Suncor Energy Inc. CDP Water Security Questionnaire 2019

W0. Introduction

W0.1

(W0.1) Give a general description of and introduction to your organization.

Suncor is an integrated energy company headquartered in Calgary, Alberta, Canada. The company is strategically focused on developing one of the world’s largest petroleum resource basins – Canada’s Athabasca oil sands. In addition, Suncor explores for, acquires, develops, produces and markets crude oil in Canada and internationally; the company transports and refines crude oil, and markets petroleum and petrochemical products primarily in Canada. The company also conducts energy trading activities focused principally on the marketing and trading of crude oil, natural gas, power and byproducts. Suncor also operates a renewable energy business as part of its overall portfolio of assets.

W-OG0.1a

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

W0.2

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

<table>
<thead>
<tr>
<th></th>
<th>Start date</th>
<th>End date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting year</td>
<td>January 1, 2018</td>
<td>December 31, 2018</td>
</tr>
</tbody>
</table>
W0.3

(W0.3) Select the countries/regions for which you will be supplying data.
- Canada
- United States of America

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

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.

<table>
<thead>
<tr>
<th>Direct use importance</th>
<th>Indirect use importance</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| rating                          | rating          | Water is an integral component of Suncor's operations to extract, upgrade and refine our oil & gas products. Our operations use fresh water, saline water, recycled wastewater and industrial storm water run-off for water make-up. The primary use of fresh water in Suncor operations is for utilities. Suncor has developed models and tools used to anticipate future trends in areas such as energy efficiency, water consumption, air emissions and land disturbance. To advance Suncor’s goal to continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level.

We are also focused on extending our commitment to water stewardship by working to develop a new long-term water goal. Our plan is to take a watershed approach to this goal and work with stakeholders and Indigenous communities to determine where we can have the greatest impact. This is an innovative approach to goal setting and we are excited to see the results of the process.

<table>
<thead>
<tr>
<th>Sufficient amounts of good quality freshwater available for use</th>
<th>Vital</th>
<th>Important</th>
</tr>
</thead>
</table>

Sufficient amounts of recycled, brackish and/or produced water available for use

| rating                          | rating          | In 2018, about 88% of the water used by our Extraction operations was recycled tailings water at our oil sands Base plant operations

Produced water in thermal in situ oil sands facilities primarily consists of condensed steam injected for oil recovery. The hot oil/water emulsion is treated to separate the oil for sales and to reuse the water for steam. Reuse rates at Suncor in situ facilities are approximately 98%.

Our Edmonton refinery's primary water supply is reused municipal waste water from the local treatment facility. We anticipate that continued monitoring of the watersheds will help us adapt and continue to take appropriate actions to reduce our water footprint.

Suncor has developed models and tools used to anticipate future trends in areas such as energy efficiency, water consumption, air emissions and land disturbance. To advance

| rating                          | rating          | |
Suncor’s goal to continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level.

**W1.2**

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

<table>
<thead>
<tr>
<th>% of sites/facilities/operations</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water withdrawals – total volumes</strong></td>
<td>100%</td>
</tr>
<tr>
<td><strong>Water withdrawals – volumes from water stressed areas</strong></td>
<td>Not relevant</td>
</tr>
<tr>
<td><strong>Water withdrawals – volumes by source</strong></td>
<td>100%</td>
</tr>
</tbody>
</table>

**Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]**

<table>
<thead>
<tr>
<th></th>
<th>100%</th>
</tr>
</thead>
</table>
| Produced water in thermal in situ oil sands facilities primarily consists of condensed steam injected for oil recovery. The hot oil/water emulsion is treated to separate the oil for sales and to reuse the water for steam. Reuse rates at Suncor in situ facilities are approximately 98%.

Total produced water volumes are measured and monitored at Suncor In-Situ facilities. As a regulatory requirement, we report the volumes we withdraw to regulatory agencies. Suncor complies with provincial and federal regulatory standards for water monitoring which typically requires monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices. |

**Water withdrawals quality**

<table>
<thead>
<tr>
<th></th>
<th>51-75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suncor measures and monitors our surface water withdrawal quality. The monitored quality is aligned with water discharge quality effluent parameters. Suncor complies with provincial and federal regulatory standards for water monitoring which typically requires monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices.</td>
<td></td>
</tr>
</tbody>
</table>

**Water discharges – total volumes**

<table>
<thead>
<tr>
<th></th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>The total water discharge volumes are measured and monitored. We are required to report to the regulators the volume of water we discharge (return) back to the environment. Suncor also reports this volume annually to our stakeholders in our Report on Sustainability. Suncor complies with provincial and federal regulatory standards for water monitoring which typically requires monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices.</td>
<td></td>
</tr>
<tr>
<td>Water discharges – volumes by destination</td>
<td>100%</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>The total water discharge volumes by destination are measured and monitored. We are required to report to the regulators the volume of water we discharge (return) back to the environment and where we discharge the water. Suncor complies with provincial and federal regulatory standards for water monitoring which typically requires monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water discharges – volumes by treatment method</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>The water discharge volumes by treatment method are both measured and monitored. We are required to report this information to the regulators. Suncor complies with provincial and federal regulatory standards for water monitoring which typically requires monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water discharge quality – by standard effluent parameters</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suncor measures and monitors our water discharge quality effluent parameters. We are regulated in our operating approvals on the quality of water we discharge back to the environment. This requires that we analyze for specific parameters and report these results to the regulators on a monthly and/or annual basis. We also report effluent water quality annually to our stakeholders in Suncor’s Report on Sustainability for our Oil Sands Mining and Downstream Refining and Supply operations.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water discharge quality – temperature</th>
<th>1-25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suncor measures and monitors our water discharge quality effluent parameters required by regulators and those parameters do not include the water temperature. As per agreements with regional utility corporations, we monitor and report the discharge temperature of the water sent to wastewater treatment plants from the Edmonton Refinery, oil sands Base plant, and Fort Hills.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water consumption – total volume</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suncor measures and monitors our water consumption volumes for all of our facilities. We report these volumes annually to our stakeholders in our Report on Sustainability. Suncor complies with provincial and federal regulatory standards for water monitoring</td>
<td></td>
</tr>
</tbody>
</table>
which typically requires monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices.

| Water recycled/reused | 100% | Suncor measures and monitors our water consumption volumes for all of our facilities. Suncor complies with provincial and federal regulatory standards for water monitoring which typically requires monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices. |
| The provision of fully-functioning, safely managed WASH services to all workers | 100% | Suncor’s operations are in developed countries which all have requirements for worker health and safety as well as water and sanitation provision. Monitoring is required at both the global/national level and at the facility level as per national policies and standards for WASH. The standards cover: water quality, water quantity, water facilities and access to water, wastewater treatment and disposal and other environmental issues. |

**W1.2b**

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

<table>
<thead>
<tr>
<th>Volume (megaliters/year)</th>
<th>Comparison with previous reporting year</th>
<th>Please explain</th>
</tr>
</thead>
</table>
| Total withdrawals        | Much higher                            | In 2018, Suncor’s total water withdrawal volume was approximately 38% higher than 2017.  
|                          |                                        | • The increase was primarily due to the commissioning of the Fort Hills facility. Fort Hills started operations in January 2018 and the production ramped up to full capacity by the end of 2018.  
|                          |                                        | • There was an increase in water withdrawal at Base plant and two downstream refineries due to major turnarounds, which led to higher water consumption for maintenance work and less efficiency in extraction operations.  
|                          |                                        | • There was an increase in water withdrawal due to higher production at upstream in situ facilities |
Suncor Energy Inc. CDP Water Security Questionnaire 2019

Suncor has developed models and tools used to anticipate future trends in areas such as energy efficiency, water consumption, air emissions and land disturbance. To advance Suncor’s goal to continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level.

The reported figures satisfy the equation:

\[ W = D + C \]

Where,
- \( W \) = total withdrawals
- \( D \) = total discharges
- \( C \) = total consumption

Total withdrawal does not include produced/processed water in this case. Produced water in thermal in situ oil sands facilities primarily consists of condensed steam injected for oil recovery. The hot oil/water emulsion is treated to separate the oil for sales and to reuse the water for steam. Reuse rates at Suncor in situ facilities are approximately 98%.

In 2018, Suncor’s total water discharge volume was 17% higher than 2017. This increase is due to:
- The commissioning of the Fort Hills facility. Fort Hills started operations in January 2018 and the production ramped up to full capacity by the end of 2018.
- Higher runoff volumes collected and discharged in the Fort McMurray area.
- There was an increase in water discharge due to higher production at off shore operations.
- There was an increase in water discharge for all downstream operations, due to a more complete and comprehensive data set.

As per CDP guidance, total water discharges include fresh surface water and seawater.
efficiency, water consumption, air emissions and land disturbance. To advance Suncor’s goal to continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level.

The reported figures satisfy the equation:
\[ W = D + C \]
Where,
W= total withdrawals
D= total discharges
C= total consumption

<table>
<thead>
<tr>
<th>Total consumption</th>
<th>67,251</th>
<th>Much higher</th>
</tr>
</thead>
</table>

In 2018, Suncor’s total water consumption volume was approximately 70% higher than 2017.
- The increase was primarily due to the commissioning of the Fort Hills facility. Fort Hills started operations in January 2018 and the production ramped up to full capacity by the end of 2018. Therefore an extra amount of water was required for extraction use.
- The increase can also be attributed to the combined effect of higher production and maintenance work at various sites compared to 2017.

Suncor has developed models and tools used to anticipate future trends in areas such as energy efficiency, water consumption, air emissions and land disturbance. To advance Suncor’s goal to continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level.

The reported figures satisfy the equation:
\[ W = D + C \]
Where,
W= total withdrawals
D= total discharges
C= total consumption
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 – and what are the trends compared to the previous reporting year?

<table>
<thead>
<tr>
<th>Volume (megaliters/year)</th>
<th>Comparison with previous reporting year</th>
<th>Please explain</th>
</tr>
</thead>
</table>
| Total withdrawals - upstream | 94,728 | Much higher | In 2018, Suncor’s upstream total water withdrawal volume was 64% higher than 2017. The increase was due to:
  • The commissioning of our Fort Hills facility. The site started operations in January 2018 and the production ramped up to full capacity by the end of 2018.
  • Higher runoff volumes collected and discharged in the Fort McMurray area. Increased production at upstream in situ facilities and off shore operations. |
| Total discharges – upstream | 32,728 | Much higher | In 2018, Suncor’s upstream total water discharge volume was 35% higher than 2017. This increase is mainly due to higher runoff volumes collected and discharged in the Fort McMurray area.
  • In addition, the increase can be attributed to the commissioning of the Fort Hills facility. Fort Hills started operations in January 2018 and the production ramped up to full capacity by the end of 2018.
  • Terra Nova off shore operations increased production rates which cause higher water discharge volumes compared to 2017 operations. |
| Total consumption – upstream | 62,000 | Much higher | In 2018, Suncor’s upstream total water consumption volume was 87% higher than 2017. The increase was mainly due to the commissioning of our Fort Hills facility. The site started operations in January 2018 and the production ramped up to full capacity by the end of 2018.
  • In addition, there were increased production rates at in situ facilities and Terra Nova off shore operations which caused an increase in water consumption. |
In 2018, Suncor downstream total water withdrawal volume was about the same as 2017 performance. During 2018, there was a combined impact from maintenance work, increase requirement of water for operational use and increased runoff volumes.

In 2018, Suncor’s downstream total water discharge volume was about the same as 2017 performance. There were slightly higher runoff volumes collected and discharged in the Ontario area throughout 2018.

In 2018, Suncor’s downstream total water consumption volumes were 13% lower compared to 2017 performance. This was mainly due major maintenance events and higher runoff volumes collected and discharged in the Ontario area throughout 2018.

### W1.2h

**W1.2h** Provide total water withdrawal data by source.

<table>
<thead>
<tr>
<th>Source Description</th>
<th>Relevance</th>
<th>Volume (megaliters/year)</th>
<th>Comparison with previous reporting year</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh surface water, including rainwater, water from wetlands, rivers, and lakes</td>
<td>Relevant</td>
<td>107,398</td>
<td>Much higher</td>
<td>In 2018, Suncor’s fresh water withdrawal volume was 44% higher than 2017.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• This was mainly due to the commissioning of the Fort Hills facility. Fort Hills started operations in January 2018 and the production ramped up to full capacity by the end of 2018.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• In addition, there was increased rainwater volumes collected in the Fort McMurray area compared to 2017.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Suncor has developed models and tools used to anticipate future trends in areas such as water consumption. To advance Suncor’s goal to</td>
</tr>
</tbody>
</table>
continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level.

<table>
<thead>
<tr>
<th>Source of Water</th>
<th>Relevance</th>
<th>Volume</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brackish surface water/Seawater</td>
<td>Relevant</td>
<td>28,523</td>
<td>Much higher</td>
</tr>
<tr>
<td>Groundwater – renewable</td>
<td>Not relevant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groundwater – non-renewable</td>
<td>Relevant</td>
<td>3,133</td>
<td>Much higher</td>
</tr>
</tbody>
</table>

There was a 28% increase in seawater withdrawal used for injection at the Terra Nova off shore site, due to higher production in 2018. Suncor has developed models and tools used to anticipate future trends in areas such as energy efficiency, water consumption, air emissions and land disturbance. To advance Suncor’s goal to continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level.

In 2018, Suncor’s ground water withdrawal volume was 38% higher than 2017. This was due to:
- The commissioning of the Fort Hills facility. Fort Hills started operations in January 2018 and the production ramped up to full capacity by the end of 2018.
- Commerce City refinery increased groundwater withdrawal for a maintenance event and other operational use.
- Increased production at in situ sites (Firebag and MacKay River)

Suncor has developed models and tools used to anticipate future trends.
in areas such as energy efficiency, water consumption, air emissions and land disturbance. To advance Suncor’s goal to continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level.

<table>
<thead>
<tr>
<th>Produced/Entrained water</th>
<th>Not relevant</th>
<th>Produced water in thermal in situ oil sands facilities primarily consists of condensed steam injected for oil recovery. The hot oil/water emulsion is treated to separate the oil for sales and to reuse the water for steam. As a result of high recycle rates (&gt;98%), the produced water volume of 42 million m³ is not a new withdrawal from a surface or groundwater source.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Produced/Entrained water</td>
<td>Not relevant</td>
<td>In 2018, Suncor upstream in-situ sites (Firebag and MacKay River) and Terra Nova offshore operations production increased compared to 2017 performance. In 2018, produced water recycling rate was 95.9% at our Firebag in-situ operations and 99.6% at our MacKay River in-situ operations. Suncor has developed models and tools used to anticipate future trends in areas such as energy efficiency, water consumption, air emissions and land disturbance. To advance Suncor’s goal to continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook.</td>
</tr>
<tr>
<td>Third party sources</td>
<td>Relevant</td>
<td>5,634</td>
</tr>
</tbody>
</table>
Suncor has developed models and tools used to anticipate future trends in areas such as energy efficiency, water consumption, air emissions and land disturbance. To advance Suncor's goal to continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level.

W1.2i

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

<table>
<thead>
<tr>
<th>Destination</th>
<th>Relevance</th>
<th>Volume (megaliters/year)</th>
<th>Comparison with previous reporting year</th>
<th>Please explain</th>
</tr>
</thead>
</table>
| Fresh surface water  | Relevant  | 53,664                   | About the same                          | In 2018, Suncor water discharge volumes to fresh surface water were about the same as 2017 performance. There was a small increase of about 7% which can be attributed to:  
   • The commissioning of the Fort Hills facility had a minimum impact (less than 1%).  
   • The increase is mainly due to higher runoff volumes collected and discharged in the Fort McMurray area.  
   Suncor has developed models and tools used to anticipate future trends in areas such as energy efficiency, water consumption, air emissions and land disturbance. To advance Suncor's goal to continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level. |
<p>| Brackish surface     | Relevant  | 21,337                   | Much higher                             | In 2018, brackish seawater discharge increased by 35% due to higher production                                                                 |</p>
<table>
<thead>
<tr>
<th>Water/seawater</th>
<th></th>
<th></th>
<th>Suncor has developed models and tools used to anticipate future trends in areas such as energy efficiency, water consumption, air emissions and land disturbance. To advance Suncor's goal to continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater</td>
<td>Not relevant</td>
<td></td>
<td>Suncor does not discharge groundwater in operations. Suncor has developed models and tools used to anticipate future trends in areas such as energy efficiency, water consumption, air emissions and land disturbance. To advance Suncor's goal to continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level.</td>
</tr>
<tr>
<td>Third-party destinations</td>
<td>Relevant</td>
<td>2,437</td>
<td>About the same</td>
</tr>
</tbody>
</table>

### W1.2j

(W1.2j) **What proportion of your total water use do you recycle or reuse?**

<table>
<thead>
<tr>
<th>% recycled and reused</th>
<th>Comparison with previous reporting year</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Suncor Energy Inc. CDP Water Security Questionnaire 2019

---

CDP Disclosure Insight Action

---

15
In 2018, Suncor’s annual water recycled/reused volume was 134.99 million m³. This volume includes recycled tailings and other stored water volumes.

**W-OG1.2j**

(W-OG1.2j) What proportion of your total water use do you recycle or reuse in your operations associated with the oil & gas sector?

<table>
<thead>
<tr>
<th>% recycled and reused</th>
<th>Comparison with previous reporting year</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upstream</td>
<td>76-99</td>
<td>About the same</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In 2018, the Extraction Recycle Rate at oil sands Base plant was approximately 88%. The upgrader on site had a major turnaround, which impacted extraction operations and caused lower production rates and extraction plants operated with lower water efficiency.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In 2018, the Extraction Recycle Rate at oil sands Fort Hills was approximately 75%. The site started operations in January 2018 and the production ramped up to full capacity by the end of 2018.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Suncor has developed models and tools used to anticipate future trends in areas such as energy efficiency, water consumption, air emissions and land disturbance. To advance Suncor’s goal to continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level.</td>
</tr>
<tr>
<td>Downstream</td>
<td>1-25</td>
<td>About the same</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In 2018, operations remained consistent with 2017 performance.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Suncor has developed models and tools used to anticipate future trends in areas such as energy efficiency, water consumption, air emissions and land disturbance. To advance Suncor’s goal to continue improving environmental performance, Suncor uses a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level.</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Business division</th>
<th>Upstream</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water intensity value (m3)</td>
<td>0.44</td>
</tr>
<tr>
<td>Numerator: water aspect</td>
<td>Total withdrawals</td>
</tr>
<tr>
<td>Denominator: unit of production</td>
<td>Barrel of oil equivalent</td>
</tr>
</tbody>
</table>

Comparison with previous reporting year
Much higher

Please explain
In 2018, Suncor upstream total water withdrawal intensity is 30% higher than 2017.
• The increase was primarily due to the commissioning of the Fort Hills facility. Fort Hills started operations in January 2018 and the production ramped up to full capacity by the end of 2018.
• There was an increase in water withdrawal at Base plant due to a major turnaround, which led to higher water consumption for maintenance work and less efficiency in extraction operations.
This metric is used to monitor our water use and success of process optimization strategies (ie. recycling, reuse, return strategies).

Business division
Upstream

Water intensity value (m3)
0.29

Numerator: water aspect
Total water consumption

Denominator: unit of production
Barrel of oil equivalent

Comparison with previous reporting year
Much higher

Please explain
In 2018, Suncor upstream total water consumption intensity is 47% higher than 2017.
• The increase was primarily due to the commissioning of the Fort Hills facility. Fort Hills started operations in January 2018 and the production ramped up to full capacity by the end of 2018.
• There was an increase in water withdrawal at Base plant due to a major turnaround, which led to higher water consumption for maintenance work and less efficiency in extraction operations.

This metric is used to monitor our water use and success of process optimization strategies (ie. recycling, reuse, return strategies).
Downstream

**Water intensity value (m3)**

0.29

**Numerator: water aspect**

Total withdrawals

**Denominator: unit of production**

Barrel of oil equivalent

**Comparison with previous reporting year**

About the same

**Please explain**

In 2018, Suncor’s downstream total water withdrawal intensity was about the same as 2017 performance. This is due to the combined impact from maintenance work and increase production at refineries.

This metric is used to monitor our water use and success of process optimization strategies (ie. recycling, reuse, return strategies).

**Business division**

Downstream

**Water intensity value (m3)**

0.03

**Numerator: water aspect**

Total water consumption

**Denominator: unit of production**

Barrel of oil equivalent
Comparison with previous reporting year
About the same

Please explain
In 2018, Suncor’s downstream total water consumption intensity was about the same as 2017 performance. This is due to the combined impact from maintenance work and increased production at refineries.

This metric is used to monitor our water use and success of process optimization strategies (ie. recycling, reuse, return strategies).

W1.4

(W1.4) Do you engage with your value chain on water-related issues?
Yes, our suppliers

W1.4a

(W1.4a) What proportion of suppliers do you request to report on their water use, risks and/or management information and what proportion of your procurement spend does this represent?

Row 1

% of suppliers by number
26-50%

% of total procurement spend

Rationale for this coverage
Suncor’s supplier risk identification process begins with a pre-screen process through our prequalification tool, Avetta. This process is ensures current and potential contractors meet Suncor’s minimum requirements in EH&S and regulatory, legal, quality and finance.
In 2019 SCM implemented a series of Sustainability questions that must be answered by all suppliers when prequalifying with Suncor. The Sustainability questions are focused on Indigenous relations/participation, climate change, human rights, inclusion and diversity, community investment and social innovation and sustainability embedding. As of April 30, 2019, 1,714 suppliers and 1,954 potential suppliers had provided responses to the sustainability prequalification questions through Avetta. The 1,714 actives suppliers that responded represent 49% of our 2018 supply chain spend and 26% of our suppliers.

**Impact of the engagement and measures of success**

In addition we are piloting sustainability criteria to our supplier performance management meetings and strategic supplier meetings. We held 10 strategic supplier meetings where the agenda included Sustainability topics and encouraged suppliers the opportunity to share how sustainability is being made a priority in their organization. As we mature our processes and systems we will embed sustainability in all of our annual and quarterly supplier performance management meetings.

**Comment**

In 2018 Supply Chain Management (SCM) Sustainability formalized a SCM Sustainability Strategy. It was developed based on our materiality assessment. The process accounted internal and external inputs/material issues. This identified 6 priority areas for us and the systematic approach to gathering information based on risk at all step of our supply chain. The areas of focus are designed to progress sustainability strategy and align with our Corporate goals including Suncor’s Social and GHG Goal.

**W1.4b**

(W1.4b) Provide details of any other water-related supplier engagement activity.

---

**Type of engagement**

Other

**Details of engagement**

Other, please specify
Water management and stewardship is integrated into supplier evaluation processes, and Educate suppliers about water stewardship and collaboration

% of suppliers by number
26-50

% of total procurement spend
26-50

Rationale for the coverage of your engagement
Suncor’s supplier risk identification process begins with a pre-screen process through our prequalification tool, Avetta. This process is ensures current and potential contractors meet Suncor’s minimum requirements in EH&S and regulatory, legal, quality and finance. In 2019 SCM implemented a series of Sustainability questions that must be answered by all suppliers when prequalifying with Suncor. The Sustainability questions are focused on Indigenous relations/participation, climate change, human rights, inclusion and diversity, community investment and social innovation and sustainability embedding. As of April 30, 2019, 1,714 suppliers and 1,954 potential suppliers had provided responses to the sustainability prequalification questions through Avetta. The 1,714 actives suppliers that responded represent 49% of our 2018 supply chain spend and 26% of our suppliers.

Impact of the engagement and measures of success
In addition we are piloting sustainability criteria to our supplier performance management meetings and strategic supplier meetings. We held 10 strategic supplier meetings where the agenda included Sustainability topics and encouraged suppliers the opportunity to share how sustainability is being made a priority in their organization. As we mature our processes and systems we will embed sustainability in all of our annual and quarterly supplier performance management meetings.

W2. Business impacts

W2.1

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

No

W3. Procedures

W-OG3.1

(W-OG3.1) How does your organization identify and classify potential water pollutants associated with its activities in the oil & gas sector that may have a detrimental impact on water ecosystems or human health?

Potential pollutants of concern are identified and monitored as per our approval conditions (i.e. Alberta’s Environmental Protection and Enforcement Act or the US Environmental Protection Agency). Suncor also identifies and classifies potential water pollutants through Environmental Impact Assessments (EIAs) that are completed for projects, along with regional monitoring and reporting requirements.

During an EIA, all potentially detrimental pollutants are identified and managed throughout the life of the project. Additionally, Suncor follows the Canadian Council of Ministers of the Environment (CCME) Environmental Quality Guidelines for all upstream authorizations.

The method used to identify potential water pollutants is based on established reporting and monitoring standards, along with published research on baseline and/or natural levels of pollutants in the regions where we operate.

Potentially Impacted parties could include:

• Communities in the region of operation
• Municipalities
• Employees
• Wildlife and aquatic species
The potential water-related impacts on ecosystems and human health caused by potential pollutants are managed through risk assessments along with established monitoring and reporting requirements. Impacts are assessed in terms published toxicity levels or baseline metrics. Water sources/water supplies in regions of operations are monitored regularly to test for various metrics (pollution).

**W-OG3.1a**

*(W-OG3.1a) For each business division of your organization, describe how your organization minimizes the adverse impacts on water ecosystems or human health of potential water pollutants associated with your oil & gas sector activities.*

<table>
<thead>
<tr>
<th>Potential water pollutant</th>
<th>Business division</th>
<th>Description of water pollutant and potential impacts</th>
<th>Management procedures</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons</td>
<td>Upstream, Downstream</td>
<td>Ie. Natural gas and fuels / petroleum products Upstream impacts: the potential for spills into water bodies near the operation where hydrocarbons are used and/or extracted/produced/refined. Downstream impacts: Water contaminations (groundwater) from pump malfunction or underground storage of hydrocarbons The scale and magnitude is dependent upon various factors, such as the size, location, concentration, etc. of the pollutant (hydrocarbon).</td>
<td>Compliance with effluent quality standards Measures to prevent spillage, leaching and leakages Community/stakeholder engagement Emergency preparedness Other, please specify Monitoring</td>
<td>Suncor complies with effluent quality standards in each region of operation established by the regulator. We are required to report all spills as per approval conditions. The Environmental Health and Safety department has Spill Response Plans and Policies in place for each business unit, where applicable. The Stakeholder relations group is required to contact and inform key stakeholders that are relevant in situations where they may be or are potentially impacted. Crisis management and communications preparedness is controlled by the Environmental Health and Safety Group. They maintain a risk registry, which is part of the Suncor’s Operational Excellence Management System. The management team is made up of members from the executive leadership team</td>
</tr>
</tbody>
</table>
with various roles that tie different business areas together. Each functional business area also has a response team with defined roles and responsibilities.

<table>
<thead>
<tr>
<th>Chemicals</th>
<th>Upstream</th>
<th>Ie. Metals</th>
<th>Compliance with effluent quality standards</th>
<th>Suncor complies with National Pollutant Release Inventory Reporting (NPRI) Standards. The Stakeholder relations group is required to contact and inform key stakeholders that are relevant in situations where they may be or are potentially impacted. The Environmental Health and Safety department has Spill Response Plans and Policies in place for each business unit where applicable. Crisis management and communications preparedness is controlled by the Environmental Health and Safety Group of Suncor. They maintain a risk registry, which is part of the Operation Excellence Management System. The management team is made up of members from the executive leadership team with various roles that tie different business areas together. Each functional business area also has a response team with defined roles and responsibilities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downstream</td>
<td>Upstream &amp; Downstream: chemical pollutants from each business unit would have similar impacts on water ecosystems and human health. The scale and magnitude is dependent upon various factors, such as the size, location, concentration, etc. of the pollutant (chemical).</td>
<td>Measures to prevent spillage, leaching and leakages</td>
<td>Community/stakeholder engagement</td>
<td></td>
</tr>
<tr>
<td>Drilling fluids</td>
<td>Upstream</td>
<td>Ie. Synthetic-based fluid</td>
<td>Compliance with effluent quality standards</td>
<td>Suncor is required to describe drilling fluids in project applications (i.e. Environmental Protection and Enhancement Act under the Provincial Regulator). The regulation also requires an operator to describe drilling fluid, waste disposal and surface runoff management. The Environmental Health and Safety department has Spill Response Plans and Policies in place for each</td>
</tr>
<tr>
<td></td>
<td>Upstream: potential leaching into groundwater/aquifer and contaminating water</td>
<td>Measures to prevent spillage, leaching and leakages</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 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.**

**Direct operations**

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Risk assessment procedure</th>
<th>Frequency of assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full</td>
<td>Water risks are assessed as part of other company-wide risk assessment system</td>
<td>Annually</td>
</tr>
</tbody>
</table>

Crisis management and communications preparedness is controlled by the Environmental Health and Safety Group of Suncor. They maintain a risk registry, which is part of the Operational Excellence Management System. The management team is made up of members from the executive leadership team with various roles that tie different business areas together. Each functional business area also has a response team with defined roles and responsibilities.
How far into the future are risks considered?
>6 years

Type of tools and methods used
Tools on the market
Enterprise Risk Management
Other

Tools and methods used
WWF-DEG Water Risk Filter
ISO 31000 Risk Management Standard
Internal company methods

Comment
Suncor completed a comprehensive water risk assessment for all operations to assess risks such as stakeholder expectations, watershed issues and operational water use. Suncor’s tools and methods include Strategic Issues Management Process, Enterprise Risk Management, Materiality Review and the WWF Water Risk Filter.

We also participate in regional watershed initiatives to understand long-term watershed risks around water use and quality to inform our own corporate water strategy.

Supply chain

Coverage
Partial

Risk assessment procedure
Other, please specify
Water/sustainability supplier risks

Frequency of assessment
Annually
How far into the future are risks considered?
Unknown

Type of tools and methods used
Enterprise Risk Management
Other

Tools and methods used
Other, please specify
Suncor’s supplier sustainability supplemental associated with RFPs and prequalification processes

Comment
In 2018 SCM developed and launched a SCM Sustainability Strategy. Our Collecting Supplier Information Committee has undertaken a number of initiatives to better understand the sustainability risks and opportunities within our supply chain. Suncor SCM Sustainability strategy is taking a systems approach to risk management. As such we are in a year of baselining and identifying risks in our supply chain.

Other stages of the value chain

Coverage
None

Comment

W3.3b

(W3.3b) Which of the following contextual issues are considered in your organization’s water-related risk assessments?

<table>
<thead>
<tr>
<th>Relevance &amp; inclusion</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water availability at a basin/catchment level</td>
<td>Relevant, always included</td>
</tr>
</tbody>
</table>
Suncor Energy Inc. CDP Water Security Questionnaire 2019

<table>
<thead>
<tr>
<th>Topic</th>
<th>Relevance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit/Regional level scenario analysis, which helps inform future business planning. However; these models/tools are being developed to capture basin level projections that would better inform local water risks. Suncor has evaluated water availability (total water withdrawal per capita) using the WWF Water Risk Filter.</td>
<td>Relevant, always included</td>
<td>Suncor participated in the Athabasca River Basin initiative that is a basin wide collaborative effort to create a common understanding of the water management system, issues and opportunities across the Athabasca River Basin.</td>
</tr>
<tr>
<td>Water quality at a basin/catchment level</td>
<td>Relevant, always included</td>
<td>Suncor has developed models and tools that help us to understand available water quantity and quality at the local level. This analysis involves risk assessment, sustainability forecasting and some business unit/regional level scenario analysis, which helps inform future business planning. However; these models/tools are being developed to capture basin level projections that would better inform local water risks. Suncor has evaluated water quality (water quality index) using the WWF Water Risk Filter.</td>
</tr>
<tr>
<td>Stakeholder conflicts concerning water resources at a basin/catchment level</td>
<td>Relevant, always included</td>
<td>Suncor actively engages with stakeholders with regards to water resources and these issues/risks are part of identified risks. Operational changes to water systems at sites which trigger regulatory applications often requires stakeholder consultation as part of the review. Suncor includes stakeholder assessment and forecasting with regards to water resources at the local level in the ERM process. Suncor participated in the Athabasca River Basin initiative that is a basin wide collaborative effort to create a common understanding of the water management system, issues and opportunities across the Athabasca River Basin.</td>
</tr>
<tr>
<td>Implications of water on your key commodities/raw materials</td>
<td>Not relevant, included</td>
<td>We recognize that some of our material commodity inputs (e.g. natural gas, hydrogen) and agricultural feedstock (e.g. corn for ethanol production) may benefit from being further assessed for their water risks – we expect to further evaluate those as part of our next phase of sustainability integration into our business. Future scenario planning is being developed, however current information/tools have limitations for long term predictions.</td>
</tr>
</tbody>
</table>
Suncor SCM Sustainability strategy is taking a systems approach to risk management. As such we are in a year of baselining and identifying risks in our supply chain. The prequalification assessment in Avetta, our Supplemental included with RFP's and our sustainability assessment of our top suppliers is providing Suncor with a robust foundation of data and information as we progress the SCM strategy.

| Water-related regulatory frameworks | Relevant, always included | All of Suncor’s operational sites have an operating regulatory approval with limits which typically require monthly and annual reporting to regulatory agencies. Our enterprise risk management system (ERM) and strategic issues management process (SIMP) identify changes to water policy and regulations that are further evaluated for operational / business impacts. Suncor monitors future potential regulatory changes at the federal, provincial/state, and municipal level to understand how these changes could impact operations. Suncor also monitors regulations in other jurisdictions and evaluates potential impacts, timing and risk. |
| Status of ecosystems and habitats | Not relevant, explanation provided | Suncor monitors and assesses ecosystem impacts in the watersheds in which it operates in on a local level. Our enterprise risk management system (ERM) and strategic issues management process (SIMP) identify and helps manage ecosystem and habitat water related risks. For some operational sites there is greater and more extensive basin impact monitoring. In the Athabasca watershed, Suncor contributed to a regional monitoring of cumulative effects program that spends $50M dollars per year monitoring impact on the ecosystem. Suncor is a member of a number of watershed planning and advisory committees (WPACs) that evaluate long terms changes to the watershed and advises on potential management actions. Within the Athabasca watershed, Suncor is currently participating in a long-term Athabasca Watershed Basin Initiatives. |
| Access to fully-functioning, safely managed WASH services for all employees | Relevant, always included | For all of Suncor's sites we have WASH services for all employees. Suncor's operations are in developed countries which all have requirements for worker health and safety as well as water and sanitation provision. Monitoring is required at both the global/national level and at the facility level as per national policies and standards for WASH. The standards cover: water quality, water quantity, water facilities and access to water, wastewater treatment and disposal and other environmental issues. |
**W3.3c**

**(W3.3c) Which of the following stakeholders are considered in your organization’s water-related risk assessments?**

<table>
<thead>
<tr>
<th></th>
<th>Relevance &amp; inclusion</th>
<th>Please explain</th>
</tr>
</thead>
</table>
| **Customers**  | Relevant, always included | As part of Suncor’s Water Management-Stakeholder Engagement Plans, customers are considered as a component of overall water risk assessment.  
A potential risk that has been considered in this assessment is reputational risk (part of the Enterprise Risk Management process) on Suncor's brand with regards to water has been evaluated as a component of the overall water risk assessment file. Customers are informed of water-related risks through the annual Report on Sustainability and various third-party Environmental Social and Governance (ESG) disclosure platforms. |
| **Employees**  | Relevant, always included | As part of Suncor’s Water Management-Stakeholder Engagement Plans, the evaluation includes employee impact on execution of water management on-site. This included aspects of roles and accountability, complexity and experience.  
Employees are informed of water-related risks through the annual Report on Sustainability and various third-party Environmental Social and Governance (ESG) disclosure platforms. |
<p>| <strong>Investors</strong>  | Relevant, always included | As part of Suncor’s Water Management-Stakeholder Engagement Plans, investors or investment organizations have been identified as stakeholders as part of our risk assessment framework. Investors are informed of water-related risks through the annual Report on Sustainability and various third-party Environmental Social and Governance (ESG) disclosure platforms. |
| <strong>Local communities</strong> | Relevant, always included | As part of Suncor’s Water Management-Stakeholder Engagement Plans, local communities have been identified and included in Suncor's water risk assessment for the majority of our operational sites. Local communities located in regions where we operate are consulted prior to and throughout a project. Consultation covers a broad set of issues, water-related issues and risks included. We aim to inform local communities of the water-related risks and the processes we have in place to mitigate these. Communities are also informed of water-related risks through the annual Report on Sustainability and various third-party Environmental Social and Governance (ESG) disclosure platforms. |</p>
<table>
<thead>
<tr>
<th>Stakeholder Category</th>
<th>Relevance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGOs</td>
<td>Relevant, always included</td>
<td>NGOs have been identified and included in Suncor’s water risk assessment for the majority of our operational sites. Primary areas of focus are related to cumulative impacts of industrial development, with emphasis on low flow water withdrawal of the Athabasca River and water issues as they relate to tailings management. Suncor continues to discuss opportunities with NGOs related to priority areas.</td>
</tr>
<tr>
<td>Other water users at a basin/catchment level</td>
<td>Relevant, always included</td>
<td>Some other local water users have been identified as stakeholders that do not fall into the major categories. These would include parties who depend on the same basin/catchment from where we withdrawal water for our operations.</td>
</tr>
<tr>
<td>Regulators</td>
<td>Relevant, always included</td>
<td>Regulators have been identified and included in Suncor’s water risk assessment for the majority of our major operational sites. Outside of water risk assessment, Suncor has extensive contact with regulators about all our operations. Environmental data typically requires monthly and annual reporting to regulatory agencies.</td>
</tr>
<tr>
<td>River basin management authorities</td>
<td>Relevant, always included</td>
<td>Suncor collaborates with river basin management authorities, our operations in North America have to follow government jurisdictions for the specific basins. They are not authorities, but what we term as a council of all watershed users.</td>
</tr>
<tr>
<td>Statutory special interest groups at a local level</td>
<td>Relevant, always included</td>
<td>Indigenous communities have been identified as key stakeholders and included in Suncor’s overall water risk assessment. In some cases, concerns with fossil fuel development amongst Indigenous communities stems from the value attributed to natural water sources, and the cumulative impacts on industry on local watersheds. Suncor is building ongoing relationships with Indigenous communities through a corporate Social Goal. Suncor is also part of the Athabasca Watershed Council, which is a multi-stakeholder working group to bring together management plans and strategies for the Athabasca specifically.</td>
</tr>
<tr>
<td>Suppliers</td>
<td>Relevant, sometimes included</td>
<td>Suncor SCM Sustainability strategy is taking a systems approach to risk management. As such we are in a year of baselining and identifying risks in our supply chain. The prequalification assessment in Avetta, our Supplemental included with RFP’s and our sustainability assessment of our top suppliers is providing Suncor with a robust foundation of data and information as we progress the SCM strategy.</td>
</tr>
<tr>
<td>Water utilities at a local level</td>
<td>Relevant, sometimes included</td>
<td>Water utilities at a local level are evaluated as part of water risk assessments at this time as part of each projects Environmental Impact Assessment (EIA). Anticipated effects on the environment of a proposed development or project are measured and design measures or other relevant mitigation measures are used to reduce or avoid those effects (ie. resource use, water quality/availability and environmental setting)</td>
</tr>
</tbody>
</table>
Suncor Energy Inc. CDP Water Security Questionnaire 2019

Other stakeholder, please specify

Relevant, sometimes included

Multi-stakeholder organizations such as Ceres, have been identified as stakeholders as part of our risk assessment framework. Suncor has had workshops with multiple stakeholders on the development of our post-2016 Sustainability Goals including future water goal development.

W3.3d

(W3.3d) 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.

Suncor has an established Enterprise Risk Management Program (ERM) and an Operational Excellence Management System (OEMS) both of which support effective and efficient risk management across the organization. This requires ongoing identification, assessment, treatment and monitoring of risks inherent to our assets, activities and operations. Our risk management program is aligned with the ISO 31000 Risk management. The guidelines provide principles, a framework and a process for managing risk. Our risk management practice is governed by our Risk Management Policy, and supported through tools such as Risk Management Standards and a Risk Matrix to effectively identify and assess risk across the enterprise. Principal risks are generally considered those that have the potential to materially impact our ability to meet or support our business strategy, which can be assessed on a short-term (1-3 years) or long-term (> 10 years) horizon. Once identified, risks are assessed and evaluated in terms of magnitude of impact and likelihood using a risk-matrix tool. This allows employees to consistently assess risks and evaluate the consequence and likelihood of risk events. It also helps assign different levels of residual risk based on the following health and safety, environment, regulatory, reputational and financial impact. To ensure holistic development and sustainment of physical assets, we incorporate environmental and social aspects such as water use, air emissions, energy use, human rights, stakeholder and Indigenous relations into new projects. Screening assessments help translate relevant social or environmental impacts as potential project risks. For example, climate change implications are considered early in the asset development process, which ensures climate change risks and opportunities are well understood. From a decision-making perspective, this process allows asset development options to be analyzed from both a technical and sustainability perspective.

In order to identify water-related risks within Suncor’s direct operations and other stages of the value chain we use a framework called the Strategic Issues Management Process (SIMP). SIMP is a coordinated, anticipatory approach for identifying, monitoring and managing the key environmental, economic, and social issues considered most critical to Suncor and its external stakeholders. Water management is one of seven critical issues identified under SIMP. SIMP aims to achieve a heightened level of preparedness and enable individuals to align on issue treatment and communications in order to better identify and address key threats and opportunities, through an efficient and proactive framework and centralized resource inventory.
A significant effort has been placed around identifying sustainability risks with our suppliers. Our Collecting Supplier Information Committee has undertaken a number of initiatives to better understand the sustainability risks and opportunities within our supply chain. Suncor SCM Sustainability strategy is taking a systems approach to risk management. As such we are in a year of baselining and identifying risks in our 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, only within our direct operations

W4.1a

(W4.1a) How does your organization define substantive financial or strategic impact on your business?
   Suncor uses an enterprise-wide risk management system (ERM) to assess and define risk. Like most ERM systems it uses a matrix that determines the consequence of a risk and the likelihood of it occurring. There are six (6) consequence and likelihood categories. The ERM assign risks a ranking from I to IV for economic, environmental and social. Social is further broken down into health & safety, reputation and regulatory with guidance. Suncor defines substantive risks that are risked rank at II or I; to define substantive change for the purpose of this assessment; an economic value of $10M was used. This includes direct financial costs and lost opportunity value (LOV).

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?

<table>
<thead>
<tr>
<th>Total number of facilities exposed to water risk</th>
<th>% company-wide facilities this represents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row 1</td>
<td>11</td>
</tr>
</tbody>
</table>
W4.1c

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

Country/Region
Canada

River basin
Mackenzie River

Number of facilities exposed to water risk
4

% company-wide facilities this represents
26-50

% company’s global oil & gas production volume that could be affected by these facilities
26-50

% company’s total global revenue that could be affected
26-50

Comment
These facilities make up our primary oil sands operations and include:
• Oil sands Base plant
• Oil sands Fort Hills
• In situ operations; Firebag & MacKay River
Country/Region
   Canada

River basin
   St. Lawrence

Number of facilities exposed to water risk
   4

% company-wide facilities this represents
   26-50

% company’s global oil & gas production volume that could be affected by these facilities
   26-50

% company’s total global revenue that could be affected
   1-25

Comment
   These facilities make up the majority of our Refining & Marketing operations and include our Sarnia Refinery, Montreal Refinery, Montreal Sulphur Plant and Ethanol Plant.

Country/Region
   Canada

River basin
   Nelson River

Number of facilities exposed to water risk
   1
% company-wide facilities this represents
1-25

% company’s global oil & gas production volume that could be affected by these facilities
1-25

% company’s total global revenue that could be affected
Less than 1%

Comment
This facility is one of the refineries included in our Refining & Marketing operations; Edmonton Refinery.

Country/Region
Canada

River basin
Other, please specify
Atlantic Ocean

Number of facilities exposed to water risk
1

% company-wide facilities this represents
1-25

% company’s global oil & gas production volume that could be affected by these facilities
1-25

% company’s total global revenue that could be affected
Less than 1%
Comment
This facility is our off shore operation; situated off the east coast of Canada, we operate the Terra Nova Floating Production Storage and Offloading vessel.

Country/Region
United States of America

River basin
Mississippi River

Number of facilities exposed to water risk
1

% company-wide facilities this represents
1-25

% company’s global oil & gas production volume that could be affected by these facilities
1-25

% company’s total global revenue that could be affected
Less than 1%

Comment
This facility is one of the refineries included in our Refining & Supply operations; Commerce City Refinery.

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.
<table>
<thead>
<tr>
<th><strong>Country/Region</strong></th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>River basin</strong></td>
<td>Mackenzie River</td>
</tr>
<tr>
<td><strong>Type of risk</strong></td>
<td>Regulatory</td>
</tr>
<tr>
<td><strong>Primary risk driver</strong></td>
<td>Regulatory uncertainty</td>
</tr>
<tr>
<td><strong>Primary potential impact</strong></td>
<td>Increased operating costs</td>
</tr>
</tbody>
</table>

**Company-specific description**

There is currently a lack of clarity around regulatory requirements for return of oil sands process affected water (OSPW) back to the watershed during either operational phase or for final closure. The lack of certainty increases risk to long term closure plans as currently constructed and the ability to manage both quantity and quality of water during operational phase of the projects.

**Timeframe**

More than 6 years

**Magnitude of potential impact**

High

**Likelihood**

Unlikely

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

Yes, an estimated range
Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)
1,000,000,000

Potential financial impact figure - maximum (currency)
2,000,000,000

Explanation of financial impact
Additional containment on site (tailings ponds) would be required for additional containment if no regulatory requirements are established to begin returning water back to the watershed. This would also extend the timeframe for reclamation.

Cost of impact to extraction efficiencies due to lower water quality, requiring additive to partially treat water.

Primary response to risk
Engage with regulators/policymakers

Description of response
Work with provincial and federal government to ensure policy and regulation tools and mechanisms are in place to allow for the release of treated tailings water and help identify and fill gaps as required. Suncor along with 6 other operators has been engaging both Federal and Provincial technical and policy leaders for years to drive discussion towards certainty of regulatory tools for water return to the Athabasca River. Suncor and the other operators through Canada’s Oil Sands Innovation Alliance have also been executing projects that will provide technical input into development of policy framework.
There is ongoing investment focused on optimizing water reduction and recycling opportunities, reducing the amount of water retained in tailings and confirming technical understanding and managing all water related impacts. Suncor’s own water R&D as well as the technology sharing by 9 oil sands companies on water R&D through the Canadian Oil Sands Innovation Alliance (COSIA) is laying the foundation for further breakthroughs for the region on environmental performance. There has been 257 technology contributions with an estimated value of $273 million. These projects have the ability to reduce or reuse water on site.

Cost of response
402,000,000

**Explanation of cost of response**

The estimated cost for the containment strategy is ~$402 million of infrastructure investment. The execution of this strategy has resulted in a reduction of oil sands water withdrawal by 58% since 2007. There is ongoing investment focused on optimizing water reduction and recycling opportunities, reducing the amount of water retained in tailings and confirming technical understanding and managing all water related impacts.

---

**Country/Region**
- United States of America

**River basin**
- Mississippi River

**Type of risk**
- Regulatory

**Primary risk driver**
- Other, please specify
  - Increased water stress & Regulation of discharge quality/volumes

**Primary potential impact**
- Increased operating costs

**Company-specific description**

There is a potential for water related stress at the Commerce City Refinery. The potential impact of these risks will likely lead to higher operating costs in the long term. The site is also making improvements to the wastewater treatment system to meet incoming regulations for specific contaminants.

Cost of treatment facility being built.
Timeframe
1 - 3 years

Magnitude of potential impact
High

Likelihood
More likely than not

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
500,000,000

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact
In order to be compliant with water regulations in the area of operation, the facility would have to update waste water permits.

Primary response to risk
Other, please specify
Infrastructure investment

Description of response
Building a new treatment facility and updating water permits in the area of operations.

Cost of response
6,000,000
Explanation of cost of response

Suncor is undertaking a process that provides correct definition-assessment of this water risk. As this process progresses understanding of the potential issues, the impact and mitigation will be determined. Costs associated with definition have been estimated at $6M for the facility.

W4.2c

(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?

<table>
<thead>
<tr>
<th>Primary reason</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row 1 Evaluation in progress</td>
<td>Suncor SCM Sustainability strategy is taking a systems approach to risk management. As such we are in a year of baselining and identifying risks in our supply chain. The prequalification assessment in Avetta, our Supplemental included with RFP’s and our sustainability assessment of our top suppliers is providing Suncor with a robust foundation of data and information as we progress the SCM strategy. We have undertaken a deeper assessment of our suppliers in the top 50% of our spend. This assessment included review of supplier’s ESG reporting including Reports on Sustainability, Supplier Codes of Conduct and response to the CDP. The initial assessments of our top 50% spend have provided SCM sustainability with an indication of strengths and weaknesses within our supply chain as it relates to sustainability. In addition to our Vendor Audit work, Suncor has a robust EH&amp;S audit program as a part of our contractor EHS execution plans at site. As part of our internal management systems we meet with onsite contractors on a regular basis. We hold worksite audits and inspections, lodge inspections and provide toolbox meeting kits to guide EHS discussions with suppliers performing services on our sites. Suncor’s senior leadership demonstrate commitment to safety at our sites through the regular participation in safety discussions with contractors, staff and suppliers. Safety reporting is included in our Supplier Performance Management tool. Suncor’s OEMS is the framework of controls designed to eliminate the causes of unplanned events and incidents. The OEMS includes a guideline on Contractor Management which establishes the processes and requirements for implementing a systematic contractor management program and a process for management goods and services. The objective of this guideline is to ensure that all purchased good meet quality standards while ensuring all services on conducted in a safe, environmentally sound and cost effective manner.</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Type of opportunity</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary water-related opportunity</td>
<td>Improved water efficiency in operations</td>
</tr>
<tr>
<td>Company-specific description &amp; strategy to realize opportunity</td>
<td>Suncor's tactical water strategy for oil sands and in situ has resulted in a major improvement in water efficiency. All the projects executed reduced water use or make large quantities of water available for reuse. There is a Water Strategy Leadership Team that focuses on an integrated water management strategy for the site that addresses excess water stored in tailings and establishes water management principles and guidelines for water management. There is ongoing collaboration with industry partners to test drive multiple water technologies concurrently, enabling the partners to conduct more pilots than each could on their own, while sharing the risks and costs. An example of this work is The Water Technology Development Center (WTDC).</td>
</tr>
<tr>
<td>Estimated timeframe for realization</td>
<td>&gt;6 years</td>
</tr>
<tr>
<td>Magnitude of potential financial impact</td>
<td></td>
</tr>
</tbody>
</table>
Low-medium

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact
The improvement in water efficiency essentially allows Suncor to consistently use less than half of our annual water license allotment from the Athabasca River.

Continuous improvement measures leverage an economic incentive to use less water.

Type of opportunity
Other

Primary water-related opportunity
Other, please specify
Collective active innovation

Company-specific description & strategy to realize opportunity
Suncor has been a leader in improving collaboration among industry peers through organizations such as COSIA.
The SAGD produced water treatment pilot project with COSIA involves testing new water treatment technologies at Suncor’s MacKay River
steam assisted gravity drainage facility. There is a potential to improve the reliability and efficiency of in situ water treatment operations in an effort to reduce water usage.

**Estimated timeframe for realization**
4 to 6 years

**Magnitude of potential financial impact**
Medium-high

**Are you able to provide a potential financial impact figure?**
No, we do not have this figure

**Potential financial impact figure (currency)**

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

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

**Explanation of financial impact**
Suncor’s own water R&D as well as the technology sharing by 9 oil sands companies on water R&D is laying the foundation for further breakthroughs for the region on environmental performance. For water alone there have been 257 technology contributions with an estimated value of $273 million.
W5. Facility-level water accounting

W5.1

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

<table>
<thead>
<tr>
<th>Facility reference number</th>
<th>Facility 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility name (optional)</td>
<td>Oil Sands Base Plant</td>
</tr>
<tr>
<td>Country/Region</td>
<td>Canada</td>
</tr>
<tr>
<td>River basin</td>
<td>Mackenzie River</td>
</tr>
<tr>
<td>Latitude</td>
<td>57.0033</td>
</tr>
<tr>
<td>Longitude</td>
<td>-111.4661</td>
</tr>
<tr>
<td>Oil &amp; gas sector business division</td>
<td>Upstream</td>
</tr>
<tr>
<td>Total water withdrawals at this facility (megaliters/year)</td>
<td>37,442</td>
</tr>
</tbody>
</table>
Comparison of withdrawals with previous reporting year
Higher

Total water discharges at this facility (megaliters/year)
9,693

Comparison of discharges with previous reporting year
Higher

Total water consumption at this facility (megaliters/year)
27,749

Comparison of consumption with previous reporting year
Higher

Facility reference number
Facility 2

Facility name (optional)
In Situ Firebag

Country/Region
Canada

River basin
Mackenzie River

Latitude
57.2297
<table>
<thead>
<tr>
<th><strong>Longitude</strong></th>
<th>-110.8325</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oil &amp; gas sector business division</strong></td>
<td>Upstream</td>
</tr>
<tr>
<td><strong>Total water withdrawals at this facility (megaliters/year)</strong></td>
<td>2,440</td>
</tr>
<tr>
<td><strong>Comparison of withdrawals with previous reporting year</strong></td>
<td>Much higher</td>
</tr>
<tr>
<td><strong>Total water discharges at this facility (megaliters/year)</strong></td>
<td>1,746</td>
</tr>
<tr>
<td><strong>Comparison of discharges with previous reporting year</strong></td>
<td>Much higher</td>
</tr>
<tr>
<td><strong>Total water consumption at this facility (megaliters/year)</strong></td>
<td>694</td>
</tr>
<tr>
<td><strong>Comparison of consumption with previous reporting year</strong></td>
<td>Lower</td>
</tr>
</tbody>
</table>

**Facility reference number**
Facility 3

**Facility name (optional)**
In Situ MacKay River
Country/Region
Canada

River basin
Mackenzie River

Latitude
57.03347

Longitude
-111.88712

Oil & gas sector business division
Upstream

Total water withdrawals at this facility (megaliters/year)
360

Comparison of withdrawals with previous reporting year
Much higher

Total water discharges at this facility (megaliters/year)
7

Comparison of discharges with previous reporting year
Much higher

Total water consumption at this facility (megaliters/year)
353

Comparison of consumption with previous reporting year
Much higher
Facility reference number
   Facility 4

Facility name (optional)
   Montreal Refinery

Country/Region
   Canada

River basin
   St. Lawrence

Latitude
   45.50806

Longitude
   -73.57111

Oil & gas sector business division
   Downstream

Total water withdrawals at this facility (megaliters/year)
   5,618

Comparison of withdrawals with previous reporting year
   Lower

Total water discharges at this facility (megaliters/year)
   5,163

Comparison of discharges with previous reporting year
Total water consumption at this facility (megaliters/year)
455

Comparison of consumption with previous reporting year
Much lower

Facility reference number
Facility 5

Facility name (optional)
Sarnia Refinery

Country/Region
Canada

River basin
St. Lawrence

Latitude
42.9306

Longitude
-82.4433

Oil & gas sector business division
Downstream

Total water withdrawals at this facility (megaliters/year)
Comparison of withdrawals with previous reporting year
Higher

Total water discharges at this facility (megaliters/year)
34,903

Comparison of discharges with previous reporting year
Higher

Total water consumption at this facility (megaliters/year)
0

Comparison of consumption with previous reporting year
About the same

---

Facility reference number
Facility 6

Facility name (optional)
Renewables - St. Clair Ethanol Plant

Country/Region
Canada

River basin
St. Lawrence

Latitude
42.9294

Longitude
-82.4381

Oil & gas sector business division
Downstream

Total water withdrawals at this facility (megaliters/year)
1,004

Comparison of withdrawals with previous reporting year
Lower

Total water discharges at this facility (megaliters/year)
100

Comparison of discharges with previous reporting year
Lower

Total water consumption at this facility (megaliters/year)
904

Comparison of consumption with previous reporting year
Lower

Facility reference number
Facility 7

Facility name (optional)
Edmonton Refinery

Country/Region
Canada

River basin
Nelson River

Latitude
53.55558

Longitude
-113.33275

Oil & gas sector business division
Downstream

Total water withdrawals at this facility (megaliters/year)
3,716

Comparison of withdrawals with previous reporting year
Lower

Total water discharges at this facility (megaliters/year)
1,334

Comparison of discharges with previous reporting year
Higher

Total water consumption at this facility (megaliters/year)
2,382

Comparison of consumption with previous reporting year
Facility reference number
Facility 8

Facility name (optional)
Terra Nova FPSO

Country/Region
Canada

River basin
Other, please specify
Atlantic Ocean

Latitude
46.2831

Longitude
-48.2851

Oil & gas sector business division
Upstream

Total water withdrawals at this facility (megaliters/year)
28,531

Comparison of withdrawals with previous reporting year
Much higher
Total water discharges at this facility (megaliters/year)
20,290

Comparison of discharges with previous reporting year
Much higher

Total water consumption at this facility (megaliters/year)
8,241

Comparison of consumption with previous reporting year
Higher

Facility reference number
Facility 9

Facility name (optional)
Commerce City Refinery

Country/Region
United States of America

River basin
Mississippi River

Latitude
39.80168

Longitude
-104.94698
Oil & gas sector business division
   Downstream

Total water withdrawals at this facility (megaliters/year)
   3,280

Comparison of withdrawals with previous reporting year
   Higher

Total water discharges at this facility (megaliters/year)
   1,940

Comparison of discharges with previous reporting year
   Higher

Total water consumption at this facility (megaliters/year)
   1,340

Comparison of consumption with previous reporting year
   Higher

---

Facility reference number
   Facility 10

Facility name (optional)
   Montreal Sulphur Plant

Country/Region
   Canada
River basin
    St. Lawrence

Latitude
    45.639381

Longitude
    -73.515457

Oil & gas sector business division
    Downstream

Total water withdrawals at this facility (megaliters/year)
    167

Comparison of withdrawals with previous reporting year
    Higher

Total water discharges at this facility (megaliters/year)
    0

Comparison of discharges with previous reporting year
    About the same

Total water consumption at this facility (megaliters/year)
    167

Comparison of consumption with previous reporting year
    Higher
Facility reference number
Facility 11

Facility name (optional)
Oil Sands Fort Hills

Country/Region
Canada

River basin
Mackenzie River

Latitude
57.39207

Longitude
111.56791

Oil & gas sector business division
Upstream

Total water withdrawals at this facility (megaliters/year)
25,955

Comparison of withdrawals with previous reporting year
This is our first year of measurement

Total water discharges at this facility (megaliters/year)
993

Comparison of discharges with previous reporting year
This is our first year of measurement
Total water consumption at this facility (megaliters/year)
24,963

Comparison of consumption with previous reporting year
This is our first year of measurement

W5.1a

(W5.1a) For each facility referenced in W5.1, provide withdrawal data by water source.

<table>
<thead>
<tr>
<th>Facility reference number</th>
<th>Facility 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility name</td>
<td>Oil Sands Base Plant</td>
</tr>
<tr>
<td>Fresh surface water, including rainwater, water from wetlands, rivers and lakes</td>
<td>36,520</td>
</tr>
<tr>
<td>Brackish surface water/seawater</td>
<td>0</td>
</tr>
<tr>
<td>Groundwater - renewable</td>
<td>0</td>
</tr>
<tr>
<td>Groundwater - non-renewable</td>
<td>922</td>
</tr>
<tr>
<td>Produced/Entrained water</td>
<td>0</td>
</tr>
<tr>
<td>Category</td>
<td>Quantity</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Third party sources</td>
<td>0</td>
</tr>
<tr>
<td>Facility reference number</td>
<td>Facility 2</td>
</tr>
<tr>
<td>Facility name</td>
<td>In Situ Firebag</td>
</tr>
<tr>
<td>Fresh surface water, including rainwater, water from wetlands, rivers and lakes</td>
<td>1,570</td>
</tr>
<tr>
<td>Brackish surface water/seawater</td>
<td>0</td>
</tr>
<tr>
<td>Groundwater - renewable</td>
<td>0</td>
</tr>
<tr>
<td>Groundwater - non-renewable</td>
<td>800</td>
</tr>
<tr>
<td>Produced/Entrained water</td>
<td></td>
</tr>
<tr>
<td>Third party sources</td>
<td>70</td>
</tr>
</tbody>
</table>
Facility reference number
Facility 3

Facility name
In Situ MacKay River

Fresh surface water, including rainwater, water from wetlands, rivers and lakes
30

Brackish surface water/seawater
0

Groundwater - renewable
0

Groundwater - non-renewable
330

Produced/Entrained water

Third party sources
0

---

Facility reference number
Facility 4

Facility name
Montreal Refinery
Fresh surface water, including rainwater, water from wetlands, rivers and lakes
5,480

Brackish surface water/seawater
0

Groundwater - renewable
0

Groundwater - non-renewable
0

Produced/Entrained water
0

Third party sources
138

Facility reference number
Facility 5

Facility name
Sarnia Refinery

Fresh surface water, including rainwater, water from wetlands, rivers and lakes
34,651

Brackish surface water/seawater
0
**Groundwater - renewable**  
0

**Groundwater - non-renewable**  
5

**Produced/Entrained water**  
0

**Third party sources**  
247

---

**Facility reference number**  
Facility 6

**Facility name**  
Renewables - St. Clair Ethanol Plant

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**  
0

**Brackish surface water/seawater**  
0

**Groundwater - renewable**  
0

**Groundwater - non-renewable**  
0
Produced/Entrained water
0

Third party sources
1,004

Facility reference number
Facility 7

Facility name
Edmonton Refinery

Fresh surface water, including rainwater, water from wetlands, rivers and lakes
2,227

Brackish surface water/seawater
0

Groundwater - renewable
0

Groundwater - non-renewable
0

Produced/Entrained water
0

Third party sources
1,489
### Facility reference number
Facility 8

### Facility name
Terra Nova FPSO

### Fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

### Brackish surface water/seawater
28,523

### Groundwater - renewable
0

### Groundwater - non-renewable
0

### Produced/Entrained water

#### Third party sources
7

---

### Facility reference number
Facility 9

### Facility name
Commerce City Refinery

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

70

**Brackish surface water/seawater**

0

**Groundwater - renewable**

0

**Groundwater - non-renewable**

780

**Produced/Entrained water**

0

**Third party sources**

2,430

---

**Facility reference number**

Facility 10

**Facility name**

Montreal Sulphur Plant

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

145

**Brackish surface water/seawater**
0
Groundwater - renewable
0
Groundwater - non-renewable
0
Produced/Entrained water
0
Third party sources
22

-----------------------------------------
Facility reference number
Facility 11

Facility name
Oil Sands Fort Hills

Fresh surface water, including rainwater, water from wetlands, rivers and lakes
25,659

Brackish surface water/seawater
0

Groundwater - renewable
0

Groundwater - non-renewable
<table>
<thead>
<tr>
<th>Facility reference number</th>
<th>Facility name</th>
<th>Fresh surface water</th>
<th>Brackish surface water/Seawater</th>
<th>Groundwater</th>
<th>Third party destinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility 1</td>
<td>Oil Sands Base Plant</td>
<td>8,870</td>
<td>0</td>
<td>0</td>
<td>823</td>
</tr>
</tbody>
</table>
### Facility reference number
- Facility 2

### Facility name
- In Situ Firebag

### Fresh surface water
- 1,460

### Brackish surface water/Seawater
- 0

### Groundwater
- 0

### Third party destinations
- 286

---

### Facility reference number
- Facility 3

### Facility name
- In Situ MacKay River

### Fresh surface water
- 0

### Brackish surface water/Seawater
<table>
<thead>
<tr>
<th>Water Source</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater</td>
<td>0</td>
</tr>
<tr>
<td>Third party destinations</td>
<td>7</td>
</tr>
</tbody>
</table>

<p>| Facility reference number    | Facility 4 |
| Facility name                | Montreal Refinery |
| Fresh surface water          | 5,025      |
| Brackish surface water/Seawater | 0        |
| Groundwater                  | 0        |
| Third party destinations     | 138       |</p>
<table>
<thead>
<tr>
<th>Facility 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Facility name</strong></td>
</tr>
<tr>
<td>Sarnia Refinery</td>
</tr>
<tr>
<td><strong>Fresh surface water</strong></td>
</tr>
<tr>
<td>34,903</td>
</tr>
<tr>
<td><strong>Brackish surface water/Seawater</strong></td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td><strong>Groundwater</strong></td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td><strong>Third party destinations</strong></td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facility reference number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility 6</td>
</tr>
<tr>
<td><strong>Facility name</strong></td>
</tr>
<tr>
<td>Renewables - St. Clair Ethanol Plant</td>
</tr>
<tr>
<td><strong>Fresh surface water</strong></td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td><strong>Brackish surface water/Seawater</strong></td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td><strong>Groundwater</strong></td>
</tr>
<tr>
<td>Third party destinations</td>
</tr>
<tr>
<td>--------------------------</td>
</tr>
<tr>
<td>Facility reference number</td>
</tr>
<tr>
<td>Facility name</td>
</tr>
<tr>
<td>Fresh surface water</td>
</tr>
<tr>
<td>Brackish surface water/Seawater</td>
</tr>
<tr>
<td>Groundwater</td>
</tr>
<tr>
<td>Third party destinations</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Facility reference number</th>
<th>Facility 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility name</td>
<td></td>
</tr>
</tbody>
</table>

---
### Terra Nova FPSO

<table>
<thead>
<tr>
<th>Water Source</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh surface water</td>
<td>0</td>
</tr>
<tr>
<td>Brackish surface water/Seawater</td>
<td>20,290</td>
</tr>
<tr>
<td>Groundwater</td>
<td>0</td>
</tr>
<tr>
<td>Third party destinations</td>
<td>0</td>
</tr>
</tbody>
</table>

### Commerce City Refinery

<table>
<thead>
<tr>
<th>Water Source</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh surface water</td>
<td>1,940</td>
</tr>
<tr>
<td>Brackish surface water/Seawater</td>
<td>0</td>
</tr>
<tr>
<td>Groundwater</td>
<td>0</td>
</tr>
<tr>
<td>Third party destinations</td>
<td>0</td>
</tr>
</tbody>
</table>
Facility reference number
   Facility 10

Facility name
   Montreal Sulphur Plant

Fresh surface water
   0

Brackish surface water/Seawater
   0

Groundwater
   0

Third party destinations
   0

Facility reference number
   Facility 11

Facility name
   Oil Sands Fort Hills

Fresh surface water
Brackish surface water/Seawater
0

Groundwater
0

Third party destinations
803

W5.1c

(W5.1c) For each facility referenced in W5.1, provide the proportion of your total water use that is recycled or reused, and give the comparison with the previous reporting year.

<table>
<thead>
<tr>
<th>Facility reference number</th>
<th>Facility name</th>
<th>% recycled or reused</th>
<th>Comparison with previous reporting year</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility 1</td>
<td>Oil Sands Base Plant</td>
<td>76-99%</td>
<td>About the same</td>
<td></td>
</tr>
</tbody>
</table>
In 2018, the Extraction Recycle Rate at oil sands Base plant was approximately 88%. The upgrader on site had a major turnaround, which impacted extraction operations and caused lower production rates and extraction plants operated with lower water efficiency.

Facility reference number
Facility 2

Facility name
In Situ Firebag

% recycled or reused
76-99%

Comparison with previous reporting year
About the same

Please explain
2018 Operations remained consistent with 2017

Facility reference number
Facility 3

Facility name
In Situ MacKay River

% recycled or reused
76-99%

Comparison with previous reporting year
About the same
Please explain  
2018 Operations remained consistent with 2017

Facility reference number  
Facility 4

Facility name  
Montreal Refinery

% recycled or reused  
1-10%

Comparison with previous reporting year  
About the same

Please explain  
2018 Operations remained consistent with 2017

Facility reference number  
Facility 5

Facility name  
Sarnia Refinery

% recycled or reused  
None

Comparison with previous reporting year  
About the same
Please explain
2018 Operations remained consistent with 2017

Facility reference number
Facility 6

Facility name
Renewables - St. Clair Ethanol Plant

% recycled or reused
1-10%

Comparison with previous reporting year
About the same

Please explain
2018 Operations remained consistent with 2017

Facility reference number
Facility 7

Facility name
Edmonton Refinery

% recycled or reused
1-10%

Comparison with previous reporting year
About the same
Please explain
2018 Operations remained consistent with 2017

Facility reference number
Facility 8

Facility name
Terra Nova FPSO

% recycled or reused
None

Comparison with previous reporting year
About the same

Please explain
2018 Operations remained consistent with 2017

---

Facility reference number
Facility 9

Facility name
Commerce City Refinery

% recycled or reused
1-10%

Comparison with previous reporting year
About the same
Please explain
2018 Operations remained consistent with 2017

Facility reference number
Facility 10

Facility name
Montreal Sulphur Plant

% recycled or reused
None

Comparison with previous reporting year
About the same

Please explain
2018 Operations remained consistent with 2017

Facility reference number
Facility 11

Facility name
Oil Sands Fort Hills

% recycled or reused
51-75%

Comparison with previous reporting year
This is our first year of measurement
Please explain
In 2018, the Extraction Recycle Rate at oil sands Fort Hills was approximately 75%. The site started operations in January 2018 and the production ramped up to full capacity by the end of 2018.

W5.1d

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

<table>
<thead>
<tr>
<th>Water withdrawals – total volumes</th>
<th>% verified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>76-100</td>
</tr>
</tbody>
</table>

What standard and methodology was used?

This data is assured by Ernst & Young LLP as part of the publication of Suncor’s 2018 Report on Sustainability. Their limited assurance procedures were planned and performed in accordance with the International Standard on Assurance Engagements (“ISAE”) 3000 Assurance Engagements other than Audits or Reviews of Historical Financial Information*. The assurance statement can be found in our Report on Sustainability. Suncor complies with provincial and federal regulatory standards for water monitoring which typically require monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices.

Water withdrawals – volume by source

% verified
Not verified

What standard and methodology was used?

This data is not subject to assurance by a third-party independent assurer but does undergo internal review as part of our quality assurance for publication in our Report on Sustainability. Suncor complies with provincial and federal regulatory standards for water monitoring which typically
require monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices.

### Water withdrawals – quality

<table>
<thead>
<tr>
<th>% verified</th>
<th>Not verified</th>
</tr>
</thead>
</table>

**What standard and methodology was used?**

This data is not subject to assurance by a third-party independent assurer, but does undergo internal review as part of our quality assurance. Suncor measures and monitors our water withdrawals quality from the surface. The monitored quality is aligned with water discharge quality effluent parameters. Suncor complies with provincial and federal regulatory standards for water monitoring which typically require monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices.

### Water discharges – total volumes

<table>
<thead>
<tr>
<th>% verified</th>
<th>Not verified</th>
</tr>
</thead>
</table>

**What standard and methodology was used?**

This data is not subject to assurance by a third-party independent assurer but does undergo internal review as part of our quality assurance for publication in our Report on Sustainability. Suncor complies with provincial and federal regulatory standards for water monitoring which typically require monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices.

### Water discharges – volume by destination

<table>
<thead>
<tr>
<th>% verified</th>
<th>Not verified</th>
</tr>
</thead>
</table>
**What standard and methodology was used?**

This data is not subject to assurance by a third-party independent assurer but does undergo internal review as part of our quality assurance for publication in our Report on Sustainability. Suncor complies with provincial and federal regulatory standards for water monitoring which typically require monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices.

**Water discharges – volume by treatment method**

<table>
<thead>
<tr>
<th>% verified</th>
<th>Not verified</th>
</tr>
</thead>
</table>

**What standard and methodology was used?**

This data is not subject to assurance by a third-party independent assurer but does undergo internal review as part of our quality assurance for publication in our Report on Sustainability. Suncor complies with provincial and federal regulatory standards for water monitoring which typically require monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices.

**Water discharge quality – quality by standard effluent parameters**

<table>
<thead>
<tr>
<th>% verified</th>
<th>Not verified</th>
</tr>
</thead>
</table>

**What standard and methodology was used?**

This data is not subject to assurance by a third-party independent assurer but does undergo internal review as part of our quality assurance for publication in our Report on Sustainability. Suncor complies with provincial and federal regulatory standards for water monitoring which typically require monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices.
### Water discharge quality – temperature

<table>
<thead>
<tr>
<th>% verified</th>
<th>Not verified</th>
</tr>
</thead>
</table>

**What standard and methodology was used?**

Water discharge quality temperature is monitored at certain facilities, but is not subject to assurance by a third-party independent assurer.

### Water consumption – total volume

<table>
<thead>
<tr>
<th>% verified</th>
<th>Not verified</th>
</tr>
</thead>
</table>

**What standard and methodology was used?**

This data is not subject to assurance by a third-party independent assurer but does undergo internal review as part of our quality assurance for publication in our Report on Sustainability. Suncor complies with provincial and federal regulatory standards for water monitoring which typically require monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices.

### Water recycled/reused

<table>
<thead>
<tr>
<th>% verified</th>
<th>Not verified</th>
</tr>
</thead>
</table>

**What standard and methodology was used?**

Water recycled/reused volumes are not subject to assurance by a third-party independent assurer, but do undergo internal review as part of our quality assurance for publication in our Report on Sustainability. Suncor complies with provincial and federal regulatory standards for water monitoring which typically require monthly and/or annual reporting to regulatory agencies. The standards mandate specific technical methods and monitoring boundaries consistent with best practices.
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.

<table>
<thead>
<tr>
<th>Scope</th>
<th>Content</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row 1 Company-wide</td>
<td>Description of water-related performance standards for direct operations</td>
<td>In 2007 we established a publicly disclosed sustainability water goal for the corporation. Publicly stated goals are intended to drive changes in workplace culture and behaviours when combined with processes for goal translation, goal stewardship, development of water risk assessments and tools; and asset development execution models that include environmental net effect evaluation prior to concept selection. We are also focused on extending our commitment to water stewardship by working to develop a new long-term water goal. Our plan is to take a watershed approach to this goal and work with stakeholders and Indigenous communities to determine where we can have the greatest impact. This is an innovative approach to goal setting and we are excited to see the results of the process. Suncor has a publicly available Environment, Health and Safety policy statement: “Suncor is committed to a culture of operational discipline which is foundational in achieving safety, environmental and health and wellness excellence. We are trusted stewards of our natural resources. We lead the way to deliver a healthy environment for today and tomorrow. Environmentally responsible operations are essential to our success.” We have a publicly available Sustainability Statement, which states the following: “We minimize our environmental footprint by designing and operating our facilities to use resources efficiently and by working to develop long-term solutions to global issues, including climate change and biodiversity.” In addition, improvements in water efficiency allow Suncor to consistently use less than half of our...</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Position of individual</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board-level committee</td>
<td>One of the Board’s major duties is to review with management Suncor’s objectives and goals and the strategies and plans for achieving them. The Board also monitors Suncor’s progress toward its strategic goals and plans, and revises Suncor’s direction where warranted. The Board oversees Suncor’s Enterprise Risk Management Program (the “ERM Program”). In accordance with this program, the CEO and senior management undertake an enterprise-wide process to identify, assess and mitigate significant risks. The Board undertakes an annual review of those risks identified by the ERM program as principal risks. The Board monitors risk management actions for these risks throughout the year. In addition to Board oversight of risk management efforts, each principal risk is mapped to a Board Committee or full Board, as appropriate. Environmental issues are mapped to the Environment, Health, Safety and Sustainable Development Committee of the Board, and this committee receives quarterly reports from management. The board is also responsible for ensuring Suncor has an effective strategic planning process, and on an annual basis reviews Suncor’s annual business plan (including Suncor’s annual capital budget) and in doing so endorses the strategies reflected in Suncor’s long range</td>
</tr>
</tbody>
</table>
W6.2b

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

<table>
<thead>
<tr>
<th>Frequency that water-related issues are a scheduled agenda item</th>
<th>Governance mechanisms into which water-related issues are integrated</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduled - some meetings</td>
<td>Monitoring implementation and performance</td>
<td>One of the Board’s major duties is to review with management Suncor’s objectives and goals and the strategies and plans for achieving them. The Board also monitors Suncor’s progress toward its strategic goals and plans, and revises Suncor’s direction where warranted. The Board oversees Suncor's Enterprise Risk Management Program (the “ERM Program”). In accordance with this program, the CEO and senior management undertake an entity-wide process to identify, assess and mitigate significant risks. The Board undertakes an annual review of those risks identified by the ERM program as principal risks. The Board monitors risk management actions for these risks throughout the year. In addition to Board oversight of risk management efforts, each principal risk is mapped to a Board Committee or full Board, as appropriate. Environmental issues are mapped to the Environment, Health, Safety and Sustainable Development Committee of the Board, and this committee receives quarterly reports from management. The board is also responsible for ensuring Suncor has an effective strategic planning process, and on an annual basis reviews Suncor's annual business plan (including Suncor’s annual capital budget) and in doing so endorses the strategies reflected in Suncor’s long range plan. The Governance Committee provides assistance to the Board by annually assessing Suncor’s planning and budgeting process.</td>
</tr>
<tr>
<td>Scheduled - some meetings</td>
<td>Reviewing and guiding annual budgets</td>
<td></td>
</tr>
<tr>
<td>Scheduled - some meetings</td>
<td>Reviewing and guiding business plans</td>
<td></td>
</tr>
<tr>
<td>Scheduled - some meetings</td>
<td>Reviewing and guiding major plans of action</td>
<td></td>
</tr>
<tr>
<td>Scheduled - some meetings</td>
<td>Reviewing and guiding risk management policies</td>
<td></td>
</tr>
<tr>
<td>Scheduled - some meetings</td>
<td>Reviewing and guiding strategy</td>
<td></td>
</tr>
<tr>
<td>Row 1 Selected meetings</td>
<td>Monitoring implementation and performance</td>
<td></td>
</tr>
<tr>
<td>Row 1 Scheduled - some meetings</td>
<td>Reviewing and guiding annual budgets</td>
<td></td>
</tr>
<tr>
<td>Row 1 Scheduled - some meetings</td>
<td>Reviewing and guiding business plans</td>
<td></td>
</tr>
<tr>
<td>Row 1 Scheduled - some meetings</td>
<td>Reviewing and guiding major plans of action</td>
<td></td>
</tr>
<tr>
<td>Row 1 Scheduled - some meetings</td>
<td>Reviewing and guiding risk management policies</td>
<td></td>
</tr>
<tr>
<td>Row 1 Scheduled - some meetings</td>
<td>Reviewing and guiding strategy</td>
<td></td>
</tr>
</tbody>
</table>
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).

| Setting performance objectives |

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

Chief Sustainability Officer (CSO)

**Responsibility**

Both assessing and managing water-related risks and opportunities

**Frequency of reporting to the board on water-related issues**

Quarterly

**Please explain**

The Chief Sustainability Officer (CSO) reports directly to the CEO and President of Suncor. They have a direct link to the Environmental, Health, and Safety & Sustainable Development (EHS&SD) Committee of the Board of Directors.

The CSO is the highest-level management position below the board level where the most significant water-related issues ultimately are managed.

The CSO has a direct link to the EHS&SD Committee, which is a committee of the Board of Directors. The EHS&SD Committee is in place to monitor the effectiveness and integrity of Suncor’s internal controls as they related to operational risks of the corporation’s physical assets, including water related risk, and other matters of the environment, health, safety and sustainable development. The EHS&SD Committee is also responsible for the review of the policies and practices of the Corporation respecting operational risks.
**W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4**

(W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

Yes

**W-FB6.4a/W-CH6.4a/W-EU6.4a/W-OG6.4a/W-MM6.4a**

(W-FB6.4a/W-CH6.4a/W-EU6.4a/W-OG6.4a/W-MM6.4a) 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)?

<table>
<thead>
<tr>
<th>Who is entitled to benefit from these incentives?</th>
<th>Indicator for incentivized performance</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monetary reward</td>
<td>Other, please specify</td>
<td>We incentivize water performance by progressing projects related to our water stewardship principles that focus on:</td>
</tr>
<tr>
<td>Chief Sustainability Officer (CSO)</td>
<td>Water-related &quot;growth&quot; projects</td>
<td>• water conservation</td>
</tr>
<tr>
<td>Other, please specify</td>
<td></td>
<td>• reuse and recycle</td>
</tr>
<tr>
<td>Facility Managers, Business Unit Managers</td>
<td></td>
<td>• return of treated wastewater to the watershed</td>
</tr>
<tr>
<td>and Corporate Executive Team</td>
<td></td>
<td>These are reflected in the business unit “growth” component of the AIP.</td>
</tr>
<tr>
<td>☀️¹</td>
<td></td>
<td>The CSO has also set an annual goal to develop a new enterprise-wide water goal, which is cascaded down through the organization through the goal translation process. Suncor is currently working to establish a new water goal that builds on our ambition to use water more effectively. We anticipate this to be a multi-year, iterative and collaborative process with Indigenous and non-Indigenous communities close to our operations.</td>
</tr>
<tr>
<td>Recognition (non-monetary)</td>
<td>Reduction of water withdrawals</td>
<td>The President’s Operational Excellence Awards (POEAs) recognize and celebrate employees and contractors who demonstrate high-quality, innovative thinking at Suncor.</td>
</tr>
</tbody>
</table>

1. ☀️ denotes that this incentive is specifically for C-suite employees or board members.
## 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
- Yes, trade associations
- Yes, funding research organizations
- Yes, other

## 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?

We use a process called Strategic Issues Management Process (SIMP) to manage direct and indirect activities to influence policies to ensure they are consistent with our water policy/commitments. SIMP is a coordinated, anticipatory approach for identifying, monitoring and managing the environmental, economic, and social issues considered most critical to Suncor and its external stakeholders. SIMP is comprised of subject matter experts. The SIMP Water group meets regularly as water-related policies, regulations and issues emerge. It allows us to influence policy in a strategic/tactical manner and ensure we are consistent with our four water principles. Our Environmental Health and Safety Policy states our belief that
environmentally responsible operations are essential includes the responsible use of water. We are in the process of creating a new Water Goal and anticipate this to be a multi-year, iterative and collaborative process with Indigenous and non-Indigenous communities close to our operations. This is expected to support communication and consultation on overall integrated water management. Our production currently requires water use, and there is global concern about how water is used and managed. The current water focus is on integrated water management (water use, withdrawal and return). We use four principles to guide our integrated water management approach, include: Shared value of water, Watershed management, Reduce-Reuse-Return, Integrated options analysis.

W6.6

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

Yes

🔗2018 Annual Report

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?

<table>
<thead>
<tr>
<th>Long-term business objectives</th>
<th>Are water-related issues integrated?</th>
<th>Long-term time horizon (years)</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term business objectives</td>
<td>Yes, water-related issues are integrated</td>
<td>21-30</td>
<td>We have developed models and tools used to anticipate future trends in areas such as energy efficiency, water consumption and recycle, air emissions and land disturbance. We use a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level. Suncor also uses an annual price planning assumption process, which summarizes our rationale for long-run pricing assumptions and is used in the business plan and all economic evaluations. Outlooks for water prices and other economic related factors which contribute</td>
</tr>
</tbody>
</table>
to the long term business objectives. Our water management focus includes:

1. Optimising water reduction and recycling opportunities while balancing the net environmental impact and associated costs of both.
2. Ongoing management of our water from tailings/management of water in closure activities. Our Operational Excellence strategic goals are implemented through the goal setting and business planning processes, through which the organization confirms, adjusts and aligns its business direction.

Those processes include review of long term business plans, establishment of capital and operating budgets, and goals translation. The intent is to establish the requirements for setting goals and targets and to develop associated business plans. Implementation of these requirements is intended to assist in ensuring expected contributions, priorities and deliverables are understood and followed throughout the organization.

<table>
<thead>
<tr>
<th>Strategy for achieving long-term objectives</th>
<th>Yes, water-related issues are integrated</th>
<th>21-30</th>
</tr>
</thead>
</table>
| We have developed models and tools used to anticipate future trends in areas such as energy efficiency, water consumption and recycle, air emissions and land disturbance. We use a Sustainability Planning Forecast that estimates performance metrics over a 10 year outlook on a corporate and facility level. Suncor also uses an annual price planning assumption process, which summarizes our rationale for long-run pricing assumptions and is used in the business plan and all economic evaluations. Outlooks for water prices and other economic related factors which contribute to the long term business objectives. Our water management focus includes:

1. Optimising water reduction and recycling opportunities while balancing the net environmental impact and associated costs of both.
2. Ongoing management of our water from tailings/management of water in closure activities. Our Operational Excellence strategic goals are implemented through the goal setting and business planning processes, through which the organization confirms, adjusts and aligns its business direction.

Those processes include review of long term business plans, establishment of capital and operating budgets, and goals translation. The intent is to establish the requirements for setting goals and targets and to develop associated business plans. Implementation of these requirements is intended
to assist in ensuring expected contributions, priorities and deliverables are understood and followed throughout the organization.

<table>
<thead>
<tr>
<th>Financial planning</th>
<th>Yes, water-related issues are integrated</th>
<th>21-30</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>We have developed models and tools used</td>
<td></td>
</tr>
<tr>
<td></td>
<td>to anticipate future trends in areas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>such as energy efficiency, water</td>
<td></td>
</tr>
<tr>
<td></td>
<td>consumption and recycle, air</td>
<td></td>
</tr>
<tr>
<td></td>
<td>emissions and land disturbance. We use</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a Sustainability Planning Forecast</td>
<td></td>
</tr>
<tr>
<td></td>
<td>that estimates performance metrics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>over a 10 year outlook on a corporate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and facility level. Suncor also uses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>an annual price planning assumption</td>
<td></td>
</tr>
<tr>
<td></td>
<td>process, which summarizes our rationale</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for long-run pricing assumptions and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>is used in the business plan and all</td>
<td></td>
</tr>
<tr>
<td></td>
<td>economic evaluations. Outlooks for</td>
<td></td>
</tr>
<tr>
<td></td>
<td>water prices and other economic related</td>
<td></td>
</tr>
<tr>
<td></td>
<td>factors which contribute to the long</td>
<td></td>
</tr>
<tr>
<td></td>
<td>term business objectives. Our water</td>
<td></td>
</tr>
<tr>
<td></td>
<td>management focus includes:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Optimising water reduction and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>recycling opportunities while</td>
<td></td>
</tr>
<tr>
<td></td>
<td>balancing the net environmental</td>
<td></td>
</tr>
<tr>
<td></td>
<td>impact and associated costs of both.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Ongoing management of our water from</td>
<td></td>
</tr>
<tr>
<td></td>
<td>tailings/ management of water in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>closure activities. Our Operational</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Excellence strategic goals are</td>
<td></td>
</tr>
<tr>
<td></td>
<td>implemented through the goal setting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and business planning processes,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>through which the organization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>confirms, adjusts and aligns its</td>
<td></td>
</tr>
<tr>
<td></td>
<td>business direction. Those processes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>include review of long term business</td>
<td></td>
</tr>
<tr>
<td></td>
<td>plans, establishment of capital and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>operating budgets, and goals translation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The intent is to establish the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>requirements for setting goals and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>targets and to develop associated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>business plans. Implementation of these</td>
<td></td>
</tr>
<tr>
<td></td>
<td>requirements is intended to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>assist in ensuring expected</td>
<td></td>
</tr>
<tr>
<td></td>
<td>contributions, priorities and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>deliverables are understood and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>followed throughout the organization.</td>
<td></td>
</tr>
</tbody>
</table>

**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

Suncor’s accounting system is not setup organizationally to attribute CAPEX and OPEX figures to water from across the company that meets the definitions provided by CDP in the guidance document. As such, any numbers Suncor would produce would be an estimate subject to significant error and not useful for a year over year comparison.

W7.3

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

<table>
<thead>
<tr>
<th>Use of climate-related scenario analysis</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row 1 Yes</td>
<td>We used three scenarios defined by IHS Markit as the basis for the development of the Suncor corporate wide climate related scenarios. The IHS Markit Autonomy, Rivalry and Vertigo scenarios have been modified to fit our unique circumstances/needs. Suncor has developed models and tools that allow us to understand available water quantity and quality at the local level. This analysis involves risk assessment, sustainability forecasting and some business unit/regional level scenario analysis, which helps inform future business planning. However; these models/tools are being developed to capture basin level projections that would better inform local water risks. Suncor is actively working on understanding and integrating water related scenario analysis in the corporate climate related scenario analysis, which will help inform business strategy.</td>
</tr>
</tbody>
</table>
W7.3a

(W7.3a) Has your organization identified any water-related outcomes from your climate-related scenario analysis?

No

W7.4

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

Yes

Please explain

Suncor’s Operational Excellence strategic goals are implemented through the goal setting and business planning processes, through which the organization confirms, adjusts and aligns its business direction. Those processes include review of long term business plans, establishment of capital and operating budgets, and goals translation. The intent is to establish the requirements for setting goals and targets and to develop associated business plans. Implementation of these requirements is intended to assist in ensuring expected contributions, priorities and deliverables are understood and followed throughout the organization. Suncor uses an annual Price Planning Assumption (PPA) process, which summarizes Suncor’s rationale for long-run pricing assumptions and is used in the business plan and all economic evaluations. Suncor is also developing tools that look specifically at the trade-off between water and other environmental issues.

W8. Targets

W8.1

(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.

<table>
<thead>
<tr>
<th>Levels for</th>
<th>Monitoring at</th>
<th>Approach to setting and monitoring targets and/or goals</th>
</tr>
</thead>
</table>


<table>
<thead>
<tr>
<th>targets and/or goals</th>
<th>corporate level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row 1: Business level specific targets and/or goals Activity level specific targets and/or goals Site/facility specific targets and/or goals</td>
<td>None are monitored at corporate level</td>
</tr>
</tbody>
</table>

We are focused on extending our commitment to water stewardship beyond our previous long-term fresh water consumption target (which was achieved) by working to develop a new long-term water goal. Our plan is to take a watershed approach to this goal and work with stakeholders and Indigenous communities to determine where we can have the greatest impact. This is an innovative approach to goal setting and we are excited to see the results of this process.

Targets and goals are influenced by Canada’s Oil Sands Innovation Alliance (COSIA), whose members including Suncor are oil sands producers focused on accelerating the pace of improvement in environmental performance in Canada’s oil sands through collaborative action and innovation. COSIA’s Water Environment Priority Area is looking for innovative and sustainable solutions to reduce water use and increase water recycling rates at oil sands mining and in situ operations in order to achieve the Aspiration to “be world leaders in water management, producing Canadian energy with no adverse impact on water.” ([https://www.cosia.ca/initiatives/water](https://www.cosia.ca/initiatives/water))

Through COSIA we strive to contribute to achieving the alliance’s two Water Performance Goals, which are focused on reducing freshwater use in the oil sands. The two targets in place include:

- Reduce freshwater use and intensity by 50% by 2022.
- Reduce the net water use intensity from the Athabasca River and its tributaries by 30% by 2022.

Suncor provides annual water data and future forecasted data for all sites that operate within the Athabasca River Basin. The COSIA working group monitors and reports annual progress towards these goals.

Targets and goals are addressed through multi-stakeholder working groups such as the Athabasca Watershed Council. For the Oil Sands Mining Water Management Agreement for 2018-2019, Suncor agreed to cumulatively limit withdrawals from the Athabasca River. Suncor set and stewarded towards net instantaneous withdrawals to align with the weekly flow triggers and cumulative water use limits of the Surface Water Quantity Management Framework (SWQMF).
Targets and goals are also influenced by the Alberta Energy Regulator’s (AER) new oil sands directive, the Fluid Tailings Management for Oil Sands Mining Projects (Directive 085). This regulation includes tailings management plan application and tailings performance reporting requirements aligned with the government’s Tailings Management Framework. In 2018 Suncor’s Base Plant oil sands mine monitored and stewarded the total inventory of fluid tailings contained on site. This inventory is tracked through annual assessments and monitoring of bitumen production rates and fluid tailings treatment rates throughout the year to track progress.

<table>
<thead>
<tr>
<th>Linkage or tradeoff</th>
<th>Type of linkage/tradeoff</th>
<th>Description of linkage/tradeoff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased GHG emissions</td>
<td>Increased water recycling and a smaller water footprint could lead to more complex water treatment unit processes, which could cause higher energy usage and increased GHG emissions. These would be quantified via emissions reporting.</td>
<td></td>
</tr>
</tbody>
</table>
Policy or action
Suncor includes requirements as part of its asset development execution model to consider net environmental effects as well as potential social impact of development options. The objective is to have environment, social and economics considered prior to concept selection. Water quality/quantity, energy/GHG, air emissions, waste, land impacts/risks are part of the evaluation. There has not been a change in the measured impact of the trade-off in the reporting year.

Linkage or tradeoff
Tradeoff

Type of linkage/tradeoff
Other, please specify
Increased maintenance/reliability costs

Description of linkage/tradeoff
Increased water recycling could degrade circulating water quality leading to increased scaling and corrosion rates and potentially operating performance, and increased maintenance and reliability costs.

Policy or action
Suncor includes requirements as part of its asset development execution model to consider net environmental effects as well as potential social impact of development options. The objective is to have environment, social and economics considered prior to concept selection. Water quality/quantity, energy/GHG, air emissions, waste, land impacts/risks are part of the evaluation. There has not been a change in the measured impact of the trade-off in the reporting year.

Linkage or tradeoff
Tradeoff

Type of linkage/tradeoff
Increased energy use
Description of linkage/tradeoff
Using saline water for oil sands and in situ water makeup requirement could result in reduced water efficiency, increased volume of wastewater disposal, overall higher energy use and increased land disturbance for well and pipeline infrastructure.

Policy or action
Suncor includes requirements as part of its asset development execution model to consider net environmental effects as well as potential social impact of development options. The objective is to have environment, social and economics considered prior to concept selection. Water quality/quantity, energy/GHG, Air emissions, waste, land impacts/risks are part of the evaluation. There has not been a change in the measured impact of the trade-off in the reporting year.

Linkage or tradeoff
Tradeoff

Type of linkage/tradeoff
Increased wastewater treatment

Description of linkage/tradeoff
The need for water return leads to an increase in wastewater treatment. Wastewater treatment allows for water to be returned to the source, but requires a significant amount of energy.

Policy or action
Suncor includes requirements as part of its asset development execution model to consider net environmental effects as well as potential social impact of development options. The objective is to have environment, social and economics considered prior to concept selection. Water quality/quantity, energy/GHG, Air emissions, waste, land impacts/risks are part of the evaluation. There has not been a change in the measured impact of the trade-off in the reporting year.
W10. Verification

W10.1

(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?

No, we do not currently verify any other water information reported in our CDP disclosure

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.

Advisories

Forward-Looking Statements: These responses contain certain forward-looking statements and forward-looking information (collectively, forward-looking statements) based on Suncor’s current expectations, estimates, projections and assumptions that were made by Suncor in light of information available at the time these responses were prepared. Some of the forward-looking statements may be identified by words like “expected”, “will”, “estimated”, “could”, “anticipates”, “intended”, “may”, “forecast”, “potential”, “strategy”, “goal”, “objective”, “outlook”, “target” and similar expressions. Forward-looking statements in these responses include references to: Suncor’s models and tools to anticipate future trends and sustainability planning forecast; Suncor’s goal to improve environmental performance; Suncor’s work to establish a new long-term water goal and the timing thereof, and Suncor’s ambition to use water more effectively; the expectation that Suncor’s Sustainability Planning Forecast will help Suncor to advance its goal of continuing improving environmental performance; the expectation that continued monitoring of the watersheds in which Suncor operates will help the company adapt and continue to take appropriate actions to reduce its water footprint; statements about Suncor’s Supply Chain Management Sustainability Strategy and the expected impacts it will have; potential impacts of regulations; the parties that may be impacted through Suncor’s water pollutants management procedures; the next phase of sustainability integration into Suncor’s business; Suncor’s plans with respect to stakeholder engagement with respect to water-related risks; references to Suncor’s social goal; potential impact of water risks to the company’s business, including the potential timing, financial impact, likelihood and cost to respond and the impact of such response; the belief that
Suncor's own water research and development, as well as the technology sharing through COSIA is laying the foundation for further breakthroughs on environmental performance; potential impact of water opportunities in Suncor's business, including the potential timing and the financial impacts therefrom; expectations relating to technologies, including potential benefits; Suncor’s strategies, plans, policies, targets and focuses relating to water and sustainability, and the expected benefits therefrom; the four principles that Suncor will use to guide its integrated water management approach across the company; Suncor striving to continuously improve water performance; and COSIA’s water goals and focus.

Forward-looking statements are not guarantees of future performance and involve a number of risks and uncertainties, some that are similar to other oil and gas companies and some that are unique to our company. Suncor’s actual results may differ materially from those expressed or implied by our forward-looking statements and you are cautioned not to place undue reliance on them. Suncor’s Management’s Discussion & Analysis for the first quarter of 2019 and its most recently filed Annual Information Form/Form 40-F, Annual Report to Shareholders and other documents it files from time to time with securities regulatory authorities describe the risks, uncertainties, material assumptions and other factors that could influence actual results and such factors are incorporated herein by reference. Copies of these documents are available without charge from Suncor or by referring to the company’s profile on SEDAR at sedar.com or EDGAR at sec.gov. Except as required by applicable securities laws, Suncor disclaims any intention or obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

BOEs: Certain natural gas volumes have been converted to barrels of oil equivalent (boe) on the basis of one barrel to six thousand cubic feet. Any figure presented in boe may be misleading, particularly if used in isolation. A conversion ratio of one barrel of crude oil or natural gas liquids to six thousand cubic feet of natural gas is based on an energy equivalency conversion method primarily applicable at the burner tip and does not necessarily represent a value equivalency at the wellhead. Given that the value ratio based on the current price of crude oil as compared to natural gas is significantly different from the energy equivalency of 6:1, utilizing a conversion on a 6:1 basis may be misleading as an indication of value.

W11.1

(W11.1) Provide details for the person that has signed off (approved) your CDP water response.

<table>
<thead>
<tr>
<th>Job title</th>
<th>Corresponding job category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row 1  Director in Outreach and Disclosure at Suncor Energy</td>
<td>Environment/Sustainability manager</td>
</tr>
</tbody>
</table>
W11.2

(W11.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate’s Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].

No