CDP Technical Note

CDP Technical Note on Water Accounting

CDP Corporate Questionnaire

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Contents

1. Introduction

1.1 About this Technical Note

- This note supplements CDP's reporting guidance for the water-specific questions (available at Our Question Bank - CDP. It sets out the definitions that must be applied when reporting water accounting information to CDP.
- The standardization of definitions and calculation methods used by disclosing companies is required for data comparability.
- The Appendix to this Technical Note describes variations that apply to CDP sector specific questions.
- First published April 2018, updated May 2025.

2. CDP's approach to water accounting

- To progress water security for all and minimize the need to manage water-related risks, organizations must eliminate any detrimental impact on water ecosystems and resources. Impact and risk exposure occurs as water flows into and out of an organization's boundaries, so CDP collects information to determine how well an organization understands this flow. CDP's scoring methodology incentivizes companies to understand and share their corporate level water balance and the flows of water through the organization. Measurements of withdrawal, discharge and consumption take place as water crosses the organizational boundary, at either the corporate level or facility level. This makes the concept of the organizational boundary central to our disclosure request at the corporate and the facility level.
- CDP asks companies to report their physical sources of water, to consider what quality of surface water they depend on(in terms of fresh and brackish surface water), and whether they withdraw from renewable and non-renewable groundwater sources. These distinctions help companies disclose their risk exposure from different water sources. For example, an electric utility organization may use large volumes of surface water for cooling purposes, but the water quality may not be fresh which lowers their risk exposure. Companies should report this information by selecting 'Brackish surface water/seawater', to demonstrate to investors that they are not dependent on potentially scarce fresh surface water sources.
- Companies are encouraged to account for and minimize their interaction with water, e.g. through reduced withdrawals, efficiency improvements, or by changing their business activities. This means that CDP seeks more nuanced information than volumetric reductions in freshwater removal or consumption. Most important is that companies have robust monitoring and accounting in place for all aspects of their corporate hydrology, and that they demonstrate an understanding of their dependence on water.

For disclosure to CDP, companies should consult our reporting guidance and scoring methodology when responding to our water security questions as this is updated annually.

3. Alignment with other frameworks

CDP works with a range of organizations to support the development of standards that are valuable for companies and provide investors, policy makers and other data-users with meaningful information; these include the CEO Water Mandate, the World Resources Institute, WWF, World Business Council for Sustainable Development, the Global Reporting Initiative, the Alliance for Water Stewardship, Ceres, the Sustainability Accounting Standards Board (SASB) and similar organizations. Standardization is needed to facilitate transparency and reporting for companies, as well as to support consistency and comparability for data users.

CDP's water security information request and reporting guidance draw on principles, frameworks definitions, and standards from these and other organizations, and we aim to align wherever possible. Where differences remain, they reflect each organization's particular approach and aims.

4. Definitions table

Boundaries of your organization
For CDP's water security disclosure, this refers to a management boundary, rather than a physical boundary or a legal entity. Water is considered to have crossed the boundary of an organization, at either the corporate or site level, when the organization in any way uses it, comes into contact with it, is required to manage it or when it becomes incorporated into products. Guidance note: This may include water use and management by your organization outside its physical corporate fence; for example, to provide a street cleaning service or in fields remote from a processing plant. The scope of this organizational boundary is defined by your chosen reporting boundary. Source: CDP Corporate Questionnaire, 2025.
Water withdrawal (W)
The sum of all water drawn into the boundaries of the organization (or facility) from all sources for any use over the course of the reporting period. Source: adapted from GRI Standards Glossary 2018.
Withdrawal sources
• Fresh surface water, including rainwater, water from wetlands, rivers and lakes: Water that is naturally occurring water on the Earth's surface in ice sheets, ice caps, glaciers, icebergs, bogs, ponds, lakes, rivers and streams, and has a low concentration of dissolved solids. Guidance note: For the purposes of reporting water accounting data to CDP, this surface water source includes water of a quality generally acceptable for, or requiring minimal treatment to be acceptable for, domestic, municipal or agricultural uses (at least <10,000 mg/l TDS, though a range of additional quality properties may also be considered). 'High quality' fresh water sources considered acceptable for potable use are typically characterized as having concentrations of dissolved solids less than 1,000 mg/l.

Source: CDP Corporate Questionnaire, 2025.

- Brackish surface water/seawater: Surface water in which the concentration of salts is high and far exceeds normally acceptable standards for municipal, domestic or irrigation use (at least higher than 10,000 mg/l TDS). Seawater has a typical concentration of salts above 35,000 mg/l TDS.

  Source: CDP Corporate Questionnaire, 2025.

- Groundwater – renewable: Water which is being held in, and can be recovered from, an underground formation. Renewable groundwater sources can be replenished within 50 years and are usually located at shallow depths.

  Source: based on ISO 14046:2014.

- Groundwater – non-renewable: Water which is being held in, and can be recovered from, an underground formation. Non-renewable groundwater has a negligible rate of natural recharge on the human time-scale (more than 50 years), and is generally located at deeper depths than renewable groundwater. This is sometimes referred to as "fossil" water.

  Source: based on ISO 14046:2014.

- Produced water: Water which enters the organization's boundary as a result of the extraction, processing, or use of any raw material, so that it must be managed by the organization.

  Guidance note: When reporting to CDP, this water should not be counted as recycled water when put to use within a single cycle of a business process. Examples of produced water include moisture derived from vegetation such as in sugar cane crushing and the water content in crude oil. (Note that companies with Oil and Gas activities should refer to CDP's sector specific guidance for this water aspect).

  Source: CDP Corporate Questionnaire, 2025.

- Third party sources: This includes water provided by municipal water suppliers, public or private utilities, and wastewater from any other organization.

  Source: CDP Corporate Questionnaire, 2025.

Water discharge (D)

The sum of effluents and other water leaving the boundaries of the organization (or facility) and released to surface water, groundwater, or third parties over the course of the reporting period.

Guidance note: This includes all water leaving the organizational boundary, whether it is:

- considered used or unused
- released through a defined discharge point (point source discharge)
- released over land in a dispersed or undefined manner (non-point source discharge)
- wastewater removed from the organization via truck.

- Companies may choose to exclude collected rainwater and domestic sewage from their water discharge volume unless this would result in an error in their water balance of more than 5%.
- Water discharge can be authorized (in accordance with discharge consent) or unauthorized (if discharge consent is exceeded).

Source: adapted from GRI Standard 303-4, 2018.

Discharge destinations

- Fresh surface water – see withdrawal sources above.
- Brackish surface water/seawater– see withdrawal sources above.
- Groundwater – see withdrawal sources above.
- Third-party destinations - This includes municipal wastewater plants, public or private utilities, and other organizations involved in the transport, treatment, disposal or further use of wastewater.

Source: CDP Corporate Questionnaire, 2025.

Water consumption (C)

The amount of water drawn into the boundaries of the organization (or facility) and not discharged back to the water environment or a third party over the course of the reporting period.

Guidance note: Consumed water is water that during the reporting year:

- has been incorporated into products, crops or waste
- has evaporated or transpired
- consumed by humans or livestock
- has been stored in a controlled manner because it is polluted to the point of being unusable by other users, and so that it does not leave the organization's boundary
- has been stored during the reporting year for use or discharge in a subsequent reporting period
- is otherwise excluded from discharges out of the organization's boundary so that it is no longer available for use by the ecosystem or local community.

Source: CDP water security reporting guidance, 2025.

Consumption calculation

- Consumption may be measured directly or modelled, or can be calculated by subtracting the total water discharge from organizational boundary from total water withdrawn into the organizational boundary during the reporting period:

$$C = W - D$$

- If the organization discharges more water than it withdraws, for example, because it has used and then discharged previously stored water, a negative consumption value is possible. This would indicate a net contribution to the water environment in the reporting year.
- CDP requires comparability, so all companies must use the same method.

Source: CDP water security reporting guidance, 2025.

Water withdrawals from water stressed areas

Water stress ('areas with'): a concept that considers physical quantity aspects related to water resources, including water availability.

Commonly accepted global indicators to assess areas as water stressed and their thresholds for reporting to CDP include:

- Water availability – category greater than 'High risk': 3.4 (WWF Water Risk Filter). WWF recommends that users also take into consideration 'Medium risk': >2.6. This category is based on a multi-model approach which integrates the best available global water scarcity risk indicators: water depletion, baseline water stress, and blue water scarcity.
- Baseline water stress – indicator equal to/greater than 'High': 40-80% (WRI Aqueduct Water Risk Atlas). This refers to the ratio of total annual water withdrawals to available renewable water supply.
- Baseline water depletion – indicator equal to/greater than 'High': 50-75% (WRI Aqueduct Water Risk Atlas). This refers to the ratio of total annual water consumption to available renewable water supply.

Guidance note:
As good practice, a water stressed area should be measured at the catchment level as a minimum.

Appendix: Sector questionnaires – variations on definitions, guidance, and calculations

All companies are advised to refer to CDP's general definitions before preparing their disclosure.

Oil & Gas sector

2025 definition	Sector variation
Water withdrawals	**CDP's general definition applies**
The sum of all water drawn into the boundaries of the organization from all sources for any use over the course of the reporting period.	• In the oil & gas sector, the reporting of water withdrawals volumes typically does not include produced water. To enable comparability, CDP requires all companies to include produced water volumes in their withdrawals disclosure, in order to have an accurate water balance.
Water sources	**CDP's general source list applies**
• Fresh surface water, including rainwater, water from wetlands, rivers and lakes • Brackish surface water/seawater • Groundwater – renewable • Groundwater – non-renewable • Produced water • Third party sources	• As part of groundwater withdrawal volumes (be it from renewable or non-renewable sources), organizations should include all withdrawals from aquifers (other than the formation being exploited). These withdrawals may be intended for any use in the organization, including injection to maintain well pressure or as part of the fracture fluids.
Discharges	**CDP's general definition applies**
The sum of effluents and other water leaving the boundaries of the organization (or facility) and released to surface water, groundwater, or third parties over the course of the reporting period.	
Discharges by destination	**CDP's general discharge list applies**
• Fresh surface water • Brackish surface water/seawater • Groundwater • Third-party destinations	In oil production, as part of secondary and tertiary recovery operations, water-based fluids (from various sources) may be used to maintain the pressure, and to displace the hydrocarbons and move them towards the production wells. For CDP disclosure, organizations must report these volumes as discharges to groundwater bodies, to enable comparability and have an accurate water balance.

Produced water	CDP sector-specific definition
Water which enters the organization's boundary as a result of the extraction, processing, or use of any raw material, so that it must be managed by the organization.	Aligned with IPIECA's Sustainability reporting guidance for the oil and gas industry (2020)

Coal and Metals & mining sectors

2025 definition	Sector variation
Water withdrawals	**CDP's general definition applies**
The sum of all water drawn into the boundaries of the organization (or facility) from all sources for any use over the course of the reporting period.	In line with CDP's definition of water withdrawal and to enable comparability, the reporting of water withdrawals for the mining industry must include water diversions – because it is water that crosses the organizational boundary.
Withdrawal sources	**CDP's general source list applies**
• Fresh surface water, including rainwater, water from wetlands, rivers and lakes • Brackish surface water/seawater • Groundwater – renewable • Groundwater – non-renewable • Entrained water • Third party sources	As surface freshwater withdrawals, organizations may report on their precipitation and runoff data, water from rivers and creeks and water from external surface water storage. Please note that in the mining industry precipitation/rainwater volumes may constitute a principal input of water at site level. Excluding rainwater from water accounting would not be a true reflection of site water balance. As renewable groundwater withdrawals, organizations should report on withdrawals from bore fields fed from renewable aquifers, as well as the share of their dewatering operations that results from the interception of renewable aquifers. As non-renewable groundwater withdrawals, organizations should report on withdrawals from bore fields fed from non-renewable aquifers, as well as the share of their dewatering operations that results from the interception of non-renewable aquifers. As entrained water withdrawals, organizations should report the volumes of water in the raw material.
Discharges	**CDP's general definition applies**
The sum of effluents and other water leaving the boundaries of the organization (or facility) and	In line with CDP's definition of water discharges, for the mining industry discharges comprise all

released to surface water, groundwater, or third parties over the course of the reporting period.	water outputs from the Water Accounting Framework (WAF) of the Mineral Council of Australia including water diversions – because it is water that crosses the organizational boundary. Evaporation and water entrained in waste material should not be considered as discharges but as part of the consumption volumes.
Discharges by destination	**CDP's general destination list applies**
• Fresh surface water • Brackish surface water/seawater • Groundwater • Third-party destinations	As discharges to surface water, organizations may report on their controlled discharge to surface water bodies such as rivers and lakes or reservoirs outside their operations, including environmental flows. As discharges to groundwater, organizations should report on discharges to underground water bodies in practices like aquifer reinjection. Additionally, organizations should report on the volumes lost to seepage.
Water consumption	**CDP's general definition applies**
The amount of water drawn into the boundaries of the organization (or facility) and not discharged back to the water environment or a third party over the course of the reporting period.	As part of their water consumption, organizations in the mining industry should report on the volumes of water lost to evaporation from open water surfaces, transpired by plants and animals, entrained in remaining waste material (such as tailings, coarse rejects, and concentrates) or water stored over the reporting year. In this regard, organizations may report on the variations in the stored volumes.

Electric utilities sector – Hydropower operations

2025 definition	Sector variation
Water withdrawals	**CDP's general definition applies**
The sum of all water drawn into the boundaries of the organization (or facility) from all sources for any use over the course of the reporting period.	Water withdrawals into hydropower operations include river inflow, surface runoff and precipitation onto the reservoir surface, as well as third party discharges into the reservoir: $W = \text{Precipitation} + \text{river inflow} + \text{runoff} + \text{third-party discharges}$ CDP recognizes the difficulty in accounting for some elements of the water balance model (specifically surface runoff or those that are outside the organizations' control such as third-party discharges to the reservoir). Organizations should strive to report volumes for those sources if they would result in an estimated error in their water balance of more than 5% and they have the information. Note that estimations are a valid source of data.
Withdrawal sources	**CDP's general source list applies**
• Fresh surface water, including rainwater, water from wetlands, rivers and lakes • Renewable groundwater • Non-renewable groundwater • Brackish surface water/seawater • Third party sources	The sources for surface freshwater withdrawals, are river inflow, precipitation onto the reservoir surface and any estimation of the runoff from neighboring areas into the reservoir. Third party discharges into the reservoir (e.g. municipal water treatment plants) are the third-party sources in this sector.
Discharges	**CDP's general definition applies**

The sum of effluents and other water leaving the boundaries of the organization (or facility) and released to surface water, groundwater, or third parties over the course of the reporting period.	• In hydropower operations, water discharge includes the dam outlet and the spillway, underground seepage or third-party withdrawals from the reservoir (for example a municipal water plant abstracting from the reservoir). $D = \text{Dam outlet} + \text{spillway} + \text{seepage} + \text{third-party withdrawals}$ CDP recognizes the difficulty in accounting for some elements of the water balance model (specifically seepage or those that are outside the organizations' control such as third-party withdrawals). Organizations should strive to report volumes for those destinations if they may result in an estimated error in their water balance of more than 5% and they have the information. Note that estimations are a valid source of data.
Discharges by destination	**CDP's general destination list applies**
• Fresh surface water • Brackish surface water/seawater • Groundwater • Third-party destinations	For discharges to surface freshwater, organizations are expected to report dam and spillway outflows (including water released to maintain environmental flows). For discharges to groundwater, organizations may report seepage if this volume is known or estimated. For discharges to third party, organizations may report withdrawal by third parties sourcing water from the reservoir (e.g. municipal water supply) if this volume is known.
Water consumption (C)	**CDP's general definition applies**
The amount of water drawn into the boundaries of the organization (or facility) and not discharged back to the water environment or a third party over the course of the reporting period.	Water consumption in hydropower operations includes evaporation from the reservoir surface as well as the balance between withdrawals and discharges.
Consumption calculation	**Sector-specific calculation method applies**
Consumption may be measured directly, modelled, or calculated using the following equation: $C = W - D$ If the organization discharges more water than it withdraws, for example, because it has used and then discharged previously stored water, a negative consumption value is possible. This would indicate a net contribution to the water environment in the reporting year.	Although organizations should estimate evaporated volumes if they would result in an estimated error in the water balance of more than 5%, you may consider variations in storage as a valid measure of your consumption volumes rather than calculating evaporation and the balance between all withdrawals and discharges. This information is usually easily derived from water level measurements.