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# CDP Water Security 2022 Questionnaire

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## W0 Introduction

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

As one of the world's largest producers of plastics and chemicals, our products are used by millions of people around the world, every day. We have the potential—and responsibility—to use this scale and reach to make a positive impact across our value chains. That's why we are working to deliver meaningful progress to address some of the world's most pressing challenges such as helping end plastic waste in the environment, mitigating climate change and contributing to a thriving society for our employees, the communities where we operate and the people who depend on our products. Driven by our employees around the globe, we produce materials and products that are key to advancing solutions to modern challenges like enhancing food safety through lightweight and flexible packaging, protecting the purity of water supplies through stronger and more versatile pipes, improving the safety, comfort, and fuel efficiency of many of the cars and trucks on the road, and ensuring the safe and effective functionality of electronics and appliances. We manage our operations through six operating segments, namely Olefin and Polyolefins (O&P) – Americas; O&P - Europe, Asia and International; Intermediate and Derivatives (I&D); Advanced Polymer Solutions (APS); Refining; and Technology.

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### (W-CH0.1a) Which activities in the chemical sector does your organization engage in?

- Bulk organic chemicals
  - Bulk inorganic chemicals
  - Specialty organic chemicals
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### (W0.2) State the start and end date of the year for which you are reporting data.

Start date	End date
From: 01/01/2021	To: 12/31/2021

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

Country/Area
Argentina
Australia
Belgium
Brazil
China
France
Germany
India
Indonesia
Italy
Malaysia
Mexico
Netherlands
Poland
Spain
Sweden
Thailand
Turkey
United Kingdom of Great Britain and Northern Ireland
United States of America

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

Currency
USD

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

No

**(W0.7) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?**

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier*
Yes, an ISIN code	NL0009434992

# W1 Current state

## Dependence

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

Water quality and quantity	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Important	<p>Water is an essential resource for our operations. We use water both in operations (primarily cooling towers and steam production) and as potable water for drinking and sanitary use at our sites and offices.</p> <p>Our refinery and many of our manufacturing sites reuse water to reduce the amount of groundwater and freshwater withdrawn. For example, the majority of our large sites use recirculating water systems for cooling.</p> <p>The WRI Aqueduct Tool was chosen for assessment due to its wide acceptance and alignment with CDP, GRI, UN Global Compact etc. and seen as the best tool to measure and understand our water related risks. According to the WRI Aqueduct Water Risk Atlas tool, the majority of our sites are classified as low water stress. Our sites located in extremely high or high water stressed areas of the world are polypropylene compounding facilities. These sites use very little water relative to our olefin and propylene oxide/styrene monomer operations, which require comparatively larger amounts of water and are in low or medium water-stressed areas.</p> <p>Indirect water use is important to our operations. Importance varies by sector, since some sectors rely on supplied materials that also can be freshwater intensive, while other sectors are not. Indirect water uses vary as well. Much of the water use is from extraction or processing of raw materials and further processing of materials into final products.</p> <p>Future use of water can be expected to increase in importance for regions LyondellBasell operates that are water stressed or considered vulnerable to water use restrictions. LyondellBasell plans to assess these risks further within the next 2 years.</p>
Sufficient amounts of recycled, brackish and/or produced water available for use	Not very important	Not very important	<p>Two of our sites use sea water for cooling. The two sites represent only a small percentage of total enterprise wide production. Therefore direct use of sea water is not considered important at the enterprise level.</p> <p>We are not aware of the need at our sites or for indirect use water supply fitting the CDP- definition of this category since most of our supply comes from freshwater sources: "low quality water requiring significant treatment to be acceptable for human consumption or other purposes, and for which the source can be easily substituted". Most water for direct use is either freshwater or of high volumes not easily substituted. Indirect water use is considered by LyondellBasell to be not very important for similar reasons.</p>

## Company-wide water accounting

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

Water aspect	% of sites/facilities/operations	Please explain
Water withdrawals – total volume	100%	LyondellBasell collects total water withdrawal volume estimates worldwide, annually. Water withdrawals are typically measured by metering, either directly on site or via a municipal or local water supplier at LyondellBasell sites. The use of the word typically is intended to convey that while we believe all sites are metered, this aspect of the program is not confirmed at enterprise level.
Water withdrawals – volumes by source	100%	We collect annual data on water withdrawals by source. We monitor and measure water withdrawals with meters at most of our larger sites. Smaller sites rely on water metering documentation from the water supplier.
Water withdrawals – quality	76-99	We collect annual data on water withdrawals quality at the enterprise level. We measure and monitor withdrawal water quality at routine, frequent intervals at our larger sites. We confirm water supplies delivered from municipalities or other third party suppliers are monitored for quality before distribution to our sites. Our refining and manufacturing sites use on-site treatment facilities prior to use of the withdrawn water. These facilities routinely monitor withdrawn water quality to assure proper treatment before use. Withdrawal quality is typically analyzed using locally approved test methods.
Water discharges – total volume	100%	We collect total wastewater discharge volume estimates worldwide, annually. Our sites are typically required by permit or other mechanism to measure, typically by routine, frequent gauging of the water within discharge structures (such as weirs or Parshall flumes). In other cases, water discharges are measured and monitored by metering, either directly on site or via a publicly-owned treatment works (POTW) facility.
Water discharges – volumes by destination	100%	We collect annual data on wastewater discharges by destination: fresh surface water, groundwater, offsite treatment, seawater/brackish water and other sources. Our sites are typically required by permit or other mechanism to measure, typically by routine, frequent gauging of the water within discharge structures (such as weirs or Parshall flumes). In other cases, water discharges are measured and monitored by metering, either directly on site or via a publicly-owned treatment works (POTW) facility.
Water discharges – volumes by treatment method	Not relevant	We do not consider tracking volumes by treatment method to be relevant to enterprise-level water management since effective treatment methods are site and stream-specific. We require sites apply LyondellBasell's Operational Excellence standards relating enterprise-level requirements to selecting and modifying water treatment methods at our sites. LyondellBasell wastewaters are typically treated via one or more biological, physical, or chemical treatment method before being discharged or wastewater discharges directly to a publicly-owned treatment works (POTW) facility for treatment.
Water discharge quality – by standard effluent parameters	76-99	We collect annual status of discharge wastewater quality monitoring at our facilities. We manage water in accordance with permitted limits for discharge destination and water quality, and our Operational Excellence systems support ongoing compliance. Many of our larger sites operate their own wastewater treatment facilities, which allows for increased control

		over our water efficiency and quality of our discharges on a routine basis. LyondellBasell requires sites that analyze for Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS) for wastewater discharges to a receiving water body provide the weighted-average results for these parameters annually.
Water discharge quality – temperature	1-25	LyondellBasell collects annual status of discharge wastewater quality monitoring at our facilities. We manage water in accordance with permitted limits for discharge destination and water quality, including temperature where included as a permitted parameter. We ask sites to list parameters monitored. The percentage entered represents the proportion of our sites that reported temperature as a parameter monitored. Our Operational Excellence systems support ongoing compliance. Many of our larger sites operate their own wastewater treatment facilities, which allows for increased control over our water efficiency and quality of our discharges on a routine basis.
Water consumption – total volume	100%	LyondellBasell calculates total water consumption volume based on the annual site estimates of water withdrawals and water discharges. The monitoring and measurement methods are as described for water discharges – total volume and water withdrawals – total volume. Water withdrawals are typically measured and monitored by metering, either directly on site or via a municipal or local water supplier at LyondellBasell sites. Our sites are typically required by permit or other mechanism to measure and monitor volume of wastewater discharged. In these cases, water discharges are measured and monitored by metering, either directly on site or via a publicly-owned treatment works.
Water recycled/reused	51-75	We recycle our supply of water, when feasible, to limit the amount we draw from regional supplies. LyondellBasell collects site-specific estimates of recycled/reused water on an annual basis. Some sites are required by permit or other mechanism to measure and monitor recycled water use, for instance for use in cooling water systems. In remaining cases, sites estimate the volumes based on assumptions about cycles, pump curve data, or other reasonable means to estimate.
The provision of fully-functioning, safely managed WASH services to all workers	76-99	LyondellBasell collects annual data on water withdrawals quality, which includes water routed for WASH (Water, Sanitation, and Hygiene; e.g. potable) services. We measure with flow meters, and monitor withdrawal water quality at our larger sites and confirm water supplies delivered from municipalities or other third party suppliers are metered and monitored for quality before water is distributed to our sites for use. Our refining and larger manufacturing sites use on-site treatment facilities prior to use of the withdrawn water. These facilities routinely monitor withdrawn water quality to assure proper treatment before use. Our Operational Excellence systems support ongoing compliance, including WASH services.

**(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?**

Water aspect	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
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Total withdrawals	293,100	About the same	2021 withdrawals were about the same as the 2020 total withdrawal of 282,000 megaliters, primarily since material increases from acquisition and increased production in some locations were mostly offset by withdrawal reductions in others. We anticipate future withdrawals to be about the same as current year withdrawals.
Total discharges	189,900	About the same	2021 discharges were about the same as the 2020 total withdrawal of 186,900 megaliters, primarily since material increases from acquisition and increased production in some locations were mostly offset by discharge reductions in others. We anticipate future discharges to be about the same as current year withdrawals.
Total consumption	103,100	About the same	LyondellBasell calculates total consumption as the difference in withdrawals minus discharges. Consumption was about the same (less than 10% different) in 2021 compared to 95,200 megaliters in 2020. The slight increase is attributable to material increases in withdrawals from acquisition and increased production in some locations that were not totally offset by withdrawal reductions in others. We anticipate future consumption to be about the same as current year consumption.

**(W1.2d) Indicate whether water is withdrawn from areas with water stress and provide the proportion.**

Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Identification tool	Please Explain
Yes	Less than 1%	About the same	WRI Aqueduct	In 2022, we applied the 3.0 version of the WRI Aqueduct tool, with updated indicators and hydrological modeling. According to results, the majority of our owned and operated manufacturing sites are classified as low water stress. Our sites located in extremely high or high water stressed areas of the world represent less than 1% of our water withdrawals.

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

Source	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	144,900	Higher	Surface water withdrawal was slightly higher in 2021 compared to 129.3 thousand megaliters in 2020. The slight increase is attributable to material increases in withdrawals from acquisition and increased production in some locations that were not totally offset by withdrawal reductions in others. We anticipate future withdrawals to be about the same as current year withdrawals.

Brackish surface water/Seawater	Relevant	68,700	About the same	2021 sea water withdrawals were about the same as the 2020 total withdrawal of 73 thousand megaliters, primarily since there were no material changes to these withdrawals. We anticipate future withdrawals to be about the same as current year.
Groundwater – renewable	Relevant	24,300	About the same	2021 renewable groundwater withdrawals were about the same as the 2020 total withdrawal of 23 thousand megaliters, primarily since there were no material changes to these withdrawals. We anticipate future withdrawals to be about the same as current year.
Groundwater – non-renewable	Not Relevant	0	This is our first year of measurement	LyondellBasell did not identify any of the existing groundwater withdrawals as non-renewable, based on LyondellBasell understanding of the CDP definition of this term. Reviews were completed by local site Environmental specialists for applicable sites and included inquiry with local authorities in some cases. We do not anticipate future changes to this initial assessment.
Produced/Entrained water	Relevant	1.2	About the same	2021 produced water withdrawals were about the same as the 2020 total withdrawal, primarily since there were no material changes to these withdrawals and similar production levels. We anticipate future withdrawals to be about the same as current year. LyondellBasell reports produced water at two sites, based on LyondellBasell understanding of the CDP definition of this term. Reviews were completed by local site Environmental specialists and entries for this category will be reviewed for alignment in future data request cycles.
Third party sources	Relevant	54,000	About the same	LyondellBasell received about the same amount of water from third party sources, based on LyondellBasell understanding of the CDP definition of this term. Reviews were completed by local site Environmental specialists and included some third party water supply that recur year over year in similar volumes, but were not previously captured.

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

Destination	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	44,300	About the same	LyondellBasell discharged about the same volume of water to freshwater sources, primarily since there were no material changes to these discharges aggregated across the enterprise. Sites are required to explain if site-level discharges change by more than 10%. We anticipate future discharges at the enterprise level to be about the same as current year discharges.
Brackish surface water/seawater	Relevant	72,900	About the same	LyondellBasell discharged about the same volume of water to seawater sources, primarily since there were no material changes at the two sites discharging to seawater. We anticipate future discharges to be about the same as current year discharges. Note: these discharges are approximately the same volume as

				seawater withdrawal since the primary discharge is once-through cooling at our Brindisi, Italy site.
Groundwater	Relevant	0.1	About the same	LyondellBasell discharged about the same volume of water to a single site's discharge to groundwater, primarily since there were no material changes to that single site's discharges. We anticipate future discharges to be about the same as current year discharges at that site.
Third-party destinations	Relevant	72,600	About the same	LyondellBasell discharged about the same volume of water to third-party sources, primarily since there were no material changes to these discharges aggregated across the enterprise. Sites are required to explain if site-level discharges change by more than 10%. We anticipate future discharges at the enterprise level to be about the same as current year discharges.

## Water intensity

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

Revenue	Total water withdrawal volume (megaliters)	Total water withdrawal efficiency	Anticipated forward trend
46,200,000,000	299,113	$299113/46200000000 = 0.00000647$	We anticipate future withdrawal efficiency at the enterprise level to be about the same as the current year efficiency. There are no plans for global manufacturing operations changes in 2023 that are anticipated to materially alter enterprise-level withdrawal volumes.

### (W-CH1.3) Do you calculate water intensity for your activities in the chemical sector?

- No, and we have no plans to do so in the next two years

## Value-chain engagement

### (W1.4) Do you engage with your value chain on water-related issues?

- No, we do not engage with our value chain on water

### (W1.4d) Why do you not engage with any stages of your value chain on water-related issues and what are your plans?

Primary reason	Please explain
Important but not an immediate business priority	<p>We expect our suppliers to comply with applicable laws and adhere to internationally recognized ESG standards. In 2020, we adopted a Supplier Code of Conduct outlining our ESG expectations for those with whom we do business, and in 2021, we expanded our sustainable procurement program with the goal of assessing performance of at least 70% of key suppliers by 2025. These suppliers represent approximately 90% of our procurement spend. We are also evaluating many of our suppliers' sustainability practices utilizing the globally recognized EcoVadis platform to better understand their environmental performance.</p> <p>We conduct Storage and Handling Assessments at customers site for relevant high hazard products. Despite the limitations of travel due to COVID-19, we continued these assessments both virtually and in person in 2021. We also work closely with research and development teams to assess the potential human health and environmental hazards and anticipated end-use clearances of new products in the development pipeline. This evaluation includes a review of raw materials used in the production process and any associated potential byproducts.</p> <p>LyondellBasell plans to continue to assess options for specific water-related engagement with suppliers and customers and will incorporate any changes into our value chain processes as necessary to implement any selected changes.</p>

## W2 Business impacts

### Recent impacts on your business

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

No

### Compliance impacts

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

Yes, fines, enforcement orders or other penalties but none that are considered as significant

**(W2.2a) Provide the total number and financial value of all water-related fines.**

Total number of fines	Total value of fines	% of total facilities/operations associated	Number of fines compared to previous reporting year	Comment

4	<p>\$19,518.80</p> <p>€5,000 x 1.2 = \$6,000</p> <p>\$11,500 + \$6000 + \$2028.8 = \$19,518.80</p>	4/92 = 4%	About the same	<ul style="list-style-type: none"> <li>• LaPorte, Texas - Penalty was related to a failure to prevent unauthorized discharge of wastewater. \$11,500 penalty.</li> <li>• Bornem, Belgium - Environmental Inspection service of the Flemish government indicated exceedance of the cobalt limit at the waste water discharge on March 11, 2021. A €5,000 euro fine was assessed.</li> <li>• Berre, France - a formal enforcement notice was received on 8/1/2021 regarding recurring exceedances of zinc in the discharges to the Vain Pond related to cooling tower discharges. No penalty.</li> <li>• Fairport Harbor, Ohio-Facility received a formal enforcement order in January of 2021 and fine of \$2,028.80 related to the release of polymer pellets outside of the facility.</li> </ul>
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## W3 Procedures

### Pollutant management procedures

#### (W-CH3.1) How does your organization identify and classify potential water pollutants associated with its activities in the chemical sector that could have a detrimental impact on water ecosystems or human health?

We manage water in accordance with permitted limits for discharge destination and water quality, and our Operational Excellence system supports ongoing compliance. We identify, assess, and classify potential water pollutants based on our understanding of our processes, feedstocks, and other material used at our facilities that may have a detrimental impact on water ecosystems or human health. Potential wastewater pollutants are identified and classified at the site-level through permitting with local authorities and/or compliance with requirements from 3<sup>rd</sup> party treatment entities such as municipal treatment works facilities. LyondellBasell is a founding member of the Alliance to End Plastic Waste which aims to divert millions of metric tons of plastic waste from the environment and we are a member of Operation Clean Sweep® (OCS), the plastics industry's global initiative that promotes collaboration, training and education in controlling and reducing the loss of pellets, flakes and powders. In 2019, we committed to OCS Blue, a U.S. program that enhances management and reporting requirements. Our sites' primary potential wastewater pollutants are conventional pollutants, as that term is defined in the United States Clean Water Act.

We track status and confirm compliance through several enterprise-level programs described below. Where applicable, our sites monitor effluent conditions, operate, maintain and monitor pollution prevention measures, investigate and take corrective actions for any excursions, and report on water treatment, monitoring, and pollution prevention, at a frequency required by the jurisdiction, but no less frequent than annually.

Policies and processes in place:

- As it relates to water management, our HSE policy states LyondellBasell conducts "...the systematic identification of risks... consistent with our Operational Excellence program."
- Our Operational Excellence (OE) program is at the enterprise level and includes an Incident Reporting Standard that requires Sites to report incidents of water pollution, including any exceedances of discharge limits, or deviations from requirements of permits or regulatory obligations.

- Our OE program includes an Environmental Management System (EMS) Standard, which requires sites to establish, document, communicate and monitor multiyear (three to five years) pollution prevention and resource optimization objectives to achieve compliance, business driven improvement, and science based risk management and thoroughly assess and manage the risk of onsite and offsite environmental releases, including unplanned releases to air, water and soil, as part of Process Hazard Analyses.
- Our annual environmental data reporting process requires Sites to confirm if water discharge quality is monitored and list parameters monitored.
- Our OE process includes the obligation to perform periodic local audits of OE reporting and EMS and enterprise-level audits to verify OE processes are in place and fully implemented at our Sites.

As an example of measures in place, our environmental management system standard includes specific requirements for sites to:

- thoroughly assess and manage the risk of onsite and offsite environmental releases, including unplanned releases to air, water and soil, as part of Process Hazard Analyses.
- develop an OCS Site Improvement Plan, including objectives such as preventative actions to eliminate sources of loss of polymers, and corrective actions to prevent reoccurrence of past incidents resulting in the loss of pellets, flakes and powders.

We expect our suppliers to comply with applicable laws and adhere to internationally recognized ESG standards. This includes a commitment to operate in an environmentally responsible manner. In 2020, we adopted a Supplier Code of Conduct outlining our ESG expectations for those with whom we do business, and in 2021, we expanded our sustainable procurement program with the goal of assessing performance of at least 70% of key suppliers by 2025. These suppliers represent approximately 90% of our procurement spend. A contractual commitment to comply with our Supplier Code of Conduct is included in the standard contract templates and purchasing terms and conditions of LyondellBasell's global procurement organization. We are also evaluating many of our suppliers' sustainability practices utilizing the globally recognized EcoVadis platform to better understand their environmental performance.

We conduct Storage and Handling Assessments at customers site for relevant high hazard products. Despite the limitations of travel due to COVID-19, we continued these assessments both virtually and in person in 2021. We also work closely with research and development teams to assess the potential human health and environmental impacts and anticipated end-use clearances of new products in the development pipeline. This evaluation includes a review of raw materials used in the production process and any associated potential byproducts.

**(W-CH3.1a) Describe how your organization minimizes adverse impacts of potential water pollutants on water ecosystems or human health. Report up to ten potential pollutants associated with your activities in the chemical sector.**

Potential water pollutant	Value chain stage	Description of water pollutant and potential impacts	Management procedures	Please explain
Biological Oxygen Demand, BOD5	Direct operations	LyondellBasell is aligned with the definition of conventional pollutants, as defined in US Clean Water Act section 304(a)(4) and Federal Register § 401.16, and their potential impacts and similar references listed below.  BOD: "Certain environmental stresses can lessen the amount of dissolved oxygen in a water body, resulting in stresses on the local aquatic life."	<ul style="list-style-type: none"> <li>• Compliance with effluent quality standards</li> <li>• Measures to prevent spillage, leaching, and leakages</li> <li>• Providing best practices instructions on product use</li> </ul>	<p>Our environmental management system standard, part of our Operational Excellence system, provides a mechanism for compliance assurance and continuous improvement. This commitment extends not only to our employees, but also to contractors and suppliers performing work at our sites. Many of our larger sites operate their own wastewater treatment facilities, which allows for increased control over our water efficiency and quality of our discharges.</p> <p>We identify and classify potential water pollutants in accordance with permits, specific to discharge destination and local water quality requirements. Our Operational Excellence system supports ongoing compliance. Many of our larger sites operate their own wastewater treatment facilities, which allows for increased control over our water efficiency and quality of our discharges. LyondellBasell tracks, at the enterprise level, wastewater quality parameters monitored at our sites. We request sites that discharge wastewater for treatment at 3<sup>rd</sup> party wastewater treatment plants, including municipal facilities, include conventional pollutants in their monitoring program.</p> <ul style="list-style-type: none"> <li>• Our Operational Excellence (OE) program is at the enterprise level and includes an Incident Reporting Standard that requires sites to report incidents of water pollution, including any exceedances of</li> </ul>

				<p>discharge limits of any pollutant, or deviations from requirements of permits or regulatory obligations. For example, we require sites to report release of hazardous materials or polymeric solids outside of containment structures. Our reporting tool requires investigations into the root causes and corrective actions for any exceedances of permit or regulatory limits.</p> <ul style="list-style-type: none"> <li>• Compliance with applicable product material safety data. For example, we maintain Safety Data Sheets in US and compliance with applicable Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) requirements for products managed in the European Union.</li> <li>• As it relates to water management, our HSE policy states LyondellBasell will conduct "...regular management system and compliance audits..."</li> </ul> <p>Success is monitored through the auditing process described above and also tracking of incidents at the site and enterprise level against a "goal zero" expectation. Compliance audits are routinely scheduled approximately every three years at our Olefins, Refinery, and Intermediates &amp; Derivatives (I&amp;D) sites. Procedures are reviewed as needed to remain aligned with our overall programs.</p>
Total Suspended Solids (TSS)	Direct operations	TSS: "Sediment in rivers can ... shorten the lifespan of dams and reservoirs.... Reservoirs slowly fill up with sediment and mud, eventually making them unusable for their intended purposes."	<ul style="list-style-type: none"> <li>• Compliance with effluent quality standards</li> <li>• Measures to prevent spillage, leaching, and leakages</li> <li>• Providing best practices instructions on product use</li> </ul>	<p>Our environmental management system standard, part of our Operational Excellence system, provides a mechanism for compliance assurance and continuous improvement. This commitment extends not only to our employees, but also to contractors and suppliers performing work at our sites. Many of our larger sites operate their own wastewater treatment facilities, which allows for increased control over our water efficiency and quality of our discharges.</p> <p>We identify and classify potential water pollutants in accordance with permits, specific to discharge destination and local water quality requirements. Our Operational Excellence system supports ongoing compliance. Many of our larger sites operate their own wastewater treatment facilities, which allows for increased control over our water efficiency and quality of our discharges. LyondellBasell tracks, at the enterprise level, wastewater quality parameters monitored at our sites. We request sites that discharge wastewater for treatment at 3<sup>rd</sup> party wastewater treatment plants, including municipal facilities, include conventional pollutants in their monitoring program.</p> <ul style="list-style-type: none"> <li>• Our Operational Excellence (OE) program is at the enterprise level and includes an Incident Reporting Standard that requires sites to report incidents of water pollution, including any exceedances of discharge limits of any pollutant, or deviations from requirements of permits or regulatory obligations. For example, we require sites to report release of hazardous materials or polymeric solids outside of containment structures. Our reporting tool requires investigations into the root causes and corrective actions for any exceedances of permit or regulatory limits.</li> <li>• Compliance with applicable product material safety data. For example, we maintain Safety Data Sheets in US and compliance with applicable Registration, Evaluation, Authorization and</li> </ul>

				<p>Restriction of Chemicals (REACH) requirements for products managed in the European Union.</p> <ul style="list-style-type: none"> <li>As it relates to water management, our HSE policy states LyondellBasell will conduct "...regular management system and compliance audits..."</li> </ul> <p>Success is monitored through the auditing process described above and also tracking of incidents at the site and enterprise level against a "goal zero" expectation. Compliance audits are routinely scheduled approximately every three years at our Olefins, Refinery, and I&amp;D sites. Procedures are reviewed as needed to remain aligned with our overall programs.</p>
pH	Direct operations	<p>pH: "The pH of water determines the solubility (amount that can be dissolved in the water) and biological availability (amount that can be utilized by aquatic life) of chemical constituents such as nutrients (phosphorus, nitrogen, and carbon) and heavy metals (lead, copper, cadmium, etc.). For example, in addition to affecting how much and what form of phosphorus is most abundant in the water, pH also determines whether aquatic life can use it. In the case of heavy metals, the degree to which they are soluble determines their toxicity."</p>	<ul style="list-style-type: none"> <li>Compliance with effluent quality standards</li> <li>Measures to prevent spillage, leaching, and leakages</li> <li>Providing best practices instructions on product use</li> </ul>	<p>Our environmental management system standard, part of our Operational Excellence system, provides a mechanism for compliance assurance and continuous improvement. This commitment extends not only to our employees, but also to contractors and suppliers performing work at our sites. Many of our larger sites operate their own wastewater treatment facilities, which allows for increased control over our water efficiency and quality of our discharges.</p> <p>We identify and classify potential water pollutants in accordance with permits, specific to discharge destination and local water quality requirements. Our Operational Excellence system supports ongoing compliance. Many of our larger sites operate their own wastewater treatment facilities, which allows for increased control over our water efficiency and quality of our discharges. LyondellBasell tracks, at the enterprise level, wastewater quality parameters monitored at our sites. We request sites that discharge wastewater for treatment at 3<sup>rd</sup> party wastewater treatment plants, including municipal facilities, include conventional pollutants in their monitoring program.</p> <ul style="list-style-type: none"> <li>Our Operational Excellence (OE) program is at the enterprise level and includes an Incident Reporting Standard that requires sites to report incidents of water pollution, including any exceedances of discharge limits of any pollutant, or deviations from requirements of permits or regulatory obligations. For example, we require sites to report release of hazardous materials or polymeric solids outside of containment structures. Our reporting tool requires investigations into the root causes and corrective actions for any exceedances of permit or regulatory limits.</li> <li>Compliance with applicable product material safety data. For example, we maintain Safety Data Sheets in US and compliance with applicable Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) requirements for products managed in the European Union.</li> <li>As it relates to water management, our HSE policy states LyondellBasell will conduct "...regular management system and compliance audits..."</li> </ul> <p>Success is monitored through the auditing process described above and also tracking of incidents at the site and enterprise level against a "goal zero" expectation. Compliance audits are routinely scheduled approximately every three years at our Olefins, Refinery, and I&amp;D sites. Procedures are reviewed as needed to remain aligned with our overall programs.</p>

Oil and grease	Direct operations	<p>Source: United States 43 Federal Register 32857:</p> <p>Oil and Grease          “It is common practice to install oil and grease removal equipment for by-product recovery purposes or to prevent disruption of subsequent wastewater treatment. Substances found in this group of pollutants also represent oxygen demanding material and are of concern in wastewater treatment.”</p>	<ul style="list-style-type: none"> <li>• Compliance with effluent quality standards</li> <li>• Measures to prevent spillage, leaching, and leakages</li> <li>• Providing best practices instructions on product use</li> </ul>	<p>Our environmental management system standard, part of our Operational Excellence system, provides a mechanism for compliance assurance and continuous improvement. This commitment extends not only to our employees, but also to contractors and suppliers performing work at our sites. Many of our larger sites operate their own wastewater treatment facilities, which allows for increased control over our water efficiency and quality of our discharges.</p> <p>We identify and classify potential water pollutants in accordance with permits, specific to discharge destination and local water quality requirements. Our Operational Excellence system supports ongoing compliance. Many of our larger sites operate their own wastewater treatment facilities, which allows for increased control over our water efficiency and quality of our discharges. LyondellBasell tracks, at the enterprise level, wastewater quality parameters monitored at our sites. We request sites that discharge wastewater for treatment at 3<sup>rd</sup> party wastewater treatment plants, including municipal facilities, include conventional pollutants in their monitoring program.</p> <ul style="list-style-type: none"> <li>• Our Operational Excellence (OE) program is at the enterprise level and includes an Incident Reporting Standard that requires sites to report incidents of water pollution, including any exceedances of discharge limits of any pollutant, or deviations from requirements of permits or regulatory obligations. For example, we require sites to report release of hazardous materials or polymeric solids outside of containment structures. Our reporting tool requires investigations into the root causes and corrective actions for any exceedances of permit or regulatory limits.</li> <li>• Compliance with applicable product material safety data. For example, we maintain Safety Data Sheets in US and compliance with applicable Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) requirements for products managed in the European Union.</li> <li>• As it relates to water management, our HSE policy states LyondellBasell will conduct “...regular management system and compliance audits...”</li> </ul> <p>Success is monitored through the auditing process described above and also tracking of incidents at the site and enterprise level against a “goal zero” expectation. Compliance audits are routinely scheduled approximately every three years at our Olefins, Refinery, and I&amp;D sites. Procedures are reviewed as needed to remain aligned with our overall programs.</p>
Polymeric Solids	Direct Operations	<p>LyondellBasell believes ending plastic waste in the environment is a critical issue of our time. We are committed to helping eliminate plastic waste and are engaged in collaborative efforts across the value chain to direct action where it is needed most. We are a founding member of the Alliance to End Plastic Waste which aims to divert millions of metric tons of plastic waste from the environment and we are a member of</p>	<ul style="list-style-type: none"> <li>• Compliance with effluent quality standards</li> <li>• Measures to prevent spillage, leaching, and leakages</li> <li>• Providing best practices instructions on product use</li> </ul>	<p>Our environmental management system standard, part of our Operational Excellence system, provides a mechanism for compliance assurance and continuous improvement. This commitment extends not only to our employees, but also to contractors and suppliers performing work at our sites. Many of our larger sites operate their own wastewater treatment facilities, which allows for increased control over our water efficiency and quality of our discharges.</p> <p>We identify and classify potential water pollutants in accordance with permits, specific to discharge destination and local water quality requirements. Our Operational Excellence system supports ongoing</p>

		<p>Operation Clean Sweep® (OCS), the plastics industry's global initiative that promotes collaboration, training and education in controlling and reducing the loss of pellets, flakes and powders. In 2019, we committed to OCS Blue, a U.S. program that enhances management and reporting requirements.</p>		<p>compliance. Many of our larger sites operate their own wastewater treatment facilities, which allows for increased control over our water efficiency and quality of our discharges. LyondellBasell tracks, at the enterprise level, wastewater quality parameters monitored at our sites. We request sites that discharge wastewater for treatment at 3<sup>rd</sup> party wastewater treatment plants, including municipal facilities, include conventional pollutants in their monitoring program.</p> <ul style="list-style-type: none"> <li>• Our Operational Excellence (OE) program is at the enterprise level and includes an Incident Reporting Standard that requires sites to report incidents of water pollution, including any exceedances of discharge limits of any pollutant, or deviations from requirements of permits or regulatory obligations. For example, we require sites to report release of hazardous materials or polymeric solids outside of containment structures. Our reporting tool requires investigations into the root causes and corrective actions for any exceedances of permit or regulatory limits.</li> <li>• Compliance with applicable product material safety data. For example, we maintain Safety Data Sheets in US and compliance with applicable Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) requirements for products managed in the European Union.</li> <li>• As it relates to water management, our HSE policy states LyondellBasell will conduct "...regular management system and compliance audits..."</li> </ul> <p>Success is monitored through the auditing process described above and also tracking of incidents at the site and enterprise level against a "goal zero" expectation. Compliance audits are routinely scheduled approximately every three years at our Olefins, Refinery, and I&amp;D sites. Procedures are reviewed as needed to remain aligned with our overall programs. For example, the EMS was updated in 2021 to incorporate polymeric solids release prevention requirements.</p>
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## Risk identification and assessment procedures

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

- Yes, water-related risks are assessed

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

Value chain stage	Coverage	Risk assessment procedure	Frequency of assessment	How far into the future are risks considered?	Type of tools and methods used	Tools and methods used
Direct operations	Full	Water risks are assessed as a standalone issue	Annually	More than 6 years	Tools on the market	WRI Aqueduct

Contextual issues considered	Stakeholders considered	Comment
<p>Water availability at a basin/catchment level</p> <p>Water regulatory frameworks</p>	<p>Regulators</p> <p>Water utilities at a local level</p>	<p>We used the WRI Aqueduct Water Risk Atlas tool to conduct a baseline water stress assessment of our manufacturing sites. Sites were classified on a scale from low to extremely high water stressed based on several of the tool's indicators, including water quantity, quality and geographic location.</p> <p>In 2021, we participated in a water stewardship program in the U.S. to better understand our local water bodies, impacts, and opportunities. We were one of 12 companies who participated in a water body risk assessment (WBRA) pilot project facilitated by the American Chemistry Council and The Water Council. This process provided a view of shared water resources and explored our operational impact on nearby water bodies. In 2023 we will continue to develop a water management strategy based on risk and water-stressed areas.</p> <p>LyondellBasell has in prior years assessed water risks on a regional and/or site-specific basis in response to potential water-related regulatory change evaluations or community initiatives. LyondellBasell generated a Houston Area Mitigation Plan to address steps necessary if curtailment were realized.</p>

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

In 2020, we conducted a baseline water stress assessment of our majority owned and operated manufacturing sites using the WRI Aqueduct Water Risk Atlas tool. This assessed water availability at the basin level which is important for our understanding and engagement with water utilities at the local level. Sites were classified on a scale from low to extremely high water stressed based on several of the tool's indicators, including water quantity, quality and geographic location. In 2022, we applied the 3.0 version, with updated indicators and hydrological modeling. According to the WRI Aqueduct Water Risk Atlas tool, the majority of our sites are classified as low water stress. Our sites located in extremely high or high water stressed areas of the world are polypropylene compounding facilities. These sites use very little water relative to our olefin and propylene oxide/styrene monomer operations, which require comparatively larger amounts of water and are in low or medium water-stressed areas. Sites in extremely high water stressed areas represent less than 1% of our water consumption in 2021. These results will inform our internal decision making process and strategy development for future target setting and prioritization of sites with the greatest impact. In addition, we have assessed water risks on a regional and/or site-specific basis in response to, and aligned with, water regulatory frameworks, regulators and potential water-related change evaluations or community initiatives. LyondellBasell generated a Houston Area Mitigation Plan to address steps as needed.

## W4 Risks and opportunities

### Risk exposure

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

- No

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

LyondellBasell evaluates risks through the Enterprise Risk Management (ERM) Program. Substantial risks or opportunities are defined by the following thresholds:

- (1) Substantive financial risk: EBITDA loss of >\$500MM and/or Increase in operating or capital costs >10% of annual budgeted spend
- (2) Substantive environmental risk: Release of material that causes persistent, substantial off-site environmental damage extending over a large area
- (3) Substantive reputational risk: brand impairment, loss of stakeholder confidence and long-term damage to enterprise value
- (4) Substantive financial opportunity: Substantial financial gains or an increase in savings and efficiencies of >\$100MM
- (5) Substantive strategic opportunity: Enhancement of competitive advantage or long-term viability through positive national publicity and wide-spread industry recognition, Substantial stakeholder confidence and long-term enhancement of our enterprise value.

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

Primary reason	Please explain
Evaluation in progress	<p>In 2022, we applied the 3.0 version of the WRI Aqueduct tool, with updated indicators and hydrological modeling. According to results, the majority of our owned and operated manufacturing sites are classified as low water stress. Our sites located in extremely high or high water stressed areas of the world represent less than 1% of our water withdrawals.</p> <p>In addition to using WRI Aqueduct, LyondellBasell is conducting a broader water risk analysis that focuses primarily on 3 dimensions: water availability (quantity), quality and accessibility in line with UN Global Compact CEO Water Mandate, Water Resilience Coalition and Net Positive Water Impact. We aim to identify sites with risk and develop a water management strategy in 2023.</p>

**Water-related opportunities**

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

Type of opportunity	Primary water-related opportunity	Company-specific description & strategy to realize opportunity	Estimated timeframe for realization	Magnitude of potential financial impact

Products and services	Increased sales of existing products/services	Many of the chemicals and plastics we supply help create innovative products that meet the needs of modern society and contribute to sustainable development. Our products are found in nearly every sector of the economy. Our products make irrigation more efficient, reducing water leakage as well as make pipes that are lighter and more durable; making installation faster and easier, reducing water use, preventing water leakage, and protecting water purity.	Unknown	Unknown
<b>Are you able to provide a potential financial impact figure?</b>	<b>Potential financial impact figure (currency)</b>	<b>Potential financial impact figure - minimum (currency)</b>	<b>Potential financial impact figure - maximum (currency)</b>	<b>Explanation of financial impact</b>
No, we do not have this figure				We cannot provide financial impact values associated with water-related products.

## W6 Governance

### Water policy

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

No

### Board oversight

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

Yes

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

Position of individual	Please explain
Board-level committee	The Health, Safety, Environmental & Sustainability (HSE&S) Committee of the Board is responsible for reviewing relevant sustainability risks and trends and monitoring the Company's progress on sustainability targets and ambitions, including water-related issues as relevant. As part of its responsibilities on our health, safety and environmental programs, the HSE&S Committee assists the Board in its oversight responsibilities by assessing the effectiveness of programs and

	<p>initiatives that support Company policies. Our Board oversees our commitment to sustainability and maintains oversight of the Company's environmental, social, and governance ("ESG") profile.</p> <p>The HSE&amp;S Committee comprises five independent directors. The specific responsibilities of the HSE&amp;S Committee include:</p> <ol style="list-style-type: none"> <li>1) review the status of the Company's policies and performance, including processes to ensure compliance with applicable laws and regulations,</li> <li>2) review and monitor the Company's results, provide oversight of the Company's programs, initiatives, and activities in the areas of technology and sustainability</li> </ol>
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**(W6.2b) Provide further details on the board's oversight of water-related issues.**

Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Sporadic - as important matters arise	<ul style="list-style-type: none"> <li>Monitoring implementation and performance</li> <li>Reviewing and guiding business plans</li> <li>Reviewing and guiding major plans of action</li> <li>Reviewing and guiding risk management policies</li> <li>Reviewing and guiding strategy</li> <li>Reviewing and guiding corporate responsibility strategy</li> </ul>	Our Board oversees our commitment to sustainability and maintains oversight of the Company's ESG profile. Management reports on key sustainability topics and initiatives at each regularly scheduled Board meeting, and directors participate in a deep dive on sustainability strategy and actions at least annually.

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

Board member(s) have competence on water-related issues	Criteria used to assess competence of board member(s) on water-related issues*	Primary reason for no board-level competence on water-related issues*	Explain why your organization does not have at least one board member with competence on water-related issues and any plans to address board-level competence in the future*
Not assessed	Not applicable	Other, please specify	We have not assessed if our board members have water-related competence.

## Management responsibility

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

Name of the position(s) and/or committee(s)	Responsibility*	Frequency of reporting to the board on water-related issues*	Please explain
Chief Sustainability Officer (CSO)	Assessing water-related risks and opportunities	More frequently than quarterly	The Chief Sustainability Officer (CSO) role is performed by the Company's Senior Vice President of R&D, Technology and Sustainability. Responsibilities regarding the assessment and steering of climate-related issues: The CSO is responsible for the steering and monitoring of our sustainability programs, including water-related issues, at a senior level. The CSO is

	Managing water-related risks and opportunities		responsible for informing Company leadership, as well as the Board, about sustainability performance, strategy, and programs, including climate-related information. The CSO is supported by a global group of employees led by our Director, Global Sustainability, who is responsible for management of our wider sustainability programs.
Sustainability committee	Assessing water-related risks and opportunities Managing water-related risks and opportunities	More frequently than quarterly	The Leadership Team is chaired by the Chief Executive Officer, and its membership includes our Chief Sustainability Officer, the heads of each business segment (Olefins and Polyolefins, Advanced Polymers, Refining and Intermediate Chemicals), as well as our finance, manufacturing, business services, legal, public affairs, and Health, Safety and Environmental (HSE) functions. The Leadership Team met monthly during 2021. Their work includes assessing risks and opportunities, setting goals, and overall direction.

## Employee incentives

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

Provide incentives for management of water-related issues	Comment
No, and we do not plan to introduce them in the next two years	We do not provide incentives to C-suite employees or board members for management of water-related issues.

## Public policy engagement

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

No

## Reporting

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

No, and we have no plans to do so

## W7 Business strategy

### Strategic plan

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

Aspect of strategic business plan	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	16-20	Water is an essential resource for our operations. We use water both in operations (primarily cooling towers and steam production) and as potable water for drinking and sanitary use at our sites and offices. Our refining and manufacturing sites reuse water to reduce the amount of ground and freshwater withdrawn. For example, the majority of our large sites use recirculating water systems for cooling. We manage water in accordance with permitted limits for discharge destination and water quality, and our Operational Excellence systems support ongoing compliance. Many of our larger sites operate their own wastewater treatment facilities, which allows for increased control over our water efficiency and quality of our discharges.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	16-20	Annual planning for path forward targets and goals.
Financial planning	Yes, water-related issues are integrate	16-20	Long range budget planning for project approval and priority is accomplished annually.

## CAPEX/OPEX

**(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?**

Water-related CAPEX(+/- % change)	Anticipated forward trend for CAPEX (+/- % change)	Water-related OPEX (+/- % change)	Anticipated forward trend for OPEX (+/- % change)	Please explain
+440%	±10%	-90%	±10%	We have recently undertaken some large asset replacements which drove significant CAPEX spending changes from 2020 to 2021. Changes of this magnitude are not expected to continue year over year, but may happen from time to time as major assets age. For example, in 2021 and early 2022 we replaced 2 large cooling towers at our Channelview Complex, which should increase water use efficiency. With respect to OPEX we have engaged our suppliers who often cover a large part of our OPEX as part of our service agreements and therefore these trends do not accurately reflect our activities in this space. For example, one of our suppliers recently installed a control system for a cooling tower at no cost to us with the benefit of greater water efficiency.

## W7.3 Scenario analysis

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

Use of scenario analysis	Comment
Yes	As part of the internal Enterprise Risk Analysis process for climate risk, water stress/scarcity is under evaluation. The analysis considers potential causes and consequences. In addition the analysis considers the Velocity of the issue – how fast it is changing; Vulnerability – the ability to adapt; Time Horizon; and Financial Impact under given scenarios.

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

Type of scenario analysis used	Parameters, assumptions, analytical choices	Description of possible water-related outcomes	Influence on business strategy
Water-related Climate-related	There is a threat of lost production due to scarcity of freshwater as climate change impacts may put pressure on the availability of freshwater needed for various manufacturing processes.	Scarcity of freshwater could result in an increase in the price of water and as a result operational cost. In more extreme scenarios, the scarcity of freshwater could result in the curtailment of production operations for discrete periods of time.	Freshwater supplies for cooling and process needs influence the siting, expansion and on-going operation considerations of manufacturing plants. Potential scarcity of freshwater supplies influence the need to identify alternate sources of freshwater which leads to unexpected capital demand. In more severe cases, freshwater scarcity could potentially lead to the shifting of production capacity.

## Water pricing

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

Does your company use an internal price on water?	Please explain
No, and we do not anticipate doing so within the next two years	Our current focus is in the development of our carbon management strategy. A water management strategy is being developed which will include consideration of current state; risk assessment for water stress and scarcity; opportunity identification; goal setting; and goal monitoring.

## Products and services

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

Products and/or services classified as low water impact	Definition used to classify low water impact*	Primary reason for not classifying any of your current products and/or services as low water impact*	Please explain
No, and we do not plan to address this within the next two years.	Not applicable	Judged to be unimportant, explanation provided	We are currently focused on performing life cycle analysis and do not classify low water impact as the driver for our products.

## W8 Targets

### Targets and goals

#### (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
<ul style="list-style-type: none"> <li>Company-wide targets and goals</li> <li>Business level specific targets and/or goals</li> <li>Site/facility specific targets and/or goals</li> </ul>	<ul style="list-style-type: none"> <li>Targets are monitored at the corporate level</li> <li>Goals are monitored at the corporate level</li> </ul>	<p>We set discharge water quality goals to ensure compliance with our permit limitations. We set process water quality targets. These are monitored at corporate level. These targets are set for reliability and cost efficiency; however, they do impact the efficient use of water.</p> <p>We set sanitation water quality goals for our potable water systems. Exceptions are reported in the safety reporting framework. We set sanitation water quality targets in our open evaporative cooling towers for Legionella. Exceptions are reported in the safety reporting framework.</p>

#### (W8.1a) Provide details of your water targets that are monitored at the corporate level, and the progress made.

Target reference number	Category of target	Level	Primary motivation	Description of target	Quantitative metric
Target 1	Water recycling/ reuse	Business	Risk mitigation	We operate open evaporative cooling water towers that recycle water 3 to 10 times.	<ul style="list-style-type: none"> <li>Other, please specify</li> </ul> <p><b>Number of Cooling Water Cycles:</b> We utilize our water quality dashboard to monitor and maintain cooling water cycle water quality within our set specified limits.</p>
Baseline year		Start year	Target year	% of target achieved	Please explain

2020	2020	2021	100	The target achieved matches expectations. We set a target for the company overall to be above 90% within specified limits and report out this metric to management quarterly.
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Target reference number	Category of target	Level	Primary motivation	Description of target	Quantitative metric
Target 2	Water use efficiency	Business	Risk mitigation	We set specific water quality parameter targets with respect to cooling water and steam generation and track and report on the percent in specification for these parameters. We have a Global Water Quality Dashboard (GWQD) that is used to track and report. While this tool is intended for reliability and cost efficiency purposes it has a direct impact on our efficient use of water.	<ul style="list-style-type: none"> <li>Other, please specify</li> </ul> <b>Water Quality Parameters, Percentage Meeting Specifications:</b> We improved from 74% to over 90% by measuring, monitoring and executing improvement projects. This increases cost efficiency and reduces risk of equipment failure.
Baseline year		Start year	Target year	% of target achieved	Please explain
2020		2020	2021	100	The target achieved matches expectations. We set a target for the company overall to be above 90 percent in specification and report this metric to management quarterly.

**(W8.1b) Provide details of your water goal(s) that are monitored at the corporate level and the progress made.**

Goal	Level	Motivation	Description of goal	Baseline year	Start year	End year	Progress
Other, please specify	Company-wide	Risk mitigation	<p><b>Goal 1:</b> Our discharge quality goals are to meet established water quality goals of the receiving water or treatment facility.</p> <p>This is important for maintaining compliance, and health and safety and is monitored at our sites globally.</p>	2020	2020	2021	We work on a concept of continuous improvement with a goal of zero discharge quality incidents.
Providing access to safely managed	Company-wide	Water stewardship	<p><b>Goal 2:</b> We set sanitation goals to achieve drinking water quality standards.</p>	2020	2020	2021	We work on a concept of continuous improvement with

Water, Sanitation and Hygiene (WASH)			This is important for the health and safety of our employees and is monitored at our sites globally.				a goal of zero drinking water quality incidents.
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## W9 Verification

### Verification of water information

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

No, but we are actively considering verifying within the next two years

## W10 Signoff

### Further information

**(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.**

### Signoff

**(W10.1) Provide details for the person that has signed off (approved) your CDP water response.**

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

### Water Action Hub

**(W10.2) 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

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## Important Information

Companies should not consider their CDP response a means of complying with any regulatory requirement to share financially sensitive non-public information with the market. You may wish to consult with your financial, legal, and/or compliance departments for advice on your company's general approach to the provision of forward-looking statements and information concerning risks.

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