water performance in terms of efficient use as demonstrated by decreases in SOR. MEG continues the deployment of eMSAGP leading to an SOR of 2.36 in 2022 (industry avg. of 3-3.5). The initial produced design capacity of MEG's facility was ~60k bbl/d. MEG increased the overall production capacity to ~100k bbl/d through low-cost debottlenecking and expansion projects and redeployment of steam to new well pairs. MEG's ERM process continues to identify water-related risks that could potentially be significant to its long-term objectives. Risks are evaluated based on impact, likelihood and current/potential future business/ political environments. Mitigation strategies are updated by management and reviewed by the Board. Water performance, changes to regulatory requirements and regular updates are communicated to management and the Board. Spill targets drive pollution performance and water source and intensity targets drive improvements in water use and efficiency.
Financial planning	Yes, water-related issues are integrated	> 30	Issues integrated: efficient use of water, water disposal, protection of water resources (avoidance and mitigation of pollution). Why: MEG is committed to support sustainable water use and the protection of water resources, endorsed in our Water Policy. MEG has a dependency on water to operate our business. The responsible use of this resource is essential to our success. Time horizon: facility lifetime aligned, above 60 years. How: A strategic focus on technology drives efficiency gains in operating costs and environmental performance improvements including water issues such as water use. This is demonstrated by decreases in SOR. SOR is a key measure of efficiency for SAGD projects, with a lower SOR indicating that steam is more efficiently utilized. A decrease in the amount of steam used, means reduced per barrel water usage. The application of MEG proprietary technology eMSAGP has enabled MEG to achieve an average SOR of 2.36 in 2022 (in situ industry avg. of 3.1). MEG continues the deployment of eMSAGP technology. Technology development along with optimization projects have reduced water use intensities and further reductions are anticipated. Capital continues to be allocated to optimization projects including eMSAGP. The initial produced design capacity of MEG's facility was ~60k bbl/d. MEG increased the overall production capacity to ~100k bbl/d through low-cost debottlenecking and expansion projects and redeployment of steam to new well pairs.

W7.2

(W7.2) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

Row 1

Water-related CAPEX (+/- % change)

Anticipated forward trend for CAPEX (+/- % change)

Water-related OPEX (+/- % change)

Anticipated forward trend for OPEX (+/- % change)

Please explain

Not disclosed at this time.

W7.3

(W7.3) Does your organization use scenario analysis to inform its business strategy?

	Use of scenario analysis	Comment
Row 1	Yes	

W7.3a

(W7.3a) Provide details of the scenario analysis, what water-related outcomes were identified, and how they have influenced your organization's business strategy.

	Type of scenario analysis used	Parameters, assumptions, analytical choices	Description of possible water-related outcomes	Influence on business strategy
Row 1	Climate-related	Our climate-related scenario analysis is focused on climate-related transitional risks. However, in order to better understand potential climate-related physical risks including water-related outcomes, MEG has updated the previous climate change 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.	<p>Potential water-related physical climate risks include water scarcity, impacts to water infrastructure, and increase in water run off or flooding events..</p> <p>MEG is focused on efficient bitumen production which includes the efficient use of water and is continuously looking for ways to reduce water use per barrel of oil and per tonne of steam generated , through the implementation of proprietary reservoir technology, facility water recycling and optimization projects. Considerations of acute and chronic physical risks such as potential increases in precipitation, flooding, wildfires or increase in the frequency or severity of extreme weather events that could impact water infrastructure are incorporated into engineering design of facilities and supporting infrastructure and further mitigated through appropriate maintenance and operational procedures. For example, 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 adaption of operating practices and facilities which includes wetland and culvert monitoring to ensure unobstructed flow of surface water across site infrastructure to prevent flooding .</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/2.3a) have influenced our product-related strategy, in that we strive to provide a lower GHG intensity barrel of bitumen 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 gas requirements which results in a lower greenhouse gas emissions intensity and more economic projects. 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 to 3.5 industry average) and a GHG intensity of 15% below industry average. Most recently, MEG set a medium-term 2030 absolute emissions reduction goal (0.63 mmt reduction), a 2050 net-zero target and to join the Pathways Alliance. Pathways has the stated goal of achieving net zero GHG emissions (scope 1 and 2) from all oil sands operations by 2050 . The magnitude of these opportunities is significant, and the effects are anticipated to be realized over the short , medium and long term timescale.

W7.4

(W7.4) Does your company use an internal price on water?

Row 1

Does your company use an internal price on water?

Yes

Please explain

In evaluating future operations, MEG's operating and maintenance costs are estimated based on the assumption that MEG will maintain or increase the percentage of total water that is recycled in its operations. This may include future capital projects to managed produced water from the reservoir.

W7.5

(W7.5) Do you classify any of your current products and/or services as low water impact?

	Products and/or services classified as low water impact	Definition used to classify low water impact	Primary reason for not classifying any of your current products and/or services as low water impact	Please explain
Row 1	Yes	MEG has considered both the source quality of water withdrawals and the quantity of water used in determining the water impact of its products.	<Not Applicable>	MEG produces both bitumen and electricity as saleable products, Electricity generation does not have a water dependency, while bitumen production does require water inputs. For this purpose, MEG prioritizes the use of saline ground water which is not considered a source that conflicts with potable or agricultural uses. Neither non-saline or fresh surface water are used directly for steam generation, which is the primary use of water withdrawals accounting for ~97% of overall volumes. In addition, MEG has maintained a make-up water use intensity that is well below the industry average. In 2022, the make-up water use intensity for MEG was 0.09 m3 water per m3 of bitumen which is estimated to be approximately 70% below the industry average.

W8. Targets

W8.1

(W8.1) Do you have any water-related targets?

Yes

W8.1a

(W8.1a) Indicate whether you have targets relating to water pollution, water withdrawals, WASH, or other water-related categories.

	Target set in this category	Please explain
Water pollution	Yes	<Not Applicable>
Water withdrawals	Yes	<Not Applicable>
Water, Sanitation, and Hygiene (WASH) services	No, and we do not plan to within the next two years	MEG doesn't have a target but provides fully-functioning, safely managed WASH services to all workers. Water for WASH services is monitored at 100% of our operations, which comprises our single facility, CLRP. No sites, facilities or water sources are excluded. Source water for domestic use is pulled from a high quality groundwater source under an AER issued Water Act Licence. This water is treated by an onsite potable water plant to meet Canadian Drinking Water Quality guidelines. Sanitation facilities are available in all permanent buildings as well as provided as portable wash car units at active project construction areas around the facility. Potable water is piped to the Control, Administration and Maintenance building on site and is trucked to other facilities such as camps. Water in the potable water treatment plant is analyzed daily for parameters identified in regulatory approvals/licenses which include manganese, iron, chlorine, pH, turbidity and temperature.
Other	Yes	<Not Applicable>

W8.1b

(W8.1b) Provide details of your water-related targets and the progress made.

Target reference number

Target 1

Category of target

Water recycling/reuse

Target coverage

Site/facility

Quantitative metric

Other, please specify (Water disposal limit (%))

Year target was set

2020

Base year

2019

Base year figure

11.4

Target year

2022

Target year figure

20.1

Reporting year figure

14.3

% of target achieved relative to base year

33.33333333333333

Target status in reporting year

Achieved

Please explain

Targets under AER Directive 081 Water Disposal Limits and Reporting Requirements for Thermal In Situ Oil Sands Schemes are annual. MEG met both the maximum disposal limit and the recycle requirements in 2022.

Target reference number

Target 2

Category of target

Product water intensity

Target coverage

Site/facility

Quantitative metric

Other, please specify (Performance per unit of production)

Year target was set

2020

Base year

2019

Base year figure

0.1

Target year

2022

Target year figure

0.1

Reporting year figure

0.09

% of target achieved relative to base year

<Calculated field>

Target status in reporting year

Achieved

Please explain

Maintain in situ industry-leading (top decile) total make-up water use intensity, with non-saline make-up water use intensity less than 0.1 m3 water/m3 bitumen production. This helps achieve water security by reducing the amount of water needed for bitumen production.

Target reference number

Target 3

Category of target

Water consumption

Target coverage

Site/facility

Quantitative metric

Other, please specify (Water Conservation, Volume of high quality water sources)

Year target was set

2020

Base year

2019

Base year figure

0

Target year

2022

Target year figure

0

Reporting year figure

0

% of target achieved relative to base year

<Calculated field>

Target status in reporting year

Achieved

Please explain

In 2022 MEG did not withdraw fresh (potable) water for the purpose of steam generation and therefore target was achieved.

W9. Verification

W9.1

(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?

No, we are waiting for more mature verification standards and/or processes

W10. Plastics

W10.1

(W10.1) Have you mapped where in your value chain plastics are used and/or produced?

	Plastics mapping	Value chain stage	Please explain
Row 1	Not mapped – and we do not plan to within the next two years	<Not Applicable>	MEG does not produce plastics as part of its direct operations.

W10.2

(W10.2) Across your value chain, have you assessed the potential environmental and human health impacts of your use and/or production of plastics?

	Impact assessment	Value chain stage	Please explain
Row 1	Not assessed – and we do not plan to within the next two years	<Not Applicable>	MEG does not produce plastics as part of its direct operations.

W10.3

(W10.3) Across your value chain, are you exposed to plastics-related risks with the potential to have a substantive financial or strategic impact on your business? If so, provide details.

	Risk exposure	Value chain stage	Type of risk	Please explain
Row 1	Not assessed – and we do not plan to within the next two years	<Not Applicable>	<Not Applicable>	MEG does not produce plastics as part of its direct operations.

W10.4

(W10.4) Do you have plastics-related targets, and if so what type?

	Targets in place	Target type	Target metric	Please explain
Row 1	Please select	<Not Applicable>	<Not Applicable>	MEG does not produce plastics as part of its direct operations.

W10.5

(W10.5) Indicate whether your organization engages in the following activities.

	Activity applies	Comment
Production of plastic polymers	No	
Production of durable plastic components	No	
Production / commercialization of durable plastic goods (including mixed materials)	No	
Production / commercialization of plastic packaging	No	
Production of goods packaged in plastics	No	
Provision / commercialization of services or goods that use plastic packaging (e.g., retail and food services)	No	

W11. Sign off

W-FI

(W-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.

W11.1

(W11.1) Provide details for the person that has signed off (approved) your CDP water 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 indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.

Yes, CDP may share our Main User contact details with the Pacific Institute

Please confirm below

I have read and accept the applicable Terms