

# Welcome to your CDP Water Security Questionnaire 2019

## W0. Introduction

### W0.1

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

Keyera is one of the largest independent natural gas and natural gas liquids midstream businesses in western Canada. Our operating businesses provide a range of gathering, processing, fractionation, storage, transportation and marketing services to the oil and gas industry. As a midstream business, Keyera is focused on providing essential services to producers and delivering natural gas liquids, related specification products and iso-octane to key markets across North America. We provide these services through our two integrated business lines: the Gathering and Processing Unit and the Liquids Business Unit. The Liquids Business Unit consists of the Liquids Infrastructure and Marketing segments.

The majority of Keyera's operations and facilities are located in Alberta, Canada; however, we also have operations and conduct business in other jurisdictions including Texas (Hull Terminal) and Oklahoma (Oklahoma Liquids Terminal and Wildhorse Terminal). Keyera ships products to customers across North America.

Keyera's vision is to be the North American leader in delivering midstream energy solutions. In support of this vision, Keyera has maintained a consistent commitment to its value-driven strategy of delivering steady growth supported by sustainable, competitive energy facilities. As part of this strategy, Keyera:

- focuses on operational safety;
- strives to provide reliable midstream services at a competitive price;
- pursues opportunities to increase throughput at its existing facilities;
- invests in expansion and optimization opportunities to meet its customer needs and complement its service offerings;
- balance environmental protection, social responsibility and economic growth;
- selectively pursues acquisitions;
- builds on the interconnectivity of its infrastructure and its integrated business model; and
- maintains a conservative capital structure.

Since 1998, Keyera has developed a reputation as an expert in operating complex energy processing facilities safely and responsibly, and in a manner that demonstrates respect for our employees and the communities we call home. Keyera recognizes that environmental protection, social responsibility and economic growth are all essential to the success of our business. Keyera recognizes the importance of responsible environmental stewardship and has made significant investments in infrastructure to improve efficiencies and enhance

environmental performance. We are committed to continuing our record of conducting our business ethically, safely and in an environmentally and financially responsible manner.

## W0.2

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

	Start date	End date
Reporting year	January 1, 2018	December 31, 2018

## W0.3

**(W0.3) Select the countries/regions for which you will be supplying data.**

Canada

## W0.4

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

CAD

## W0.5

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

Companies, entities or groups over which operational control is exercised

## W0.6

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

Yes

### W0.6a

**(W0.6a) Please report the exclusions.**

Exclusion	Please explain
United States facilities	The only water use in our US facilities is office drinking water and non-operational purposes, and we do not have that data at this point.

## W1. Current state

### W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Have not evaluated	Freshwater is used in below ground cavern storage operation. Other uses include cooling water, boiler water or miscible flooding for production.
Sufficient amounts of recycled, brackish and/or produced water available for use	Have not evaluated	Have not evaluated	

### W1.2

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

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	100%	In all cases where water is diverted, withdrawal volumes are measured and monitored.
Water withdrawals – volumes from water stressed areas	Not relevant	All withdrawals are from low or low-medium risk areas
Water withdrawals – volumes by source	100%	In all cases where water is diverted, withdrawal volumes are measured and monitored.
Water withdrawals quality	76-99	Water withdrawal quality is measured in most cases.
Water discharges – total volumes	100%	Water discharge volumes are measured and monitored both for surface release and downhole disposal.
Water discharges – volumes by destination	100%	Water discharge volumes are measured and monitored both by surface location and downhole disposal.

Water discharges – volumes by treatment method	Not relevant	No wastewater treatment.
Water discharge quality – by standard effluent parameters	Not relevant	No effluent release.
Water discharge quality – temperature	Not relevant	
Water consumption – total volume	Not monitored	All water withdrawn and all water discharged is measured and monitored, and as such, water consumed is measured.
Water recycled/reused	100%	All re-used or recycled water gets tracked.
The provision of fully-functioning, safely managed WASH services to all workers	100%	All workers are provided access to fully-functioning, safely managed WASH services.

## 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?**

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	2,914.62	Lower	In 2017, KFS cavern washing consumed ~340 megalitres more water than in 2018.
Total discharges	1,572.5	Lower	In 2017, KFS cavern washing consumed ~340 megalitres more water than in 2018.
Total consumption	1,342.12	Lower	In 2017, KFS cavern washing consumed ~340 megalitres more water than in 2018.

## W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater,	Relevant	543.51	Lower	2018 fresh surface water includes both total water

water from wetlands, rivers, and lakes				withdrawal from lakes and streams under all Keyera water licenses equal to 309.39 megalitres and surface water (rain) runoff collected at all facilities, monitored for quality and discharged back into a river equal to 234.12 megalitres.
Brackish surface water/Seawater	Not relevant			Not used in our operations.
Groundwater – renewable	Relevant	917.34	Lower	2018 Total water withdrawal from groundwater under all Keyera water licenses equal to 917.34 megalitres
Groundwater – non-renewable	Not relevant			Not used in our operations.
Produced/Entrained water	Relevant	1,338.38	Lower	2018 total produced water collected as part of gas processing and Injected into disposal wells.
Third party sources	Relevant	115.39	About the same	About the same.

## W1.2j

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

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	26-50	This is our first year of measurement	Pond water at one of our facilities was provided to a third party for hydrotesting and directional drilling. In additional, at two of our gas plants, remediated water was re-injected to up the groundwater bearing zone. Also included in this recycel/reuse figure is estimates from our iso-oxtane facility on steam condensate collection reuse.

## W2. Business impacts

### W2.1

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

Yes

## W2.1a

**(W2.1a) Describe the water-related detrimental impacts experienced by your organization, your response, and total financial impact.**

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**Country/Region**

Canada

**River basin**

Nelson River

**Type of impact driver**

Regulatory

**Primary impact driver**

Increased difficulty in obtaining withdrawals/operations permit

**Primary impact**

Constraint to growth

**Description of impact**

Adequate water is needed to create brine solution which is the displacement liquid needed in underground cavern operation. Without brine, products can not be pushed out of the caverns for sale. The water source is not under risk of quantity depletion, it is solely access to the water resource which constrains production.

**Primary response**

Secure alternative water supply

**Total financial impact**

**Description of response**

Keyera is exploring alternative water supplies, water access agreements and discussing the regulatory hurdles with regulators have all been responses. We have also reduced expansion and reduced output to keep pace with water supply restrictions.

Not comfortable sharing further details on financial impact due to risks associated with sharing information that may be of value to competitor.

## 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

### 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

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###### Coverage

Partial

###### Risk assessment procedure

Water risks are assessed as a standalone issue

###### Frequency of assessment

Not defined

###### How far into the future are risks considered?

>6 years

###### Type of tools and methods used

Tools on the market  
International methodologies  
Databases  
Other

###### Tools and methods used

WRI Aqueduct  
Regional government databases  
Internal company methods

###### Comment

Water related business risks are evaluated on both access to water and economic risk factors.

##### Supply chain

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###### Coverage

None

###### Comment

At this point we do not assess water-related risks related to our supply chain.

##### Other stages of the value chain

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**Coverage**

None

**Comment**

At this point we do not access water-related risks related to our value chain.

## W4. Risks and opportunities

### W4.1

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

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

### W4.1b

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

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	6	26-50	Six of 22 (27%) of facilities are exposed to water risks with the potential to have substantive financial or strategic impact on the business.

### 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**

Nelson River

**Number of facilities exposed to water risk**

5

**% company-wide facilities this represents**

1-25



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

76-99

**% company's total global revenue that could be affected**

76-99

**Comment**

Used 2018 processing volumes & revenue using provincial netback liability calculator.

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**Country/Region**

Canada

**River basin**

Mackenzie 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**

1-25

**Comment**

Used 2018 processing volumes & revenue using provincial netback liability calculator.

## **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.**

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**Country/Region**

Canada

**River basin**

Nelson River

**Type of risk**

Regulatory

**Primary risk driver**

Increased difficulty in obtaining withdrawals/operations permit

**Primary potential impact**

Constraint to growth

**Company-specific description**

NGL Facility (1):

Adequate water is needed to create brine solution which is the displacement liquid needed in underground cavern operation. Without brine, products cannot be pushed out of the caverns for sale. The water source is not under risk of quantity depletion, it is solely access to the water resource which constrains production.

Gas Plants (4):

Adequate water is needed primarily to run steam, glycol systems and cooling water systems needed to run certain units related to gas processing. Without fresh water, systems cannot produce the requisite steam to drive equipment or water to cool process systems.

Note: The same risks and financial impacts apply to the gas plant in the Mackenzie River Basin.

Chemical Facility (1):

Adequate water is needed primarily to run steam, glycol systems and cooling water systems needed to run certain units related to iso-octane production. Without fresh water, systems cannot produce the requisite steam to drive equipment or water to cool process systems.

**Timeframe**

More than 6 years

**Magnitude of potential impact**

High

**Likelihood**

More likely than not

**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**

**NGL Facility:**

Adequate water is needed to create brine solution which is the displacement liquid needed in underground cavern operation. Without brine, products can not be pushed out of the caverns for sale. We have reduced expansion and reduced output to keep pace with water supply restrictions.

**Gas Plants (4):**

Adequate water is needed primarily to run steam, glycol systems and cooling water systems needed to run certain units related to gas processing. Without fresh water, systems cannot produce the requisite steam to drive equipment or water to cool process systems, and this would have an impact on our ability to operate and generate revenue.

**Chemical Facility (1):**

Adequate water is needed primarily to run steam, glycol systems and cooling water systems needed to run certain units related to iso-octane production. Without fresh water, systems cannot produce the requisite steam to drive equipment or water to cool process systems, and this would have an impact on our ability to operate and generate revenue.

**Primary response to risk**

Secure alternative water supply

**Description of response**

NGL Facility (1)

Exploring alternative water supplies, water access agreements and discussing the regulatory hurdles with regulators have all been responses. We have also reduced expansion and reduced output to keep pace with water supply restrictions.

Other Facilities:

To date, adequate access to water has been obtainable through the regulatory process.

**Cost of response**

**Explanation of cost of response**

Not comfortable sharing further details on financial impact due to risks associated with sharing information that may be of value to competitor.

## **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 but are unable to realize them

## W4.3b

**(W4.3b) Why does your organization not consider itself to have water-related opportunities?**

	Primary reason	Please explain
Row 1	Evaluation in progress	Our business development teams explore water-related opportunities, they are continually being evaluated.

## 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.**

**Facility reference number**

Facility 1

**Facility name (optional)**

**Country/Region**

Canada

**River basin**

Nelson River

**Latitude**

53.75071

**Longitude**

-113.15543

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

571.45

**Comparison of withdrawals with previous reporting year**

Much lower

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

**Comparison of discharges with previous reporting year**

This is our first year of measurement

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

**Comparison of consumption with previous reporting year**

This is our first year of measurement

**Please explain**

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**Facility reference number**

Facility 2

**Facility name (optional)**

**Country/Region**

Canada

**River basin**

Nelson River

**Latitude**

52.75764

**Longitude**

-114.10783

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

500.18

**Comparison of withdrawals with previous reporting year**

About the same

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

**Comparison of discharges with previous reporting year**

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

**Comparison of consumption with previous reporting year**

**Please explain**

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**Facility reference number**

Facility 3

**Facility name (optional)**

**Country/Region**

Canada

**River basin**

Nelson River

**Latitude**

52.227954

**Longitude**

-115.174167

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

47.51

**Comparison of withdrawals with previous reporting year**

Much lower

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

**Comparison of discharges with previous reporting year**

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

**Comparison of consumption with previous reporting year**

**Please explain**

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**Facility reference number**

Facility 4

**Facility name (optional)**

**Country/Region**

Canada

**River basin**

Nelson River

**Latitude**

52.948882

**Longitude**

-115.905628

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

0.31

**Comparison of withdrawals with previous reporting year**

About the same

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

**Comparison of discharges with previous reporting year**

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

**Comparison of consumption with previous reporting year**

**Please explain**

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**Facility reference number**

Facility 5

**Facility name (optional)**

**Country/Region**

Canada

**River basin**

Mackenzie River

**Latitude**

54.42356

**Longitude**

-117.76072

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

19.94

**Comparison of withdrawals with previous reporting year**

Much higher

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

**Comparison of discharges with previous reporting year**

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

**Comparison of consumption with previous reporting year**

**Please explain**

Simonette added a new water license in 2018 due to gas plant expansion. The license expired on December 31st, 2018.

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**Facility reference number**

Facility 6

**Facility name (optional)**

**Country/Region**

Canada

**River basin**

Nelson River

**Latitude**

53.53199

**Longitude**

-113.36493

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

115.39

**Comparison of withdrawals with previous reporting year**

About the same

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

**Comparison of discharges with previous reporting year**

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

**Comparison of consumption with previous reporting year**

**Please explain**



All unmetered discharge volumes at AEF are sent to sanitary system and treated at municipal water treatment plant.

## W6. Governance

### W6.1

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

No, but we plan to develop one within the next 2 years

### W6.2

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

Yes

### 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).**

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

Chief Executive Officer (CEO)

**Responsibility**

Managing water-related risks and opportunities

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

Quarterly

**Please explain**

The CEO reports to the Health, Safety and Environment (HSE) Board Committee on environmental performance, concerns and opportunities a quarterly basis, this would include discussing any water-related issues.

## W7. Business strategy

### W7.1

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

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain

Long-term business objectives	Yes, water-related issues are integrated	21-30	Facility cavern development is still in expansion, there will be water-related considerations in the business plan.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	21-30	Water-related considerations are included in the strategy to achieve long-term objectives.
Financial planning	Yes, water-related issues are integrated	21-30	The business strategy is the basis for corporate financial planning and given that water-related considerations are part of the strategy, they are by default considered in financial planning.

## W8. Targets

### W8.1

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

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Business level specific targets and/or goals	None are monitored at corporate level	At an asset level, water needs are assessed at facilities in Keyera’s growth areas on an annual basis, as well as during the screening stage of new projects. Water diversion access is monitored by the asset team and senior management against current and future demand and allowance targets. Risk management strategies are employed where operations or growth demand exceeds access, and water use is managed as required. By improving operational efficiency and realizing water re-use opportunities, Keyera aims to reduce freshwater use where alternate water supply is obtainable.

## W11. Sign off

### W-FI

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

## W11.1

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

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

## Submit your response

**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

	Public or Non-Public Submission	I am submitting to
I am submitting my response	Public	Investors