Welcome to your CDP Water Security Questionnaire 2023

W0. Introduction

W0.1

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

Vedanta Limited, a subsidiary of Vedanta Resources Limited, stands as a leading global conglomerate in the natural resources sector. With a diversified portfolio, the company's primary operations encompass zinc-lead-silver, iron ore, steel, copper, aluminium, power, nickel, and oil and gas. The company has a portfolio of 9 metals & minerals that play a significant role in the development of the country and in achieving India's energy and mineral independence.

In FY 2023, our workforce consisted of 87,513 employees and business partners. Our consolidated revenue is INR 1,45,404 crore, which is 11% year-on-year (YoY) increase. Currently, our diverse portfolio encompasses divisions focused on exploration, asset development, extraction, processing, and value addition with an integrated production capacity comprising 8,451,828 metric tonnes per annum.

We are committed to integrating growth, value creation, and continuous improvement in all aspects of our operations including safety, social and environmental practices. Anchoring to the Paris Agreement, Vedanta has set an intermediate target of a 25% reduction in absolute emissions by 2030 (vis-à-vis 2020-21) and achieving net zero emissions by 2050. We have been taking several initiatives to support the transformation to a greener future. In FY23, we have made significant progress towards our goal of net zero carbon. With a commitment to plant 7 million trees by 2030, we made history by joining the World Economic Forum's 1 trillion trees program as the first business entity from South Asia. Further, by 2030, we hope to have 2.5 GW of continuously operating renewable energy (RE RTC) capacity. We have set ourselves a goal of becoming water positive by 2030 and have onboarded an agency to monitor and guide our journey towards water positivity at our various locations.

In FY 2022-23, we have implemented the following water savings initiatives:

a) Vedanta has successfully recycled a substantial amount of water, totaling 78 million cubic meters.

b) Four of our Business Units are water positive

We manage our water resources as per guidance by the Group water policy and management standards. We have consistently improved our water recycling rate in the past four years. Our three-tier sustainability governance framework, supported by 15 communities of practice (COPs) maintains a constant oversight over all the ESG aspects including the implementation of climate strategy and water related initiatives. Tier 1 comprises board level ESG committee,

the ESG Executive Committee is at tier 2, and the ESG Management Committee is at tier 3. The Water COP advises the governance bodies on water-related issues. This governance structure together enables effective performance monitoring across all levels. Our significant climate and water related initiatives received several notable recognitions in FY 2022-23:
a. Ranked 6th out of 216 companies globally and 2nd in Asia Pacific in the metal and mining sector of the S&P Global Corporate Sustainability Assessment 2022
b. Recycled more than 77 thousand megaliters of water in FY23.
c. Being an integral part of UN GCNI's Water & WASH Workstream and eminent partners Mindtree and Accenture in India – we are committed to becoming water-positive and replenishing and recovering water bodies by 2030. We believe this will help us to manage risk, maintain our Social License to Operate, and create value for our stakeholders.

W-MM0.1a/W-CO0.1a

(W-MM0.1a/W-CO0.1a) Which activities in the metals and mining and coal sectors does your organization engage in?

Activity	Details of activity
Mining	Iron ore Nickel Zinc Lead Other mining, please specify Ferro Chromate
Processing	Aluminium Alumina Copper Silver Nickel Zinc Lead Other ferrous metals processing, please specify Steel and Ferro-chromite

W0.2

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

	Start date	End date
Reporting year	April 1, 2022	March 31, 2023

W0.3

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

Australia
India

Liberia
Namibia
South Africa
United Arab Emirates

W0.4

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

INR

W0.5

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

Companies, entities or groups over which operational control is exercised

W0.6

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

No

W0.7

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

Indicate whether you are able to provide a unique identifier for your organization.	Provide your unique identifier
Yes, an ISIN code	INE205A01025

W1. Current state

W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Important	We identify direct use of water as 'vital', as good quality freshwater sourced from ground water, surface water, rainfall etc. is primarily used for mining, smelting, refining and power plant operations. The quality of water directly used

			influences the treatment costs i.e. better-quality water leads to lesser treatment costs and more metal recovery, whereas bad quality water (water with high chloride content) results in equipment corrosion leading to higher operational and management costs in plants. In future, significant changes in importance are not expected, as core processes and product lines will remain the same. However, future shifts in product portfolio might alter this status. Indirect usage of freshwater within our operations is primarily dependent on the sector and product involved. Vedanta produces a range of products that serve as inputs in our operations, and the water requirements for each product varies at each production stage. As a result of production, we end up discharging water at few sites. Hence, it is challenging to determine the exact distribution of water in detail. While water availability is 'important', it is not always critical for the operations within our supply chain. Mines that are dewatered by pumping, draws-down the water available from surrounding communities. Access to good quality freshwater is crucial for meeting domestic needs, sanitation, and the well-being of the community, we share water resources with near our operations. We implement projects like rainwater harvesting, pond deepening, and recharge shafts to enhance water replenishment in and around our operating areas. In future, we anticipate minimal changes in the dependency within our supply chain as the core groups of procured materials are expected to remain unchanged. To that end, we have taken a FY 2025 target of reducing freshwater consumption by 15%, with FY21 baseline. However, potential shifts in our product portfolio may potentially impact this status.
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Important	Few of Vedanta's significant operations such as Vedanta Zinc International and HZL are in highly water stressed regions, leading to increased reliance on lower quality water. Lower quality water can be used in our operations for the purpose of dust suppression, slurry transport and storage, extraction processes, power generation, ore processing and site usage. This reduces the

			dependency on good quality freshwater, making the use of recycled and produced water 'vital' for attaining water security in our operations. It is our target to increase the water recycling rate by 10% with FY21 as baseline. Our strategy to achieve this target is increased water conservation, demand management and use of third-party produced water in Cairn, desalinated water in Fujairah Gold and grey water in HZL as opposed to fresh or potable water use. We do not expect significant changes in trend in future, as use of recycled and produced water depends on availability/local conditions. The use and importance of recycled/ produced water depends on the process, availability, and local conditions. Communities surrounding our operations mostly rely on freshwater for meeting their daily requirements (domestic, sanitation, agricultural). Therefore, this aspect is important, but not vital for operations in all cases. We do not foresee significant changes in water dependency in our supply chain, as core groups of procured materials will remain the same. However, future shifts in the product portfolio could alter this status. The use of recycled water or reuse of wastewater may be increased due to limited freshwater supply in regions identified as water stressed in our 2030 & 2050 water risk physical climate risk assessment. We're taking actions to be future ready, in FY 2023, we have set up water recovery plants in TSPL and decentralized STP in FACOR and IOB

W1.2

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

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water withdrawals – total volumes	100%	Daily	Optimised usage of water is crucial for Vedanta to attain water positivity. Hence, water meters are installed at water	Vedanta measures, monitors and reports the total volume of water withdrawn for all Vedanta owned

			sources to directly monitor and track the amount of water withdrawn from freshwater, groundwater, etc. on a daily basis. This includes monitoring of water withdrawals by total volumes. Our water managers perform internal water audits monthly through the Vedanta Sustainability Assurance Programme (VSAP), followed by biannual external water audits (ISO 14001 and GRI).	(100%) Business Units (BUs) - Cairn, Sterlite, Sesa, IOB, VAL Jharsuguda and Lanjigarh - and subsidiaries- HZL, BALCO, TSPL, FACOR, ZI, ESL. Total water withdrawals in terms of ground, surface, rainwater, recycled and third-party water (produced, mineral, desalinated, and grey water) from each source are measured, tested and treated on a daily basis to ensure standard water requirements are met in our operating sites. Even though community is not a part of our operation boundary, our total water withdrawal estimates also include the quantity that we withdraw for use by our community and township. Our transformation officers (TOs) present the current state

				assessment of water availability (consumption, withdrawal and discharge) and water management strategy to ESG management committee chaired by CEO, on a monthly basis.
Water withdrawals – volumes by source	100%	Daily	Optimised usage of water is crucial for Vedanta to attain water positivity. Hence, water meters are placed at water sources to track the daily amount of water withdrawn from freshwater, groundwater, etc. which includes monitoring of water withdrawals by total volumes. Our water managers perform internal water audits monthly through the Vedanta Sustainability Assurance Programme (VSAP), followed by biannual external water audits (ISO 14001 and GRI).	Vedanta measures, monitors and reports the total volume of water withdrawn for all Vedanta owned (100%) Business Units (BUs) - Cairn, Sterlite, Sesa, IOB, VAL Jharsuguda and Lanjigarh - and subsidiaries- HZL, BALCO, TSPL, FACOR, ZI, ESL. Total water withdrawals from each source are measured, tested and treated daily to ensure water standard requirements are met in our operating sites. Even though community is not a part of our operation boundary, our total water withdrawal

				estimates also include the quantity that we withdraw for use by our community and township. Our transformation officers (TOs) present the current state assessment of water availability (consumption, withdrawal and discharge) and water management strategy to ESG management committee chaired by CEO, on a monthly basis.
Entrained water associated with your metals & mining and/or coal sector activities - total volumes [only metals and mining and coal sectors]	100%	Daily	Water optimization is crucial for Vedanta and to achieve this we monitor, measure and report on the volumes of entrained water from ground water intersection, produced as a result of mining of ore, on a daily basis using a metered monitoring system. This water is collected and reused in process. Our water managers perform internal	Vedanta measures and monitors entrained water (entailing the production of water in the raw materials that are mined). It is important to note that the disclosure only covers our mining operations i.e. produced water from Cairn, desalinated water from Fujairah Gold and Grey water from HZL. We recycle and reuse this water in our operations. Monthly audits

			water audits monthly through the Vedanta Sustainability Assurance Programme (VSAP), followed by biannual external water audits (ISO 14001 and GRI).	are conducted by our transformation officers (TOs). They present the current state assessment of water availability (consumption, withdrawal, discharge and recycle) to the ESG management committee chaired by CEO, on a monthly basis.
Water withdrawals quality	100%	Daily	To ensure the quality of withdrawn water, Vedanta implements a robust monitoring system. Water is metered daily using electromagnetic flow meters, pH meter which are installed to measure both input and output. To maintain accuracy, the flow meters undergo annual calibration by a trusted third party. This rigorous approach allows all the Vedanta's BUs to consistently monitor and safeguard the quality of the withdrawn water.	Vedanta measures, monitors and reports the total volume of water withdrawn for all Vedanta owned (100%) Business Units (BUs) - Cairn, Sterlite, Sesa, IOB, VAL Jharsuguda and Lanjigarh - and subsidiaries- HZL, BALCO, TSPL, FACOR, ZI, ESL. Total water withdrawals from each source are measured, tested and treated daily to ensure water standard requirements are met in our operating sites. After intake water goes to raw water reservoir/pond-

				after water treatment plant the treated water (checking the quality of pH, electrical conductivity, turbidity and pre residual chlorine etc.) is distributed for different purposes. While discharging water quality are ensured as per CTO discharge quality parameter. Our total water withdrawal estimates include the quantity that we withdraw for use by our community and township though they are not included in the operational boundary.
Water discharges – total volumes	100%	Daily	Business Units (BUS) like HZL and Cairn employ real-time monitoring systems, utilizing piezometers and PTZ cameras to ensure that no discharge goes beyond their operational sites. In contrast, BUs without Zero Liquid Discharge (ZLD) facilities monitor outlet	Vedanta has a longstanding commitment to achieving zero discharge, recognising the responsibility to minimise any adverse environmental impacts. Presently, most of our BUs have Zero Liquid Discharge (ZLD) namely BALCO, ESL, HZL,

			parameters using piezometers before discharging. Furthermore, live data from these monitoring activities is linked to the Central Pollution Control Board (CPCB) server for effective oversight.	Fujairah , Sesa Iron Ore and Silvassa, VAL Jharsuguda and Lanjigarh etc. We monitor, track and report discharges by total volumes from all our BUs.
Water discharges – volumes by destination	100%	Daily	Business Units (BUS) like HZL and BALCO employ real-time monitoring systems, utilizing piezometers and (pan-tilt-zoom) PTZ cameras to ensure that no discharge goes beyond their operational sites. In contrast, BUs without Zero Liquid Discharge (ZLD) facilities such as CAIRN and TSPL monitor outlet parameters using piezometers before discharging. Furthermore, live data from these monitoring activities is linked to the Central Pollution Control Board (CPCB) server for effective oversight.	Vedanta has a longstanding commitment to achieving zero discharge, recognising the responsibility to minimise any adverse environmental impacts. Presently, most of our BUs have Zero Liquid Discharge (ZLD) namely BALCO, ESL, HZL, Fujairah, Sesa Iron Ore and Silvassa, VAL Jharsuguda and Lanjigarh etc. We monitor, track and report discharges by total volumes from all our BUs.

Water discharges – volumes by treatment method	100%	Daily	Business Units (BUS) like HZL and Cairn employ real-time monitoring systems, utilizing piezometers and PTZ cameras to ensure that no discharge goes beyond their operational sites. In contrast, BUs without Zero Liquid Discharge (ZLD) facilities monitor outlet parameters using piezometers before discharging. Furthermore, live data from these monitoring activities is linked to the Central Pollution Control Board (CPCB) server for effective oversight.	As per the existing laws, Vedanta can only discharge water after treatment such that the treated water meets the regulatory discharge guidelines. The discharge water is mainly the excess surface run-off which is treated and discharged from the plant premises. In case of mines, surface run-off gets collected in mine pits and is treated and discharged. This discharge is dependent on the rainfall received, higher the rainfall more the treated discharge. Vedanta has a longstanding commitment to achieving zero discharge, recognising the responsibility to minimise any adverse environmental impacts. Presently, most of our BUs have Zero Liquid Discharge (ZLD) namely BALCO, ESL, HZL,

				Fujairah, Sesa Iron Ore and Silvassa, VAL Jharsuguda and Lanjigarh etc. We monitor, track and report discharges by total volumes treated from all our BUs.
Water discharge quality – by standard effluent parameters	100%	Daily	Business Units (BUS) like HZL and Cairn employ real-time monitoring systems, utilizing piezometers and PTZ cameras to ensure that no discharge goes beyond their operational sites. In contrast, BUs without Zero Liquid Discharge (ZLD) facilities monitor outlet parameters using piezometers before discharging. Furthermore, live data from these monitoring activities is linked to the Central Pollution Control Board (CPCB) server for effective oversight.	Our CTO under section 21(4) of Prevention & Control of Pollution Act, 1981, is dependent on our ability to maintain zero discharge status from the premises, meaning no trade effluent shall be discharged outside operations. To comply by these requirements, we strictly monitor our water balance parameters. For e.g., HZL's (of Vedanta Limited) sites are Zero Liquid Discharge (ZLD) plants with no liquid effluent into surface water, groundwater, or third parties. To maintain this process, real time monitoring systems along with flow meters

				and PTZ camera are installed at the plant outlets for all smelters & captive power plants. We track the process water which is recycled after undergoing treatment at onsite ETP and a two stage RO system. The treated effluent conforms to the prescribed standards & is recycled in the process. Multiple Effective Evaporator (MEE) and Mechanical Vapour Recompression (MVR) have been provided to ensure ZLD.
Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)	100%	Daily	Business Units (BUS) like HZL and Cairn employ real-time monitoring systems, utilizing piezometers and PTZ cameras to ensure that no discharge goes beyond their operational sites. In contrast, BUs without Zero Liquid Discharge (ZLD) facilities monitor outlet parameters using piezometers	As per the existing laws, Vedanta can only discharge water after treatment such that the treated water meets the regulatory discharge guidelines. The discharge water is mainly the excess surface run-off which is treated and discharged from the plant premises. In case of mines, surface

			before discharging. Furthermore, live data from these monitoring activities is linked to the Central Pollution Control Board (CPCB) server for effective oversight.	run-off gets collected in mine pits and is treated and discharged. This discharge is dependent on the rainfall received, higher the rainfall more the treated discharge. Vedanta has a longstanding commitment to achieving zero discharge, recognising the responsibility to minimise any adverse environmental impacts. Presently, most of our BUs have Zero Liquid Discharge (ZLD) namely BALCO, ESL, HZL, Fujairah, Sesa Iron Ore and Silvassa, VAL Jharsuguda and Lanjigarh etc. We monitor, track and report discharges by total volumes from all our BUs as per consent conditions.
Water discharge quality – temperature	100%	Daily	Business Units (BUS) like HZL and Cairn employ real-time monitoring systems, utilizing piezometers and PTZ cameras to	As per the existing laws, Vedanta can only discharge water after treatment such that the treated water meets the

			ensure that no discharge goes beyond their operational sites. In contrast, BUs without Zero Liquid Discharge (ZLD) facilities monitor outlet parameters using piezometers and temperature through thermometers before discharging. Furthermore, live data from these monitoring activities is linked to the Central Pollution Control Board (CPCB) server for effective oversight.	regulatory discharge guidelines. The discharge water is mainly the excess surface run-off which is treated and discharged from the plant premises. In case of mines, surface run-off gets collected in mine pits and is treated and discharged. This discharge is dependent on the rainfall received, higher the rainfall more the treated discharge. Vedanta has a longstanding commitment to achieving zero discharge, recognising the responsibility to minimise any adverse environmental impacts. Presently, most of our BUs have Zero Liquid Discharge (ZLD) namely BALCO, ESL, HZL, Fujairah, Sesa Iron Ore and Silvassa, VAL Jharsuguda and Lanjigarh etc. We monitor, track and report discharges

				by total volumes from all our BUs.
Water consumption – total volume	100%	Daily	Total water consumption data is recorded on a daily basis through a metered monitoring system. We record consumption in order to ensure compliance and effectively. We also conduct external water audits annually such as, ISO 14001, GRI audit and internal audit through Vedanta Sustainability Assurance Programme (VSAP).	Vedanta measures and monitors the volume of water consumed at all of its operations. At Vedanta, it is important for us to integrate the water management system with decision making processes and to avoid and minimize any probable impact on water resources. To ensure this, the total water consumption data is recorded on a daily basis. All our sites are having water resource management plans. This plan is updated annually based on actual water consumption. In this exercise, suitable water conservation projects are identified to minimize water losses and implemented.
Water recycled/reused	100%	Daily	Treated water is reused and the total volumes of recycled and	Water conservation is a collective responsibility and

			reused water are recorded and monitored for all our operations throughout the year on a daily basis through a metered monitoring system.	a non-negotiable aspect for sustainable development at Vedanta. We are banking on technology deployment across our sites to reduce freshwater usage through process improvement and recycling of wastewater. Out of our total water projects pipeline, 77% are focused on reducing waste from operations as well as reusing wastewater in operations.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Daily	Water network that provides water for WASH services is measured daily by means of appropriate monitoring and recording methodology. WASH performance has been linked with our OHS centre. We have real time monitoring on the quality of water supplied to the employees through RO by TDS measuring meters aligned with drinking	Vedanta monitors the provision of fully functioning, safely managed WASH services to all workers at each of its operations (100%). Vedanta is committed to safe water, sanitation and hygiene at the workplace in alignment to the United Nation's SDG 6.

			water standard IAS 10500 Sanitation related information displayed on the posters	

W1.2b

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

	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Please explain
Total withdrawals	212,939.94	About the same	Increase/decrease in efficiency	Lower	Increase/decrease in efficiency	In FY23, Water withdrawal has remained 'about the same' (0.99% increase from FY22) because water recycle/reused was 78 million m3 and four BUs are at water positive. Therefore, improving water efficiency and maximizing recycling/reuse of water has kept our water

						withdrawal 'about the same' irrespective of increase in production. Future forecast: Aligning with our FY 2030 water positivity target, we have set a short-term FY 2025 goal of reducing freshwater consumption by 15%, (current decrease is 3.41%) therefore, we foresee a decreasing trend in water consumption. A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.
Total discharges	20,171.66	Much lower	Increase/decrease in efficiency	Lower	Increase/decrease in efficiency	Vedanta has a longstanding commitment to achieving zero waste and zero

						discharge, recognising the responsibility to minimize any adverse environmental impacts. In FY 2023, discharge decreased by 13.88% (20,171,667) liters/year in comparison to 23,422,667 liters discharged in FY 2022 majorly due to water recycling/reuse initiatives in most of our BUs, we have Zero Liquid Discharge (ZLD) in facilities, namely BALCO, ESL, HZL, Fujairah, Sesa Iron Ore and Silvassa, VAL Jharsuguda and Lanjigarh etc. Therefore, in the future total

						discharge from our operations will be decreasing. A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.
Total consumption	187,814.48	Lower	Increase/decrease in business activity	Lower	Increase/decrease in efficiency	The total freshwater consumption has decreased by 3.41% to 187,814.481 megaliters in FY 2023, compared to 194,440.000 megaliters in FY 2022. The decrease in water consumption was due to increase in water conservation at all our sites. Future forecast: Aligning with the target of attaining water positivity by 2030 and also reducing

						the freshwater consumption by 15% by FY 2025. We have taken several initiatives such as at VAL-Jharsuguda, water from cooling tower blow down and ETP is recycled through zero effluent discharge system to increase recycle rate. Hence, reducing the dependency on freshwater withdrawal. therefore, we foresee a decreasing trend in water consumption. A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.

W1.2d

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

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Identification tool	Please explain
Row 1	Yes	11-25	Higher	Increase/decrease in business activity	Lower	Increase/decrease in efficiency	WRI Aqueduct WWF Water Risk Filter	As per the WRI's Aqueduct Country level water risk atlas, water stress for Vedanta's business units is divided into low, medium and high-risk categories. Sites in the high basin and operational risk (risk rating between 3.5 to 5 for both operational and basin risk) are categorised as

								water stressed areas. Majority of units do not withdraw water from the identified water stressed areas. Out of 34 sites 26 sites lies in high basin risk zone while one in high operational risk zone, and 7 sites are situated in medium basin stress zone. The three dimensions defining water stress are, water availability, quality and accessibility. For instance,

								In FY 2023 all of HZLs' sites, withdraw water from water stressed region (Rajasthan) as per the WRI's Aqueduct Country level water risk atlas. On the other hand, BALCO, Korba, Chhattisgarh 's Ground Water (GW) extraction is around 37.15%, which is lower than the Indian average of 63% and GW Block category is Safe. FY 2023 witnessed an increase in water withdraw

								n from water stressed areas due to increase 7% zinc-lead production and 10% increase in silver production at HZL. However, in future we anticipate an overall decrease in share of water consumption from water stressed areas, due to increase in water efficiency. A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.

W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	146,449.64	Lower	Increase/decrease in efficiency	In FY 2023, our freshwater withdrawal levels have decreased by 4% from FY 22 due to increased dependence on municipal water. Aligning with our FY 2030 water positivity target, we have set a short-term FY 2025 goal of reducing freshwater consumption by 15%, therefore, we foresee a decreasing trend in water consumption. A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.
Brackish surface water/Seawater	Not relevant				Brackish water is not used in our operations
Groundwater – renewable	Relevant	17,174.12	Lower	Increase/decrease in efficiency	Our ground water withdrawal levels have

					decreased by 1.48% as compared to FY22 (1,74,32,334 L) due to increase in efficiency and dependence on other sources of water. As a result of, change in the accounting methodology for HZL which accounts for 54% of the total ground water withdrawn. Initially, HZL did not include mine intersection water, which was accounted for in FY 2023. We aim to reduce dependency on groundwater in direct operations in the future as we implement initiatives to meet our 2025 freshwater reduction targets. Our target is to reduce our freshwater consumption by 15% by

					2025 and be water positive by 2030. A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.
Groundwater – non-renewable	Not relevant				This water parameter is not relevant because no non-renewable groundwater volumes are withdrawn by any of Vedanta's operations. This trend is expected to continue in the future.
Produced/Entrained water	Relevant	37,109.96	Much lower	Increase/decrease in business activity	Produced water has decreased by 9% from FY 2022 due to decrease in business activity. Future Trends: it will increase due to business activity , the target is to increase produced water recycling by 97% by 2025. A 5% increase defines higher threshold for us, beyond 5%

					accounts for much higher.
Third party sources	Relevant	12,206.22	Much higher	Increase/decrease in efficiency	Third party water includes water supplied by municipality and the wastewater utilized by the company from other sources. Our third-party sources water withdrawal levels have increased by 24.27% (12,206.22 Megaliters as compared to 9814.12 megaliters in FY 22,) due to increase in PW recycling at Cairn, increasing of COC in CW water by installation of Sulphuric acid dosing system at VALJ and many more water efficiency initiatives across our BUs. Future forecast: Aligning with our FY 2030 water positivity target, we have set a short-

					term FY 2025 goal of reducing freshwater consumption by 15%, currently we have decreased freshwater consumption by 3.41%therefore , we foresee a decreasing trend in water consumption. A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.

W1.2i

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water	Relevant	20,171.66	Much lower	Increase/decrease in efficiency	In FY 2023, discharge decreased by 13.88% (20171.667 megaliters/year in comparison to 23422.667 megaliters discharged in FY 2022. As per the existing laws, Vedanta can only

					discharge water after treatment such that the treated water meets the regulatory discharge guidelines. The discharge water is mainly the excess surface run-off which is treated and discharged from the plant premises. In case of mines, surface run-off gets collected in mine pits and is treated and discharged. This discharge is dependent on the rainfall received, higher the rainfall more the treated discharge. A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.
Brackish surface water/seawater	Not relevant				This water parameter is not relevant because no brackish surface water/seawater volumes are withdrawn by any of our operations. This trend is expected

					to continue in the future.
Groundwater	Not relevant				This parameter is not relevant because there is no groundwater discharge from our mining and smelting operations.
Third-party destinations	Not relevant				As per Indian norms, we do not release any water to municipal wastewater plants, public or private utilities, and other organizations involved in the transport, treatment, disposal etc, all the water is reused in our operation

W1.2j

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

	Relevance of treatment level to discharge	Volume (megaliters/year)	Comparison of treated volume with previous reporting year	Primary reason for comparison with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Tertiary treatment	Relevant	20,171.66	Much lower	Increase/decrease in efficiency	100%	In FY 2023, discharge decreased by 13.88% from 20,171.66megalite

						rs/year in comparison to 23,422.667megaliters discharged in FY 2022.As per the existing laws, Vedanta can only discharge water after treatment such that the treated water meets the regulatory discharge guidelines. The discharge water is mainly the excess surface run-off which is treated and discharged. In case of mines, surface run-off that gets collected in mine pits undergoes tertiary treatment and is discharged. Whereas for plants, excess effluent undergoes tertiary treatment and is discharged. A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.
Secondary treatment	Not relevant					Our discharge undergoes tertiary treatment to meet the regulatory discharge guidelines.

Primary treatment only	Not relevant					Our discharge undergoes tertiary treatment to meet the regulatory discharge guidelines.
Discharge to the natural environment without treatment	Not relevant					Our discharge undergoes tertiary treatment to meet the regulatory discharge guidelines.
Discharge to a third party without treatment	Not relevant					Our discharge undergoes tertiary treatment to meet the regulatory discharge guidelines.
Other	Not relevant					Our discharge undergoes tertiary treatment to meet the regulatory discharge guidelines.

W1.2k

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

	Emissions to water in the reporting year (metric tonnes)	Category(ies) of substances included	Please explain
Row 1	0.22	Nitrates	Facor, Cairn and Sesa, TMP businesses of Vedanta discharge water after tertiary treatment. The discharged water contains much less than the acceptable levels of Nitrates. None of these businesses are in water stressed regions.

W1.3

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

	Revenue	Total water withdrawal volume (megaliters)	Total water withdrawal efficiency	Anticipated forward trend
Row 1	1,454,040,000,000	212,939.94	6,828,404.29090005	Vedanta's goal is to become Net Water Positive by 2030 in order to focus our contributions on attaining water security and resilience. This involves enhancing water availability, quality, wastewater management, accessibility through safe and reasonably priced drinking water, water operational efficiency. Our BUs- HZL, IOB, Cairn and BMM have achieved water positive status.

W-MM1.3/W-CO1.3

(W-MM1.3/W-CO1.3) Do you calculate water intensity information for your metals and mining activities?

Yes

W-MM1.3a/W-CO1.3a

(W-MM1.3a/W-CO1.3a) For your top 5 products by revenue, provide the following intensity information associated with your metals and mining activities.

Product name	Numerator: Water aspect	Denominator	Comparison with previous reporting year	Please explain
Aluminium	Total water consumption	Ton of final product	About the same	Vedanta is the largest primary aluminium producer in India with Aluminium smelters at Jharsuguda and Korba (BALCO) and Alumina refinery at Lanjigarh. Production of Aluminium is an energy intensive process, which involves electrolysis of alumina. The electricity for electrolysis comes from our captive thermal power plants, which account for most of the water consumption. In FY 22, we produced 2,269,000 MT of aluminium, and 1,968,000 MT of Alumina. The Specific water consumption in FY 21-22 for Aluminium is 25.06 m3/MT and 2.77 m3/MT for

				Hydrate as Alumina. In FY 23, we produced 2,286,408 MT of Aluminium and 18,54,926 MT of Alumina, accounting for specific water consumption of 17.63 m3/MT and 2.97 m3/MT for Hydrate as Alumina respectively. We are implementing several initiatives to reduce our dependence on freshwater such as wastewater recycling. Lanjigarh Refinery is the first aluminium refinery in India with a with a zero-discharge system which helps reduce usage of external water by over 60%. In FY 2023, we witnessed an increase in water consumption by 0.6% compared to FY 2022, due to decrease in efficiency of alumina production from our Vedanta Lanjigarh plant. A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.
Zinc Lead Silver	Total water consumption	Ton of final product	Lower	At HZL, we own and operate zinc mines that produces zinc minerals in ore as its primary product and co-products as minerals of lead and silver. In the pyrometallurgical process, ore concentrate containing lead, zinc are processed to yield lead, zinc and silver metals. Since the ore processing happens together, it is difficult for us to segregate water consumed for these products, and hence we report our water consumption as water consumed for production of zinc – this includes water consumed for production of lead and silver as well. In FY 22, we produced 776,000 MT of Zinc, 191,000 MT of Lead and 647 MT of Silver from a composite zinc ore. The Specific water consumption (includes STP treated water for Smelter) in FY 22 is 25.52. In FY 23, we produced 820,900 MT of Zinc, 210,700 MT of Lead and 731.6 MT of Silver from a composite zinc ore. The leading to specific water

				consumption (includes STP treated water for Smelter) in FY 23 to be 24.67 m3/MT. We have implemented several initiatives to reduce our dependence on freshwater such as recycling from tailing Storage Facility, operating dry tailing plant, installation of ETP, RO and MEE process. All these initiatives have resulted in a reduction in the amount of fresh water by 3.3% compared to FY 22. A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.
Copper	Freshwater consumption	Ton of final product	About the same	Vedanta contributes up to 36% of India's demand for refined copper. Copper is refined at our Copper Rod plants at Silvassa in western India. The water is consumed in the plant processes and for domestic usage in the plant. The total amount of copper produced was 125,000 MT in FY21-22 with water intensity of 0.98 m3/MT of copper produced. This year total amount of copper produced was 148,000 MT (FY22-23) with water intensity of 0.98 m3/MT of copper produced. The water intensity is not likely to increase in the near future. A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.
Steel	Total water consumption	Ton of final product	Lower	Water is used for cooling and in the steelmaking processes. While the steel is a water intensive metal, most of the water gets recycled in the system and hence reducing the burden on freshwater consumption. The total amount of steel produced was 1,260,000 MT in FY21-22 with water intensity of 4.51 m3/MT of steel produced. This year total amount of copper produced was 1,285,000 MT (FY22-23) with water intensity of 4.08 m3/MT of steel produced. The water intensity has reduced owing to increased efficiency of the system and this trend is likely to continue in the near future.

				A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.
Iron Ore	Total water consumption	Other, please specify Total units of power	About the same	Vedanta has iron ore mines in Goa and in Chitradurga in Karnataka. All the iron ore production has come from the Chitradurga mines. The mines are open cast mines and the water consumption for iron ore mining is very low. The total amount of ore extracted was 5.4 million tons in FY21-22 with water intensity of 0.003 m3/ton of iron ore extracted. This year total amount of iron ore extracted was 5.3 million tons (FY22-23) with water intensity of 0.003 m3/ton of iron ore extracted. The water intensity has is likely to remain unchanged in the near future. A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.

W1.4

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

	Products contain hazardous substances
Row 1	Yes

W1.4a

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

Regulatory classification of hazardous substances	% of revenue associated with products containing substances in this list	Please explain
Other, please specify US EPA lead regulations, South Africa: Occupational Health & Safety Act Lead Regulations, EU: Restriction of Hazardous Substances (RoHS) directive	Less than 10%	The Lead concentrate produced at Zinc International is categorized as a hazardous substance as per US EPA lead regulations, South Africa: Occupational Health & Safety Act Lead Regulations and EU: Restriction of Hazardous Substances (RoHS) directive.

		The revenue from this product is INR 677.17 Cr which 0.46% of Vedanta Limited's revenue of INR 145,404 Cr.

W1.5

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

	Engagement	Primary reason for no engagement	Please explain
Suppliers	Yes		
Other value chain partners (e.g., customers)	No	We are planning to do so within the next two years	In future we plan on engaging with our value chain partners through engagement surveys and risk assessments.

W1.5a

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

Row 1

Assessment of supplier impact

Yes, we assess the impact of our suppliers

Considered in assessment

Basin status (e.g., water stress or access to WASH services)
Supplier dependence on water
Supplier impacts on water availability
Supplier impacts on water quality
Procurement spend

Number of suppliers identified as having a substantive impact

47

% of total suppliers identified as having a substantive impact

1-25

Please explain

Vedanta conducted supplier assessment for evaluating the impact of suppliers on water security, by following the below steps:
- from each of the 10 business units, Top 5 material suppliers were identified basis the procurement spent.
- A comprehensive water risk assessment was conducted using WRI Aqueduct Tool, water Risk Tool, for recognizing and evaluating suppliers in areas with high water stress/basin risk, high water dependency and the potential to create a substantive impact on water availability and water quality.

W1.5b

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

	Suppliers have to meet specific water-related requirements
Row 1	Yes, suppliers have to meet water-related requirements, but they are not included in our supplier contracts

W1.5c

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

Water-related requirement

Complying with going beyond water-related regulatory requirements

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

1-25

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

100%

Mechanisms for monitoring compliance with this water-related requirement

Certification

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

Retain and engage

Comment

We expect all our suppliers to be certified to ISO 14001. We request this information at the time of registration through PIQ (partner Information Questionnaire). We recommend our suppliers (recognized as high risk, to align with environment management guidelines of ISO 14001 and adopt the certification.)

W1.5d

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

Type of engagement

Information collection

Details of engagement

Collect information on water-related risks at least annually from suppliers
Collect water quantity information at least annually from suppliers (e.g., withdrawal and discharge volumes)

% of suppliers by number

1-25

% of suppliers with a substantive impact

100%

Rationale for your engagement

We request all our suppliers with substantive impact on water security to report on water-related issues. This comprises suppliers that are located in water stress regions or potentially affected by physical risks (due to water dependency e.g., water scarcity) or regulatory risks.
Suppliers having a substantive impact on water security (basis the procurement spent) are required to report on both direct and indirect use of water, the water availability of the region, and water-related risks.

Impact of the engagement and measures of success

As an outcome of this engagement, we have seen increase in water resilience, responsible water management and stewardship from among our suppliers and transparency in disclosure of their water risk management plans. In order to evaluate the success of this engagement, we analyse the percentage of suppliers with a substantive impact on water security.

Comment

Vedanta conducted supplier assessment for evaluating the impact of suppliers on water security, by identifying 5 material suppliers each from our respective business units basis the procurement spent, and a comprehensive water risk assessment was conducted using WRI Aqueduct Tool, water Risk Tool, for recognizing and evaluating suppliers in areas with high water stress/basin risk, high water dependency and the potential to create a substantive impact on water availability and water quality.

W2. Business impacts

W2.1

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

No

W2.2

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

	Water-related regulatory violations	Comment
Row 1	No	We constantly measure, monitor and evaluate the impact of our water performance. During the reporting period we have not incurred any water related violations or fines. Infact, we have a FY 2025 target of zero categories 4 and 5 water related environmental incidents. the target has already been achieved.

W3. Procedures

W3.1

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

	Identification and classification of potential water pollutants	How potential water pollutants are identified and classified
Row 1	Yes, we identify and classify our potential water pollutants	Vedanta has a water policy that has a board level oversight. Along with this we have water management technical standards and contaminated site management standard, which is based on, ICMM guidelines, statutory laws, IFC and the applicable sector specific frameworks. Our approach identifies and classify our potential water pollutants includes two step approach: Step 1: Preliminary assessment using desktop review followed by site reconnaissance by site team as well as third party. Step 2: Site characterization, which consists of sampling and analysis of environmental media, collecting, geological, hydrological and hydrogeological data, then information on human and geological receptors is collected to study the impact followed by compilation and evaluation of the analytical data and finally developing a site conceptual model. Using the above-mentioned approach, the pollutants are identified and classified.

W3.1a

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

Water pollutant category

Oil

Description of water pollutant and potential impacts

Contamination of water due to oil causes loss of drinking water, specially for the marginalized communities who rely mostly on tap/ground water without much treatment and damage to marine life and the ecosystem. Oil may contain toxic elements which if reach ground water table may contaminate the ground water aquifers, rendering the water unfit for drinking purpose. Oil forms a slim layer over the surface of water, limiting re-oxygenation of pond or lake water, which may negatively impact the aquatic life.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

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

Please explain

Vedanta has a water policy that has a board level oversight. Along with this we have water management technical standards and contaminated site management standard which is based on, ICMM guidelines, statutory laws, IFC and the applicable sector specific frameworks. While most of our sites are zero discharge facilities, such as; BALCO, VAL - Jharsuguda, HZL, etc. we ensure that any excess surface runoff is also properly treated before it is discharged. The runoff water is collected through dedicated drains which takes the discharge to the ETP. This discharge gets treated and it is ensured that the effluent is devoid of any oil contamination.
The surface and ground water are regularly monitored to measure any potential impact. The surface water is collected on a sample basis from the nearby water streams and is tested in NABL accredited laboratories. Piezometers are installed in all potential locations to ensure monitoring of ground water contamination. The samples from these piezometers is also collected at regular periodic intervals and are tested. The test report is also shared with the state pollution control board for compliance.

W-MM3.2/W-CO3.2

(W-MM3.2/W-CO3.2) By river basin, what number of active and inactive tailings dams are within your control?

Country/Area & River basin	Number of tailings dams in operation	Number of inactive tailings dams	Comment

India Mahanadi River (Mahahadi)	4	2	At VAL Jharsuguda, there are a total of 6 ash dykes of which four are active and two are inactive. These dykes are used for storing and disposing ash from thermal power plants.
India Other, please specify Hasdeo River Basin	4	4	At BALCO, there are a total of 8 ash dykes of which four are active and four are inactive. These dykes are used for storing and disposing ash from thermal power plants.
India Mahi River	1	0	This tailing storage Facility is part of our Hindustan Zinc Limited's Zawar mining and beneficiation process. Dry tailing disposal plant at Zawar mill ensures recirculation of more than 90% of the process water present in tailings, near elimination of water losses through seepage and evaporation, virtual stoppage of any probability of groundwater contamination through seepage and significant safety improvement, promotes faster rehabilitation and restoration of storage site at mine closure, and ensures re-availability of water for further use thus reducing the risk of a catastrophic dam failure. It is now possible to extract excess water (recirculation for mill operation) from tailings by introduction of this filtration plants to transform solid fractions into cake containing only 16% moisture. This makes the system a highly efficient technology to treat tailing while also conserving water. We installed an additional pump, line system, and constructed a new 5,000 m3 tailing. Storage Facility water reclaim facility at the Zawar mine to mitigate the challenge concerning low recirculation rate and low storage capacity (2,000 m3).
India Other, please specify Banas river basin	1	0	This tailing storage Facility is part of our Hindustan Zinc Limited's Dariba mining and beneficiation process. Our tailing Storage Facility area spans ~8.2 lakh m2 and tailing from the SKM and the RDM are stored in the dam. Supernatent water from the storage facility collected in a pit near our pump house, following which its pumped back into the SKM and RDM. This is made possible by transferring large volumes of water into the newly constructed lined storage pond, which has a capacity of 1.25 lakh m3. Water from this pond is diverted to the mines for further use in the ore beneficiation plant. To enhance the levels of monitoring piezometers have been installed. Inclinometer are installed to monitor movement in X & Y axis. Reading from both the instruments is being transferred through

			GPS to the in charge of Tailing Storage Facility. This aids in taking proactive steps against the occurrence of unfortunate incidents.
India Other, please specify Luni River Basin	1	0	We erected a water collection reservoir to store excess water accumulating at our tailing Storage Facility. In order to eliminate the need for physical inspections, we commissioned the installation of vibrating wire type piezometers and location-based inclinometers within the embankment. These instrumentation systems provide real-time monitoring information, which boosts overall surveillance. We also have a structured Tailing Storage Facility (TSF) organogram at each site wherein periodic reviews are carried out. In FY2021 Hindustan Zinc had introduced a novel, satellite based InSAR (Interferometric Synthetic Aperture Radar) monitoring technique to provide early warning of surface ground movements. This technique allows mapping deformation using radar images of the ground surface that are collected from orbiting satellites. It enables high precision surface displacement monitoring at a mine scale. InSAR monitoring is carried out at 13 sites, including Rampura Agucha open pit, all tailings dams and selected waste dumps. InSAR monitoring augments existing stability monitoring systems and provides greater safety and management assurance.
South Africa Not known	2	0	This tailing storage Facility is part of our Black Mountain Mining Pty at Gamsberg, South Africa. The treatment of 10 mtpa ROM ore is expected to lead to approximately 9 mtpa of tailings material (approximately 6.9 million m3 of slurry containing approximately 4.5 million m3 of water). The mineral wastes (tailings) are sent to the thickener to reduce the water content and then pumped to the tailings storage facility (TSF). Percolated water in the tailings dam is extracted, returned to a process plant and re-used in the concentrating process, via a return water dam. Based on the expected production of tailings material, two tailings dams in close proximity on the 290 hectare footprint will be constructed (one of which has already been constructed), with a total storage capacity of 132 million tons. The tailings dam is situated to the north of the N14.

India Other, please specify Kalahandi	1	0	At VAL Lanjigarh, there is 1 red mud pond which is active and is used for storing and disposing red mud from bauxite refining.

W-MM3.2a/W-CO3.2a

(W-MM3.2a/W-CO3.2a) Do you evaluate and classify the tailings dams under your control according to the consequences of their failure to human health and ecosystems?

	Evaluation of the consequences of tailings dam failure	Evaluation/Classification guideline(s)	Tailings dams have been classified as 'hazardous' or 'highly hazardous'	Please explain
Row 1	Yes, we evaluate the consequences of tailings dam failure	Australian National Committee on Large Dams (ANCOLD) Canadian Dam Association (CDA) South Africa (SANS) 10286 Global Industry Standard on Tailings Management (ICMM) Other, please specify ICOLD, DES, European Directive 2006/21/EC - Directive on the management of waste from extractive industries	Yes, tailings dams have been classified as 'hazardous' or 'highly hazardous' (or equivalent)	Vedanta conducts a dam break assessment for all its tailing storage facilities at the time of dam construction. The consequence category is determined using international guidance on managing large dams- ICOLD, CDA, DES, SANS 10286, GISTM and ANCOLD. Every dam is rated based on the risk associated with potential dam failure and categorized based on the definition of the severity of damage and loss in relation to the number of assets. Factors such as population at risk, potential loss of life, environment and cultural values, infrastructure and economics determine basis of the classification. The rating is expressed using seven Consequence Categories: Very low – dam failure is considered negligible; Low, Significant,

				High-A, B and C; and Extreme –dam failure is considered severe. Design, monitoring and surveillance requirements are then specified as per the designated consequence category. The CCS rating is evaluated independently from the probability of an unwanted event-taking place. The higher the CCS rating, the more stringent the requirements. Facilities classified as 'High' are regarded as 'hazardous' and 'Major' as 'highly hazardous'. Vedanta Tailing Management Facility Standard is aligned with other international standards. This standard is developed to focus on the full life-cycle of the tailings process. It is applicable.to all the existing and future tailing facilities in mining operations

W-MM3.2b/W-CO3.2b

(W-MM3.2b/W-CO3.2b) Provide details for all dams classified as 'hazardous' or 'highly hazardous'.

Tailings dam name/identifier

Rampura Agucha Mines Tailing Dam, Hindustan Zinc Limited

Country/Area & River basin

India

Other, please specify

Luni Basin

Latitude

25.5

Longitude

74.44

Hazard classification

ICOLD ‘IV': Extreme and ANCOLD: Extreme

Guideline(s) used

Australian National Committee on Large Dams (ANCOLD)

Other, please specify

International Commission on Large dams (ICOLD)

Tailings dam's activity

Active

Current tailings storage impoundment volume (Mm3)

56

Planned tailings storage impoundment volume in 5 years (Mm3)

7

Please explain

We undertook dam break modelling in 2019 at the Agucha TSF to assist in understanding the risk posed to stakeholders downstream of the TSF. The results of the model determine the arrival times and maximum flow depths of the breach flood wave produced by a hypothetical breach of containment. The results were used to prepare inundation maps. Evaluated the Agucha TSF against the ICOLD hazard rating and determined that the TSF has a rating level of ‘IV (Extreme)’. This was mainly due to the high population at risk (PAR) and was consistent for all modeled cases. The hazard rating was also evaluated against the ANCOLD Guidelines and determined that the TSF has a Consequence Category of ‘Extreme’. This was mainly due to the high PAR and was consistent for all modeled cases. Recommended designing and constructing mitigation structures to reduce PAR exposure, demarcate safe areas for evacuation in the case of a flood event and demarcate risk zones to prevent new settlements in these areas.

Tailings dam name/identifier

Rajpura Dariba Complex Tailing Dam, Hindustan Zinc Limited

Country/Area & River basin

India

Other, please specify

Banas Basin

Latitude

24.57

Longitude

74.08

Hazard classification

ANCOLD (2012a,b) Guidelines: Category of High A CDA (2013) Guidelines: Category of Very High

Guideline(s) used

Australian National Committee on Large Dams (ANCOLD)
Canadian Dam Association (CDA)

Tailings dam's activity

Active

Current tailings storage impoundment volume (Mm3)

15.6

Planned tailings storage impoundment volume in 5 years (Mm3)

7.5

Please explain

Dam failure impact assessment of the TSF at Rajpura Dariba location was conducted in 2019-20. Overtopping and piping failure modes were considered for each of the selected breach locations. A Consequence Category Assessment was carried out for the TSF based on both the ANCOLD and CDA guidelines. Based on the ANCOLD guidelines, the TSF has a consequence category of High A and based on the CDA guidelines, the TSF has a consequence category of Very High. Mitigation options have been considered in this assessment for the reduction of impacts resulting from a breach of the Dariba TSF, in terms of impacts to surrounding populations. Engineered levees in the form of protection or diversion berms, placed along the inundated perimeter of the settlements could serve to reduce the potential flood impacts to the predicted inundated areas of the settlements. Further studies are recommended for proper planning, design, modelling, and installation of warning system.

Tailings dam name/identifier

Zawar Tailing Storage Facility

Country/Area & River basin

India
Mahi River

Latitude

24.2

Longitude

73.42

Hazard classification

"Very high" dam classification according to Canadian Dam Association (CDA) guidelines.

Guideline(s) used

Canadian Dam Association (CDA)

Tailings dam's activity

Active

Current tailings storage impoundment volume (Mm3)

26.77

Planned tailings storage impoundment volume in 5 years (Mm3)

10.6

Please explain

Dam Break analysis study of Zawar Tailings Storage Facility Failure was conducted in February 2021. To assess the potential damages associated with the hypothetical failure of the main dams at Zawar TSF. The structure's current consequential risk has been classified as "Very Extremes. Given the significant community downstream and short warning time, these assumptions would place the facility within the "Very high Extremes" dam classification according to CDA guidelines. The results from this report will serve to facilitate the path for an Emergency Response Plan so that future design requirements are adjusted. Dry stacking 12 million MT.

Tailings dam name/identifier

BALCO Dykes

Country/Area & River basin

India

Other, please specify

Hasdeo

Latitude

22.24

Longitude

82.43

Hazard classification

Category A

Guideline(s) used

Australian National Committee on Large Dams (ANCOLD)

Canadian Dam Association (CDA)

Other, please specify

DES

Tailings dam's activity

Active

Current tailings storage impoundment volume (Mm3)

15

Planned tailings storage impoundment volume in 5 years (Mm3)

18

Please explain

Based on the ANCOLD guidelines, the TSF has a consequence category of High A and based on the CDA guidelines, the TSF has a consequence category of Very High.

Tailings dam name/identifier

Kurabega

Country/Area & River basin

India

Mahanadi River (Mahahadi)

Latitude

21.48

Longitude

84.2

Hazard classification

Category B

Guideline(s) used

Australian National Committee on Large Dams (ANCOLD)

Other, please specify

Guidelines 7. Consequence Category

Tailings dam's activity

Active

Current tailings storage impoundment volume (Mm3)

1.86

Planned tailings storage impoundment volume in 5 years (Mm3)

1.86

Please explain

Based on the ANCOLD guidelines, the TSF has a consequence category of B.

Tailings dam name/identifier

Katikela

Country/Area & River basin

India

Mahanadi River (Mahahadi)

Latitude

21.46

Longitude

84.4

Hazard classification

Category B

Guideline(s) used

Australian National Committee on Large Dams (ANCOLD)

Other, please specify

Guidelines 7. Consequence Category

Tailings dam's activity

Active

Current tailings storage impoundment volume (Mm3)

3.72

Planned tailings storage impoundment volume in 5 years (Mm3)

3.72

Please explain

Based on the ANCOLD guidelines, the TSF has a consequence category of B.

Tailings dam name/identifier

BRDA

Country/Area & River basin

India

Other, please specify

Kalahandi

Latitude

19.7

Longitude

83.39

Hazard classification

Category A

Guideline(s) used

Australian National Committee on Large Dams (ANCOLD)

Canadian Dam Association (CDA)

Tailings dam's activity

Active

Current tailings storage impoundment volume (Mm3)

2.5

Planned tailings storage impoundment volume in 5 years (Mm3)

30

Please explain

Based on the ANCOLD guidelines, the TSF has a consequence category of B.

W-MM3.2c/W-CO3.2c

(W-MM3.2c/W-CO3.2c) To manage the potential impacts to human health or water ecosystems associated with the tailings dams in your control, what procedures are in place for all of your dams?

Procedure	Detail of the procedure	Please explain
Acceptable risk levels	Establishment of site-level guidance and standards for acceptable risk levels based on an evaluation of potential chemical and physical risks Establishment of site-level guidance and standards for acceptable risk levels for third party safety in consultation with potentially affected communities, employees and relevant government bodies Establishment of site-level guidance and standards for acceptable risk levels across all life stages, including post-closure Establishment of company-wide standards for acceptable risk levels that folllow a company policy to eliminate or minimize water-related risks associated with tailings dams	The Vedanta Tailing Management Facility Standard (TMFs) is based on ICMM's Global Industry Standard on Tailings Management (GISTM). We strive to repurpose tailings materials and waste rock for backfill purposes, thereby stabilizing our underground mining operations. Any remaining tailings are carefully placed in specially designed tailings storage facilities, which helps minimize environmental, social, and economic risks. To ensure the stability of our dams, we conduct Dam break studies in collaboration with global experts. Our Tailing Storage Facility (TSF) committee comprises experts from various functions, and we implement rigorous measures throughout the construction, operation, maintenance, and closure phases of our facilities to mitigate the risks associated with tailing dam failures and outlines procedures to mitigate their impact on human health. Considering the past high impact failures of tailing dams, we have taken a proactive approach by deciding to adopt dry tailing technology for all our future Tailings Storage Facilities. This move helps us significantly reduce the risk of dam failures. Additionally, the use of dry tailing technology eliminates the need for landfills and allows for better water recovery. Our commitment to dry tailing technology can be seen in the commissioning of India's first dry tailing plant at Zawar Mine of HZL in 2019. This plant has proven to be highly effective in

		reducing freshwater consumption by enhancing process water recovery by over 80%. Moreover, it has improved tailing dam structural stability and substantially reduced our water footprint.
Operating plan	An operating plan that is aligned with your established acceptable risk levels and critical controls framework An operating plan that includes the operating constraints of the dam and its construction method An operating plan that considers the consequences of breaching the operating constraints of the dam An operating plan that includes periodic review of the foundations and slope materials An operating plan that evaluates the effectiveness of the risk management measures and whether performance objectives are being met	The Vedanta Tailing Management Facility Standard (TMFs) is based on ICMM's Global Industry Standard on Tailings Management (GISTM). To ensure the stability of our dams, we conduct Dam break studies in collaboration with global experts. Our Tailing Storage Facility (TSF) committee comprises experts from various functions, and we implement rigorous measures throughout the construction, operation, maintenance, and closure phases of our facilities to mitigate the risks associated with tailing dam failures and outlines procedures to mitigate their impact on human health. Wherever possible, we repurpose tailings materials and waste rock as backfill to stabilize our underground mining operations. Remaining tailings are then placed in a specially designed tailings storage to minimize the environmental, social, and economic risks. In regard to the past high impact failures of tailing dams, as a proactive measure, we have decided to build all our future tailing Storage Facility as dry tailing to de-risk from dam failures. Dry tailing technology also helps us to eliminate land requirement for landfills and water recovery.
Life of facility plan	A life of facility plan that identifies minimum specifications and performance objectives for the operating and closure phases A life of facility plan that includes an identification of potential chemical and physical risks from the design and construction phases A life of facility plan that considers post-closure land and water use	A tailing management plan is in place to manage tailings and waste facilities ensuring to protect the health of our employees, community and the natural environment throughout its lifecycle. This plan is developed in accordance with the tailing management standard under Vedanta Sustainability Framework, which provides approach and methodology on tailings management at different stages.
Assurance program	An assurance program for the operating phase of the facility that details the procedures for the inspections, audits and reviews	All Vedanta sites undergo assurance as per Vedanta Sustainability Framework. Regular monitoring and audits are conducted as per the checklist by the dyke/tailings team, whereas the HSE team conducts weekly audits for identifying

	An assurance program for each phase of the facilities' life that includes the frequency of the various levels of inspections, audits and reviews An assurance program for each phase of the facilities' life that includes the scope of the various levels of inspections, audits and reviews An assurance program that details the competence requirements for the persons undertaking the inspections, audits and reviews An assurance program that includes an external audit covering the life of facility or the operating plans	any cracks, spillages, water retention capacity, discharge, health status of the conduits, etc. and a comprehensive report is prepared and documented for further reference as well as audits. Telemetric piezometers have also been installed at most of our sites which continuously assess critical water levels in the dyke/tailing facility. Stability tests are also conducted for all our tailing storage facilities with the help of global experts. In addition, comprehensive internal audits by cross functional teams are conducted and further the recommendations from these are addressed on a priority basis. Independent assessment has been carried out by Golder Associates/ ATC Williams, global experts, to review the integrity/ stability of our storage facilities and their associated management practices.
Approval	A policy to eliminate or minimize water-related risks associated with tailings dams is approved by a C-suite officer The operating plan and the life of facility plan are approved by the EHS manager The operating plan and the life of facility plan are approved by a C-suite officer The results of the assurance program and the change management process are approved by the EHS manager The results of the assurance program and the change management process are approved by a C-suite officer	We have a tailing management policy, in place which is approved by CEO. All the active tailing storage facilities and all sites have a dedicated Tailing Storage Facility (TSF) manager as well as a TSF committee. This committee consists of team members from the design, operations, construction and environmental departments. All TSFs, as well as associated pipeline and pumping infrastructure, are subjected to a regular audit and inspection.
Change management process	Inclusion of a formal change management process for the construction phase of the facility Inclusion of a formal change management process for the operating phase of the facility Inclusion of a formal change management process for the	We have a corporate tailing management policy, which is approved by the CEO. All the active tailing storage facilities and all sites have a dedicated Tailing Storage Facility (TSF) manager and a TSF committee. The committee consists of team members from the design, operations, construction and environmental departments. All TSFs, as well as associated pipeline and

	closure and decommissioning phase of the facility Inclusion of a change management process in the assurance program Inclusion of the results from external audits of operating plans or life of facility plans into the change management process	pumping infrastructure, are subjected to a regular audit and inspection.

W3.3

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

Yes, water-related risks are assessed

W3.3a

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

Value chain stage

Direct operations
Supply chain

Coverage

Full

Risk assessment procedure

Water risks are assessed as part of other company-wide risk assessment system

Frequency of assessment

Annually

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market
International methodologies and standards
Databases

Tools and methods used

WRI Aqueduct
WWF Water Risk Filter
Environmental Impact Assessment
India Water Tool
IPCC Climate Change Projections

ISO 14001 Environmental Management Standard

Contextual issues considered

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

Stakeholders considered

Customers
Employees
Investors
Local communities
NGOs
Regulators
Suppliers

Comment

Vedanta identifies and assesses strategic & financial impacts through a formal monitoring process at the unit level and at the corporate level, which identifies and categorizes existing and emerging climate-related risks and opportunities with respect to both Physical and Transitions risks. These risks are prioritized based on frequency of its occurrence or recurrence and on the degree of its impact on revenue & cost including its ability to disrupt our primary operations.

W3.3b

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

	Rationale for approach to risk assessment	Explanation of contextual issues considered	Explanation of stakeholders considered	Decision-making process for risk response
Row 1	All of Vedanta direct operations (i.e., business units) Suppliers are considered when identifying and assessing the strategic and financial impact of water-related risks and opportunities using a robust enterprise risk	Vedanta has operations in areas of exposed to high operational and basin level water risks. These risks can have a substantial impact on our operational cost, revenue and production capacity. As a result, our sites undergo annual risk assessment on parameters such as water	We continuously engage with our supply chain partners like suppliers, regulators other water users, local communities, investors, consumers to reduce their impact on water	We consider the feedback of our supply chain partners through stakeholder engagement process during materiality assessment wherein water management is one the high priority material issues. A risk review committee is present at all sites that

	management (ERM) system. These risks are prioritized based on frequency of its occurrence or recurrence and the degree of its impact on revenue & cost (ability to disrupt primary operations). In FY 22-23, we conducted operational and basin water risk assessment using tools such as WBCSDs Water Risk Filter, WRI Aqueduct, India water tool and IPCC's RCP 4.5 and 8.5 of physical climate risk assessment for 2030 and 2050. Besides we annually engage with our suppliers on vulnerability and sensitivity to water stress. Any supplier onboarded is expected to be ISO 14001 compliant and certified.	availability and quality at basin level, implications of water on our commodities/raw materials, regulatory frameworks and laws, status of ecosystems and habitats and access to fully-functioning, safely managed WASH services for all our employees. We also engage with our suppliers to assess the water related issues in the supply chain and hence, their ability to impact our production and operations.	stress on an annual basis.	reviews the identified risks and mitigation measures on a quarterly basis. Each of the site has a designated water manager who is responsible for water risk assessment, management and planning. Our risk management process guides the management of all types of risk including the climate risk through a well-designed enterprise risk management framework.

W4. Risks and opportunities

W4.1

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

Yes, only within our direct operations

W4.1a

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

For substantive climate change impacts including water related risks, Vedanta developed an IPCC-based scenario of potential climate impacts and conducted water risk assessments using WRI Aqueduct and WRI Aqueduct and Water Risk Filter tool to help Business Units estimate financial impacts on revenue and cost (indicating their ability to disrupt the key operations), prioritize risks, taking into account the uncertainty related to these impacts. These risks are integrated into enterprise risk management and financial planning. The analysis included different regions of operations and evaluated the prospects for increasing average temperature, rainfall variability and probability of climate impacts. For water-related regulation/ market risk, Vedanta has finalized a water price that foresees possible future impact on operational cost for each Business.

(i) Definition of substantive financial impact:

The Group considers an impact equal to =>2.5 % of EBITDA as substantive financial impact. For FY2023, this number amounts to INR 8,810,250,000. EBITDA is a key performance indicator for the Group and is also a key metric used by the Group in assessing management's performance. We believe that at =>2.5%, this number can significantly alter the economic outcomes/ project decisions of our stakeholders.

(ii) Definition of substantive strategic impact:

a. Significant impact on the demand for our products caused by regulation, change of customer preferences, innovation or similar.

b. Significant impact on our stock prices caused by violation of regulation, litigation, local stakeholder conflicts or similar including reputational impact including notorious and prolonged diffusion in international media, very negative stakeholders' opinion of the company.

c. Significant impact on production plans caused by unexpected troubles such as the risk of sudden shutdown of BUs.

d. Medium to high operational risk as per WRI Aqueduct

Additionally, Vedanta has a comprehensive matrix-based assessment to determine water-related risks with the potential to have a substantive financial or strategic impact on our business. The matrix is a multiplication of likelihood of exposure/ impact and its probable severity for each risk identified. The risk classification matrix classifies climate change risks into 5 levels in the descending order of severity – Catastrophic (Score: 5), Serious (Score: 4), Moderate (Score: 3), Minor (Score: 2) and Negligible (Score: 1). Each level has associated probable impacts qualitatively defined and anything above a Moderate score could be considered a significant impact. To stay ahead of the curve, we have devised mitigation plans against potential risks. For example heavy rainfall or malfunctioning of dewatering equipment can lead to mine inundation. To mitigate this risk, we have installed and automated dewatering systems at all mines (spare pumps are readily available for emergencies), and hydrological studies are being undertaken to identify alternate water sources.

W4.1b

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

	Total number of facilities	% company-wide facilities	Comment

	exposed to water risk	this represents	
Row 1	1	1-25	As per the conducted water risk assessment for evaluating operational and basin risks at (100%) Business Units (BUs) - Cairn, Sterlite, Sesa, IOB, VAL Jharsuguda and Lanjigarh - and subsidiaries- HZL, BALCO, TSPL, FACOR, ZI, ESL using WRI Aqueduct and Water Risk Filter tool and identified that only one facility located in Rajasthan state of India, which is a "Very High" water stressed zone, is exposed to high operational and basin risk. The facility identified as being exposed to substantive water risk, accounts for 22% of our global production by revenue. The facility has aggregated 6 sites (include Chanderiya Lead Zinc Smelter, Dariba smelter, Debari smelter, Sindesar Khurd mines, Rajpura Dariba mine and Rampura Agucha mines) in the Banas Basin exposed to high operational and basin risk as 1. At this facility, we have considered risks related to drought and low water availability leading to operational risks. The basin represents approximately 17.30 % of our operational sites. We have an integrated mine and smelting process to process metals such as zinc, lead and silver at these sites. To manage risks related to water scarcity, we have taken necessary precautions and are constantly implementing risk mitigation measures such as water conservation, water recycling, technological upgradations for reducing freshwater consumption. During the year HZL has taken several initiatives to increase water savings, such as harvesting rain water to be used in horticulture land, recycling of RO reject water in the ZLD, improving COC of cooling tower, installation of ETP etc.

W4.1c

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

Country/Area & River basin

India

Other, please specify

Banas Basin

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

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

324,810,000,000

% company's total global revenue that could be affected

21-30

Comment

The operational facility situated in Bans basin represents the 22% of revenue from Hindustan Zinc as a percentage of global revenue of Vedanta. The facility has aggregated 6 sites (include Chanderiya Lead Zinc Smelter, Dariba smelter, Debari smelter, Sindesar Khurd mines, Rajpura Dariba mine and Rampura Agucha mines) in the Banas Basin exposed to high operational and basin risk as 1.
Revenue from Banas basin: INR 324,810,000,000
Vedanta' consolidated revenue: INR 1,454,040,000,000
% contribution = (324,810,000,000/1,454,040,000,000) *100 = 22%

W4.2

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

Country/Area & River basin

India

Other, please specify

Banas river basin in Rajasthan

Type of risk & Primary risk driver

Acute physical

Drought

Primary potential impact

Increased operating costs

Company-specific description

As per the water risk assessment based on WRI Aqueduct and Water Risk Tool, we understand that one basin of HZL namely Banas is exposed to a 'very high' water risk and therefore, would have an operational impact due to drought. This HZL's operational site represents 22% of revenue of Vedanta, depending on large quantities of water used for processing the metals such as Zinc, Lead and Silver. The business has a consent to extract water free of cost up to 80 KLD through its captive water body. In an event of drought, we anticipate that the government will prevent the company from utilizing its own water resources for at least 6 months. To run the direct operations, business will

have to procure water from alternative sources which would lead to increase in direct operating costs. The operation consumes 20,608,740 L of water annually and an increase in cost of water from alternative sources will have a significant impact on increasing directs costs up to 10% of revenue of HZL.

Timeframe

1-3 years

Magnitude of potential impact

Medium-high

Likelihood

Likely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

25,146,372,373

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

The financial impact is due to increase in cost of water from alternate sources. The estimated value of financial impact on Vedanta is derived from the additional cost incurred as a result of procuring water from existing and alternate sources :
a. Average cost of procuring water from existing sources (INR/M3): INR 10
b. Average cost of procuring water from alternate sources in an event of drought (INR/M3): INR 59.4/m3
c. Total water consumed/Year (M3) by the facility at risk: 20,608,740 M3
d. Risk Impact = 0.5 years
e. Water consumption during the risk period= c* d= 20,608,740* 0.5= 10,304,370 M3
Therefore, potential financial impact= (b-a) * e= (59.4-10) * 10,304,370 = INR 25,146,372,373

if an event of drought were to occur in a time frame of 1-3 years, following assumptions will help account for the above financial impact:
• Water from alternative sources will be available.
• The production units will not close down in event of drought like situation, thereby having no impact on production & revenue.
• The cost of water from alternative sources is based on current estimates.
• The drought like situation will persist for upto 6 months.

Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices

Description of response

In order to address this operational risk, we are consistently prioritizing the optimization of water recycling and reuse across all our operations to minimize the need for freshwater extraction. Additionally, we are actively involved in the development of rainwater harvesting systems to replenish our groundwater sources. Vedanta has set net water positivity by 2030 and would substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity by 2030. In alignment with this target, we have reduced our freshwater consumption by 3.4% at a recycling rate of 29.3%. Furthermore, HZL has set a target to become a 5 Times Water Positive company by 2025, aiming to reduce freshwater consumption by 25% compared to the base year of 2020. Currently, HZL is 2.41 times water positive and has zero liquid discharge.

Cost of response

1,693,700,000

Explanation of cost of response

The cost of response to risk includes annual cost of implementing water saving initiatives, i.e, Annual OPEX of Water & Wastewater (Rainwater harvesting, STP, ETP, RO, MEE, etc.) at the operational basin of HZL= INR (2.23+2.05+2.31+4.04+0.33+51.44+75.64+31.33) crore=INR 1693700000
In FY 2023, this operating site has saved approximately 5,21,028.0 L of water from water saving initiatives.

W4.2c

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

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	Vedanta has a full management control on our upstream businesses (suppliers), with integrated mining and smelting process units in most of our businesses. Majority of our suppliers are material suppliers and associated with supplying materials such as chemicals, cement, etc. which are not direct inputs to the manufacturing process. therefore, no suppliers have the potential to have a substantive financial or strategic impact.

W4.3

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

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

W4.3a

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

Type of opportunity

Efficiency

Primary water-related opportunity

Improved water efficiency in operations

Company-specific description & strategy to realize opportunity

Vedanta has set a goal of becoming water positive by 2030 and have onboarded an agency to monitor and guide our journey towards water positivity at our various locations. With many of our operations in water-stressed areas, we maintain sustained focus on efficient water use, and giving back more water to the environment than we take. Not only are we exploring less water-intensive technologies and embedding circularity in our water management, but also ensuring water security in areas where we operate by replenishing water in watersheds and other community sources. Our target is to reduce fresh water consumption by 15% (currently decreased by 3.5%) by 2025 and increasing the recycle rate by 10% by FY 2025

For instance,

•Cairn, IOB, HZL and BMM declared as Water Positive Company with NPWI (Net water positive impact) index

•TSPL has recycled 12.62% of the water used & reduce the freshwater consumption by various operation controls.

• At ESL,

 2 rainwater settling pits have been installed along with pumps to contain the flow from the stormwater drains across the plant. This has resulted in increase in ETP water intake and optimised the usage of stormwater by 350-400 KLD.

 250 KLD sewage treatment plant has been commissioned during Q4 which would reduce freshwater offtake by 250 KL/day. This would ensure saving of fresh water by 90,000 KL/annum.

 Sp. Water – We have reduced our freshwater offtake from the reservoir by 1.7 million m3 through the following water stewardship programme. This has resulted in achieving specific water consumption of 2.88 m3/tcs from 3.00 m3/tcs

• At HZL, dry tailing plant at Rajpura Dariba Mine is also under final stage of commissioning and will result in significant amount of water recovery from the tailings.

• At zinc Interntional, We have received the environmental approval for the Smelter & Bulk water pipeline construction; External Power & Water package –Site established, and work started

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

3,041,894.76

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

Vedanta has increased water efficiency by substantial decrease in its total freshwater withdrawal and consumption due to implementation of water efficient projects listed above. Four (Cairn, BMM, IOB, HZL) of our sites are now water positive and water positivity ratio of Vedanta has increased to 0.62. Deploying these initiatives has incurred extensive water saving and incurred a Therefore, we have calculated potential opportunity cost 47,48,390.69 from initiatives:
Total cost savings through water initiatives mentioned above was BALCO (111,269.60) + ESL (4,97,414.00) + FACOR (32,000.00) + VAB (1,47,747.66) + TSPL (152,450.00) + VAL Jharsuguda (1,387,058.00) + VAL Lanjigarh (8,765.00) + Cairn (184,162.50) + HZL (521028.00) = INR 30,41,894.76

W5. Facility-level water accounting

W5.1

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

Facility reference number

Facility 1

Facility name (optional)

Hindustan Zinc Limited, Rajasthan

Country/Area & River basin

India

Other, please specify

Banas Basin

Latitude

25.83

Longitude

74.74

Located in area with water stress

Yes

Total water withdrawals at this facility (megaliters/year)

22,453.1

Comparison of total withdrawals with previous reporting year

Higher

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

10,207.96

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

2,585.9

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

1,090.63

Withdrawals from third party sources

8,568.61

Total water discharges at this facility (megaliters/year)

0

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

20,608.74

Comparison of total consumption with previous reporting year

Higher

Please explain

Hindustan Zinc Limited is one of the largest zinc lead mining companies in the world. The facility's operations are governed by the Consent to Operate, as outlined in section 21(4) of the Prevention & Control of Pollution Act, 1981. This consent is contingent upon HZL's ability to maintain a zero-discharge status from the premises, which means that no trade effluent is allowed to be discharged outside the operational premises. Furthermore, HZL is water positive (zero discharge facility), continuously working to reduce their dependence on fresh water by taking third party grey water and putting sewage treater water to use, wherever possible. It is because of these initiatives that we have been able reduce the increase in withdrawal and consumption to 3% and 1% respectively
In FY 2023,
Water Withdrawal: 22,453.10 megaliters (increased by 2.9% from 21,820.07 megaliters in FY 2022)
Total water discharges at this facility: recorded 0 in FY 2022 and FY 2023.
Total water consumption at this facility: 20,608.74 megaliters (slight increase by 0.93% from 20,418.97 megaliters in FY 2022)

A 5% increase defines higher threshold for us, beyond 5% accounts for much higher.

W5.1a

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

Water withdrawals – total volumes

% verified

76-100

Verification standard used

This is reported as per ISAE3000 standard

Water withdrawals – volume by source

% verified

76-100

Verification standard used

This is reported as per ISAE3000 standard

Water withdrawals – quality by standard water quality parameters

% verified

76-100

Verification standard used

This is reported as per ISAE3000 standard

Water discharges – total volumes

% verified

76-100

Verification standard used

This is reported as per ISAE3000 standard

Water discharges – volume by destination

% verified

76-100

Verification standard used

This is reported as per ISAE3000 standard

Water discharges – volume by final treatment level

% verified

76-100

Verification standard used

This is reported as per ISAE3000 standard

Water discharges – quality by standard water quality parameters

% verified

76-100

Verification standard used

This is reported as per ISAE3000 standard

Water consumption – total volume

% verified

76-100

Verification standard used

This is reported as per ISAE3000 standard

W6. Governance

W6.1

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

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

W6.1a

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

	Scope	Content	Please explain
Row 1	Company-wide	Description of the scope (including value chain stages) covered by the policy Description of business dependency on water Description of business impact on water Commitment to align with international frameworks, standards, and widely-recognized water initiatives Commitment to prevent, minimize, and control pollution Commitment to reduce or phase-out hazardous substances Commitment to reduce water withdrawal and/or consumption volumes in direct operations Commitment to reduce water withdrawal and/or consumption volumes in supply chain Commitment to safely managed Water, Sanitation and Hygiene (WASH) in the workplace Commitment to safely managed Water, Sanitation	At Vedanta we recognize the social, economic, environmental, and cultural value of water and the increasing global concern of water scarcity. Water is a key resource for all our operations - required for the health and wellbeing of employees and at every stage of an operation's life cycle, including closure. The dependency and impact on a shared resource creates material risk for our business, which requires effective management that balances the needs of many different users. Vedanta will: • comply with applicable national, regional and local regulations on water; • respect that water is a shared resource between industry, communities and ecology and ensure that our operations do not negatively impact that shared balance; • publicly report on the company's water performance using consistent industry metrics and recognized approaches; • undertake periodic water-risk management that inform the company's water management strategies; • avoid pollution of surface water, ground water and other water resources. We will apply a zero-discharge philosophy wherever possible and treat all wastewater to good international practice before discharging to the environment; • ensure that water and waste-storage facilities are engineered and maintained to good international standards; • understand our water footprint at all our projects and operations, and maintain a water-balance that minimizes the amount of freshwater consumed;

		and Hygiene (WASH) in local communities Commitment to stakeholder education and capacity building on water security Commitment to water stewardship and/or collective action Commitment to the conservation of freshwater ecosystems Commitments beyond regulatory compliance Reference to company water-related targets Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change	• identify water conservation projects through reduction, recycling and reuse and monitor progress against water consumption reduction targets across our businesses; • participate in local or regional water catchment planning activities to secure sustainable water resources for our operations and the activities of other users; • determine baselines and develop ongoing monitoring of water quality; • work with communities and communicate with all our stakeholders on the progress and performance of water conservation and management. This policy is part of the Vedanta Sustainability Framework, and each Vedanta business shall implement this policy and its related technical and performance standards. Business leaders will be held accountable for water-related performance and line managers are responsible for the full implementation of the related water standards. [1]

[1]Vedanta_Water Management Policy.pdf

W6.2

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

Yes

W6.2a

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

Position of individual or committee	Responsibilities for water-related issues
Chief Executive Officer (CEO)	Group CEO plays a pivotal role in developing and overseeing the implementation of water management, water security and resilience measures across group companies. As a member of the Board-level ESG Committee and the chair of group ESG-Executive Committee (ESG-ExCo), he oversees development of long term water related targets and implementation of high investment water security projects along with other ESG projects. Under the leadership of CEO, following initiatives were undertaken during FY 2022-23:

	a. 4 sites have achieved water positivity. b. Vedanta has set a target to attain water positivity by FY 2030 compared to the baseline of FY21. c. Target to reduce freshwater consumption by 15% by FY 2025, with FY 2021 as baseline. d. Target to increase the recycling rate by 10% by FY 2025, with FY 2021 as baseline d. Ranked 6th Globally in Metal & Mining Companies and 2nd in Asia Pacific in Dow Jones Sustainability Index 2022 Achieved the following water related milestone aligned with our 2025 Sustainability Goals: a. Water recycling was at 29.4% b. Water positivity ratio: 0.62
Board-level committee	Group ESG committee proactively monitors progress towards climate-related and water-related goals and commitments. This committee consists of the Group CEO, two independent and one non-independent directors who delegate the task of managing climate risk and reviewing, evaluating, and executing decisions made by the Vedanta Board on climate change targets and commitments. This committee is advised by the Group ESG-Executive Committee (ESG-ExCo) and ESG Management Committee (Man-Com), supported by energy & carbon community of practice (CoP) on the implementation of Vedanta's carbon mitigation approach. The committee meets twice every year, and has following key responsibilities: • Review and recommend improvements to governance structures for water management • Advise the Board on sustainability policies and management systems, including water efficiency • Oversee company's sustainability performance based on "Vedanta Sustainability Framework" • Ensure effective implementation of governance, advocacy, and public relation mechanisms related to ESG & Climate Change • Outline initiatives to establish a sustainability culture involving employees at all levels • Evaluate emerging sustainability and climate risks, guiding management on avoidance strategies for sustained growth • Advise the Board on fulfilling responsibilities according to law and international sustainability, climate change, and stakeholder governance standards. In FY2022-23, Sustainability and ESG Committee at the Board level carried achieved the following water related milestone aligned with our 2025 Sustainability Goals: a. Water recycling was at 29.4% b. Water positivity ratio: 0.62
Other, please specify	The Group ExCo brings together the Geographical Business Scopes led by our Business CEOs and functional leadership at the Executive Board level, consolidating their efforts. They engage in discussions on vital Key

Group ESG Executive Committee (ExCo)	Performance Indicators (KPIs) including water consumption, water withdrawal, water discharge, GHG emissions, metals intensity, integration of renewable energy into operations, new product launches, and research and development (R&D) initiatives, in collaboration with the board. The Group ESG-Executive Committee (ESG-ExCo) and the ESG Management Committee (Man-Com) provide guidance to the Board ESG committee, meeting monthly to report progress to the full Executive Board.
Other, please specify ESG Management Committee (ESG ManCom)	The committee provides governance, strategic leadership, and execution support, overseeing the implementation of Vedanta's sustainability strategy, including the execution of the 2050 net zero roadmap, to ensure a clear focus and alignment. CEO and supported by the Group Environment, Health, and Safety (EHS) Head, the committee meets fortnightly to drive progress and make informed decisions.

W6.2b

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

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - all meetings	Monitoring implementation and performance Monitoring progress towards corporate targets Overseeing acquisitions, mergers, and divestitures Overseeing and guiding public policy engagement Overseeing and guiding scenario analysis Overseeing major capital expenditures Overseeing the setting of corporate targets Overseeing value chain engagement	Board-Level ESG Committee meets twice a year to review all climate-related issues in and present them to the Board. ESG committee is informed by Director ESG on actions taken by company towards management of strategic long-term impacts of climate change, covering other important topics such as implementation of plans to reduce freshwater consumption, reduce carbon footprint, adoption of green business model, reduction of GHG emissions, and understanding emerging risks associated with climate change, among others. The Committee is responsible for: • Reviewing and recommending improvements to governance structures for carbon management • Advising the Board on sustainability policies and management systems, including water management • Overseeing company's sustainability performance based on "Vedanta Sustainability Framework" • Ensuring effective implementation of governance, advocacy, and public relation mechanisms related to ESG & water management • Outlining initiatives to establish a sustainability culture involving employees at all levels

		Providing employee incentives Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding corporate responsibility strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing innovation/R&D priorities Setting performance objectives	• Evaluating emerging sustainability and climate risks, guiding management on avoidance strategies for sustained growth • Advising the Board on fulfilling responsibilities according to law and international sustainability, climate change, and stakeholder governance standards. • Water management, Carbon footprint and fatalities integrated into various long-term incentive schemes wherein carbon footprint has 15% weightage in Business Performance (40% of total weightage)

W6.2d

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

	Board member(s) have competence on water-related issues	Criteria used to assess competence of board member(s) on water-related issues
Row 1	Yes	The Nomination and Remuneration Committee (NRC) at Vedanta is primarily focused on aligning the interests of Executive Directors and senior management to cultivate a sustainable performance culture within the organization. It ensures that the Board and senior management possess the appropriate blend of skills, experience, diversity, and independence to effectively carry out their responsibilities. To support Vedanta's sustainability objectives, an executive course called Sustainability 101 has been introduced, aiming to enhance the capacity and awareness of the top 100 executives regarding climate change and other sustainability aspects. This course covers important topics such as Water security, water positivity, GHG emissions, net-zero concepts, climate change risks, and overall

		awareness. Our CEO, who serves as a member of the Board ESG Committee, has completed this training to ensure well-informed decision-making on water-related matters at the board level. The CEO possesses the necessary expertise and has represented the company at national and international forums focused on climate change, providing strong leadership to the committee in making informed decisions on climate risks including water related risk and other enterprise risks. In FY 2022-23, Vedanta appointed a leading consultancy firm to conduct the Board Evaluation Process, ensuring transparency and independence through an online structured questionnaire. The evaluation results showcased a high level of commitment and engagement from the Board, its committees, and senior leadership.

W6.3

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

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

Chief Executive Officer (CEO)

Water-related responsibilities of this position

Assessing future trends in water demand
Assessing water-related risks and opportunities
Managing water-related risks and opportunities
Conducting water-related scenario analysis
Setting water-related corporate targets
Monitoring progress against water-related corporate targets
Managing public policy engagement that may impact water security
Managing value chain engagement on water-related issues
Integrating water-related issues into business strategy
Managing annual budgets relating to water security
Managing major capital and/or operational expenditures related to low water impact products or services (including R&D)
Managing water-related acquisitions, mergers, and divestitures
Providing water-related employee incentives

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

The CEO holds the highest management position in our company and carries the responsibility of making decisions pertaining to water management. They possess the authority to approve budgets for CAPEX and OPEX, as well as allocate necessary resources for the implementation of water efficiency initiatives. At the board level (Tier

1), our CEO serves as a member of the Board of Directors. Additionally, the CEO is a member of the Group Executive Committee (Tier 2), which convenes monthly to discuss the status of water goals. The committee presents performance updates and future plans to the management of the executive sustainability committee, who reports to the Board-level ESG committee on a semi-annual basis. To ensure effective program delivery, the Board Committee is supported by the Executive Sustainability Committee, chaired by the CEO. This committee comprises senior executives and oversees various areas, including water management.

W6.4

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

	Provide incentives for management of water-related issues	Comment
Row 1	Yes	At Vedanta, Executive Compensation (~15% of variable pay) is linked to performance against sustainability parameters that include water related performance. For example, the number of water security actions undertaken, water savings achieved from adoption of more efficient technologies and process improvements. The variable component of the Executive Compensation is linked to an individual's performance on Vedanta Sustainability Assurance Process (VSAP) - a sustainability risk assurance tool developed by the company to evaluate compliance of businesses in line with the Vedanta Sustainability Framework (VSF). Water security is a key component of the VSAP process (under the pillar of 'Responsible Stewardship').

W6.4a

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

	Role(s) entitled to incentive	Performance indicator	Contribution of incentives to the achievement of your organization's water commitments	Please explain
Monetary reward	Chief Executive Officer (CEO)	Reduction of water withdrawals – direct operations Reduction in water consumption volumes – direct operations	Vedanta establishes a strong alignment between the CEO's objectives and the company's sustainability targets and transition goals through incentivization in both short and long-term. This approach ensures that the CEO's goals are directly	Vedanta establishes a strong alignment between the CEO's objectives and the company's sustainability targets and transition goals through incentivization. This approach ensures that the CEO's goals are directly

		Improvements in water efficiency – direct operations Improvements in water efficiency – supply chain Improvements in water efficiency – product use Improvements in wastewater quality – direct operations Reduction of water pollution incidents Increased access to workplace WASH – direct operations Increased investment in water-related R&D Increased proportion of revenue from low water impact products or services Company performance against a sustainability index with water-related factors (e.g., DJSI, CDP Water Security score, etc.) Implementation of employee awareness campaign or training program on water-related issues	linked to the company's overarching targets, enabling an effective and efficient pursuit of Water positivity and sustainability. The incentives provided to the CEO for water-related goals create a dedicated focus on reducing greenhouse gas emissions, managing water resources, handling waste effectively, and optimizing energy management. By offering these incentives, Vedanta motivates the CEO to take prompt action and encourages creative thinking in developing and implementing innovative solutions to meet the set targets. By offering rewards to employees who actively participate in these programs devised to contribute towards company's sustainability goals, Vedanta fosters greater engagement and commitment among its workforce. The approach encourages employees to take proactive measures to enable water security and adopt sustainable practices. Monetary incentives stimulate innovation and creativity, motivating employees to develop greener solutions and processes. Further creating a culture of responsibility and accountability, hence, a positive impact on the company's environmental	linked to the company's overarching targets, enabling an effective and efficient pursuit of carbon neutrality, water security and sustainability. The incentives provided to the CEO for climate change-related goals create a dedicated focus on reducing greenhouse gas emissions, managing water resources, handling waste effectively, and optimizing energy management. By offering these incentives, Vedanta motivates the CEO to take prompt action and encourages creative thinking in developing and implementing innovative solutions to meet the set targets.

		Implementation of water-related community project	footprint. By ensuring investment from all employees, this approach supports Vedanta in achieving water positivity and reducing its overall impact.	
Non-monetary reward				

W6.5

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

Yes, trade associations

W6.5a

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

Our water policy encompasses all our water commitments, which remain unchanged and are developed in consultation with relevant stakeholders. It undergoes continuous review to align with evolving water-related scenarios. Our primary objective is to engage in policy discussions through trade associations when industry opinions are sought by government and policy regulators. We represent the industry's perspective on water-related policy decisions in India and globally. The policy framework has been prepared in consultation with relevant stakeholders and undergoes continuous reviews in line with the evolving water scenarios. In doing so, we proactively address the issues identified in our water policy and maintain consistency in our approach towards achieving these goals. Any inconsistencies are discussed in board meetings, and appropriate actions are taken. Our water-related policies are publicly available for easy access by all employees. Regular training and engagement of senior executives and key employees on material risks and important water-related topics enable them to understand our direction and facilitate meaningful interactions with other stakeholders in line with the company's stance on water.

We also have a water community of practice to ensure strong governance for water conservation at source, leading engagements and interaction with stakeholders. Therefore, strengthening our water positivity goal.

W6.6

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

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

TCFD Report_Web.pdf

Sustainability-Report-2022.pdf

TCFD 2023 report is our latest report for FY 2022-23 (including financial and non-financial disclosures. Sustainability report 2022 has been attached for your reference, as SR 2023 is underway

W7. Business strategy

W7.1

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

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	21-30	Our long-term efficient water management efforts include issues such as implementation of water conservation measures, optimizing water usage, and recycling or reusing water in our operations in alignment with our long-term goal of creating Net Water Positive Impact by 2030 for achieving water security and resilience. This approach is embedded into our group-wide water policy and technical management standards to further ensure consistent approach towards managing water related issues is integrated into our long-term strategy and reviewed monthly by ESG management committee, followed by biannual reviews from Board ESG committee. Our commitment is to invest in our own operations and pursue collective action across all units in India. As a result, reduce our dependence on freshwater sources, lower operational costs, and garner greater community support. The actions for progressing towards the water positivity goal commenced with development of a sector wide Standard Operating Procedures (SOP) in line with UN SDGs, GRI, ICMM, MCA WAF, WRI, ISO, CGWA, AWS and BIS standards and guidelines. Overall Vedanta has 0.61 as Water credit to debit ratio as it is striving to move towards becoming water positive with four of our business units (i.e. IOB, HZL, BMM and CAIRN) already making it to water positive category.

Strategy for achieving long-term objectives	Yes, water-related issues are integrated	21-30	To achieve our long-term objective of becoming water positive by FY 2030; a group-wide water policy and technical management standards have been developed. Key objectives of this strategy include addressing issue of reducing freshwater consumption, maximizing water reuse, ensuring no spillage of contaminated storm and process water to groundwater while promoting its beneficial use. In alignment with this strategy, we are improving our operational water performance through infrastructure improvements (such as installation of ROs), water treatment and recovery technologies (treating ETP water through zero effluent discharge system) and managing environmental impacts (through initiatives like rainwater harvesting). Progress towards implementation of this water strategy is driven by our water management programme, which is guided by a mandatory group wide water management standard and delivered via operational action plans. The management standard emphasizes on including a plan for achieving zero water discharge from the operations (except mine dewatering water with regulatory requirement) commensurate to business risk and integrate with performance requirements. In FY 2022-23, we carried out the evaluation of overall basin risk and operational risk using 3 water risk assessment tools- WRI Aqueduct, WBCSD WRF Water Risk Filter and India water tool, with the objective of conducting a sensitivity analysis and stress testing for water-related risks in 2030 and 2050 scenario.
Financial planning	Yes, water-related issues are integrated	11-15	We prioritize water sufficiency and availability at each business site for evaluating financial costs when developing business strategies to ensure the long-term success of our ongoing projects. Our business units at multiple locations face medium to high levels of water-related risks. To safeguard these units and ensure an adequate water supply at each site, we conduct water risk assessment using tools such as WRI Aqueduct and WRF Water Risk Filter to understand water stress at our business units as well as the potential financial impact it may have. Further, we employ various mitigation and adaptation practices. These practices include managing water demand and supply, implementing risk management measures, adopting new technologies, and account for infrastructure costs. The cost implications of these activities are carefully considered

			during the planning process. For instance, BALCO keeps a track of increased cost of production due to high water risks and evaluates if external procurement of water or large-scale solutions for water recycling are required in its business strategy.

W7.2

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

Row 1

Water-related CAPEX (+/- % change)

5

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

5

Water-related OPEX (+/- % change)

11

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

11

Please explain

Vedanta makes consistent effort towards attaining our environmental goals and targets. During FY 2023, we incurred capital and operational expenditures of INR 5,469,143,522 and 13,56,37,42,011.80 respectively. Of these, water related CAPEX and OPEX was INR 316,400,000 and INR 2,433,609,385, here increase in OPEX is a result of increase in production (leading to increase in water consumption) following an y-o-y 11% increase. In FY 2024, we anticipate increase of 11%. Additionally, many water saving projects such as installation of RO in VAL Jharsuguda, were implemented in FY 2023, leading to an overall increase in capital expenditure. A 5% increase in capital expenditure (CAPEX) is expected in FY 2024, due to increase in cost of investments to initiatives aligning with our FY 2030 goal of water positivity. We will continue to invest in water saving initiatives and programs until FY 2027 to meet the 2030 target of water positivity and 2025 target of decrease in water consumption by 15%

W7.3

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

	Use of scenario analysis	Comment

Row 1	Yes	Vedanta conducted a qualitative baseline operational and basin water risk assessment for a 2030- and 2050-time horizon. Basin risks have been identified and recognized using tools such as WBCSDs Water Risk Filter, WRI Aqueduct. For operational risks, physical climate risk assessment using scenarios climate related RCP scenarios 4.5 and 8.5 have been deployed in alignment with the recommendations of Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD). As a result, we anticipate basin and operational physical risks such as Water Scarcity, Water Quality and Flooding. Consequently, there is a potential risk of increase in local and national reporting requirements regarding water consumption and withdrawal for our operations in the near future leading to regulatory and reputational water risks. To proactively address these risks, Vedanta and all its companies are already implementing initiatives to reduce water usage and become water positive.

W7.3a

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

	Type of scenario analysis used	Parameters, assumptions, analytical choices	Description of possible water-related outcomes	Influence on business strategy
Row 1	Water-related Climate-related	Vedanta recognize the impact of operational and basin disturbances on our operations. To identify and recognize the intensity of this impact, a qualitative water risk assessment was conducted using tools such as WBCSDs Water Risk Filter, WRI Aqueduct for the years 2030 and 2050. The parameters evaluated include business geographic location, which informs a site's basin-related risks, as well as characteristics of its operating nature (e.g., its reliance upon water, its water use performance given the nature of the business/site), which informs a site's operational risks. We have conducted	Considering the RCP 4.5 scenario, we anticipate water scarcity at our BALCO and Cairn Oil and Gas units, and a high chance of flooding at our IOB units, over the next decade. Vedanta Aluminium in Lanjigarh and Jharsuguda already faces a cyclone risk, that will get accentuated in the future. Under the delayed scenario (RCP 8.5), many of our businesses will face extreme climate risks. We are set to experience very high temperatures at TSPL and at our units in Namibia and South	Basin Risk, Physical Operational Risk, Regulatory Risk and Reputational Risk, have been obtained as an outcome of risk assessment conducted using WBCSDs Water Risk Filter, WRI Aqueduct in accordance with RCP 4.5 and 8.5 scenarios for the years, 2030 and 2050. There is a high probability of our business units experiencing calamities such as water stress, water scarcity, flooding and cyclones along with very high temperatures. Water is critical for keeping our operations running and these factors

		qualitative physical climate risk assessment using scenarios climate related RCP scenarios 4.5 and 8.5 have been deployed in alignment with the recommendations of Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD), enabling us to formulate long-term strategies to effectively address climate and water-related risks and capitalize on opportunities. As a result, parameters such as temperature, rainfall, flood, drought and wind/cyclone have been evaluated. Drawing from assumptions such as changes in precipitation in a warming world will not be uniform, reduction in renewable surface water and groundwater resources in most dry subtropical regions, intensifying competition for water among sectors. In presently dry regions, the frequency of droughts is likely to increase under RCP8.5 (medium confidence). In contrast, water resources are projected to increase at high latitudes. The interaction of increased temperature; increased sediment, nutrient and pollutant loadings from heavy rainfall; increased concentrations of pollutants during droughts; and disruption of treatment facilities during floods will reduce raw water quality and	Africa as compared to the current scenario and water stress and scarcity at Sterlite Copper (Thoothukudi), and BALCO (Korba).	have the potential to disrupt operations and impact our profitability. In FY 2022-23, we realized, the need to mitigate drought and undertook several mitigation measures such as utilizing STP water, recycling of RO reject water, implementing water efficiency and saving initiatives etc. Similarly, to mitigate the risk of flooding, that can have a financial impact on the operating cost we are implementing measures such as dewatering from underground and keeping in sumps, designing flood resilient structures, monitoring of dry tailing dams, and enhanced insurance coverage.

		pose risks to drinking water quality.		

W7.4

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

Row 1

Does your company use an internal price on water?

Yes

Please explain

We have an internal water price of 17.9 Rs/m3. (excluding infrastructure cost)
This has been derived using the following approach:
a) Identifying project expenses: costs associated with the project, including investment, operational, and maintenance expenses
b) Assessing water conservation interventions: evaluate various interventions implemented, planned, and proposed across different business units aimed at water conservation. Annual water savings achieved through these interventions is considered.
c) Calculating lifetime water savings: determine the total water savings expected over the lifespan of the project, taking into account the cumulative effect of all water conservation efforts.
d) Establishing an Internal Water Price: utilize the collected data to establish the Internal Water Price for each site or business unit. This price represents the level at which any business unit is willing to pay for water, considering that the projects have already been approved or implemented.

W7.5

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

	Products and/or services classified as low water impact	Definition used to classify low water impact	Please explain
Row 1	Yes	Water Credit to Debit Ratio is used as an indicator to measure plants' dependency on the fresh water sources compared to other water sources and hence the impact of our products and services. In order achieve the target of becoming net water positive by 2030 contributing to SDG 6, water data is	100% of our products have an overall low water impact. We have reduced our dependence on freshwater sources by becoming 0.61 times water positive. The efforts and initiatives have been guided by group-wide water policy and technical management standard which delineates our commitment to comply with applicable national, regional and

		gathered from respective sites and on-site water mass balance is verified through site visits. Quantitative aspects such as freshwater consumption and rate of water recycled are considered to to define the progress towards the target and determining the ratio. Higher the index, lower is the dependence on fresh water sources compared to other water sources (Saline water, grey water treated, wastewater etc.) and vice versa. In FY 2023, Vedanta has 0.61 as water credit to debit ratio as it is striving to become water positive. Vedanta Business units Cairn oil and gas has water credit to debit ratio of 1.12, iron-ore has 1.23 and HZL has 2.41. Besides Water-positive status has been achieved by four business units, namely HZL, IOB, Cairn India, and BMM. This essentially means that the products and the processing require less water for their operations leading to am overall low water impact.	local regulations on water, monitor water performance using consistent industry metrics approaches while applying zero-discharge philosophy wherever possible. Considering some of our operations are in water stressed state of Rajasthan, we ensure emphasis on reduction of water at the source, by recycling, exploring alternative sources, and replenishing water through various innovations such as STW (sewage treatment water). Initiatives such as rainwater harvesting, storing water during the wet season, and utilizing it during the dry season to reduce water withdrawal have led to HZL becoming 2.41 times water positive.

W8. Targets

W8.1

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

Yes

W8.1a

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

	Target set in this category	Please explain
Water pollution	Yes	
Water withdrawals	Yes	

Water, Sanitation, and Hygiene (WASH) services	No, but we plan to within the next two years	Currently, Vedanta has a FY 2025 target related water pollution, water withdrawal, and water recycling. By FY 2025, we shall adopt and implement a target on Water, Sanitation, and Hygiene (WASH) services where in our plan is to establish more sanitation hygiene facilities for our female employees. Currently, we follow mandatory WASH guidelines and have following practices in place: a) Providing Safe Drinking water to 100% workforce (2 lt/employee) b) Access to toilets for Man & female c) Maintaining good hygiene at the workplace to keeps workers alive and healthy
Other	Yes	

W8.1b

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

Target reference number

Target 1

Category of target

Water pollution

Target coverage

Company-wide (direct operations only)

Quantitative metric

Other, please specify

Zero Category 4 and 5 incidents environmental incidents related to water

Year target was set

2022

Base year

2021

Base year figure

0

Target year

2025

Target year figure

0

Reporting year figure

0

% of target achieved relative to base year

Target status in reporting year

Achieved

Please explain

We have committed to water positivity by FY 2030. Adding to our contributions towards SDG 6, In FY 2021, we had adopted a target of zero categories 4 and 5 water-related environment incidents by FY 2025, with FY 2021 as a baseline. We continue to monitor our performance, in alignment with this target. In FY 2023, we have witnessed zero categories 4 and 5 water-related environment incidents.
We have achieved 100% of the target set.

Target reference number

Target 2

Category of target

Water withdrawals

Target coverage

Company-wide (direct operations only)

Quantitative metric

Other, please specify

reduce consumption of freshwater by 15%

Year target was set

2022

Base year

2021

Base year figure

164,561,822

Target year

2030

Target year figure

139,877,548.7

Reporting year figure

187,814,480

% of target achieved relative to base year

-94.2002939175

Target status in reporting year

Underway

Please explain

In FY 2022, our organization set a group wide target to reduce consumption of freshwater by 15% with FY 2021 as baseline, with no exclusions in our direct operations. 'm3' is the unit of measurement for monitoring progress against the target. Vedanta benchmarks specific water consumption at the unit, process and operational level for reducing and monitoring water consumption. Reduction in water consumption contributes to our long-term goal of becoming water positive by 2030. In FY 2023, we have undertaken significant initiatives to progress towards becoming water positive, which has resulted in a 3.41% reduction in our net freshwater consumption compared to FY 2022.
Freshwater Consumption in FY 2021 = 164,561,822 m3
Freshwater Consumption in FY 2023 = 187,814,480 m3
Expected Freshwater consumption in target year (FY 2030) = 85/100*164,561,822 = 139,877,548.7 m3
% target achieved = -94.2%

Target reference number

Target 3

Category of target

Water recycling/reuse

Target coverage

Company-wide (direct operations only)

Quantitative metric

Other, please specify

10% increase in the water recycling rate

Year target was set

2022

Base year

2021

Base year figure

30.71

Target year

2025

Target year figure

33.78

Reporting year figure

29.3

% of target achieved relative to base year

-45.9283387622

Target status in reporting year

Underway

Please explain

We monitor and report our total water consumption and water recycled in cubic meters. In alignment with our water positivity target of FY 2030, we commit to contributing to SDG 6. In FY 2022, we adopted a target to increase our recycling rate by 10% by FY 2025.
in FY 2021, our recycling rate was 30.71% (recycled water/total water consumed*100)
in FY 2023, the recycling rate reduced to 29.26%, due to increase in water production and hence the water demand.
FY 2023,
Water Consumption: 265,510,014 m3
Water recycled: 7,769,533 m3
%water recycled: (7,769,533 /265,510,01)*100= 29.26%
Anticipated recycle rate in target year: 10% increase with respect to 30.71% = 33.78%
% target achieved relative to base year: (329.3- 30.71)/(33.78-30.71)*100 = -45.92%

W9. Verification

W9.1

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

Yes

Vedanta Limited_CDP Water Report 2023_260723.pdf

W9.1a

(W9.1a) Which data points within your CDP disclosure have been verified, and which standards were used?

Disclosure module	Data verified	Verification standard	Please explain
W1 Current state	Water withdrawal , discharge, recycle and consumption verified	ISAE 3000	Assurance encompasses, water withdrawal, discharge, recycle and consumption verification for all units. We conduct the assurance process biannually; it was last conducted in FY 2022-23. Water disclosure assurance for FY 2022-23 has been attached in W-9.1
W8 Targets	Water Saving targets	ISAE 3000	Water savings target has been verified during Sustainability report assurance. Assurance disclosure for FY 2022-23 has been attached in Sustainability report FY 2023. water disclosure

			assurance for FY 2022-23 has been attached in W-9.1
W1 Current state	Water consumption, water withdrawal and water discharge	ISAE 3000	Water withdrawal, water consumption and water discharge have been site wise have been assured by ISAE 3000. water disclosure assurance for FY 2022-23 has been attached in W-9.1

W10. Plastics

W10.1

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

	Plastics mapping	Value chain stage	Please explain
Row 1	Yes	Direct operations Supply chain	Our approach at conducting a value chain assessment of plastic was to inventorise and map the usage of plastic in our value chain. It provided us with a comprehensive analysis of the quantity of plastic consumed, types of plastic utilised and associated waste generation. As a result of the assessment, we have gained a thorough understanding of the impact plastic usage in our direct operations (plastic is only used in product packaging and equipment used for mining) has on environment. We continue to identify opportunities for improvement and sustainable alternatives to reduce this impact. Vedanta Sites are not using single use plastic wherein TSPL & cairn have become single use plastic free company. Additionally, we follow all provisions of Plastic Waste Management Rules and its Amendment.

W10.2

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

	Impact assessment	Please explain
Row 1	Not assessed – but we plan to within the next two years	Currently, we do not assess the potential environmental and human health impacts of plastics on our value chain, but we intend to do so in the next two years.

W10.3

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

	Risk exposure	Please explain
Row 1	Not assessed – but we plan to within the next two years	Currently, we have not conducted an evaluation of the risks associated with plastics that could have significant financial or strategic implications for our business, but we plan to do so within the next two years.

W10.4

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

	Targets in place	Target type	Target metric	Please explain
Row 1	Yes	Other	Other, please specify Use of single-use plastic goods	To overcome the impact of plastic on environment, we have taken a target to become single-use plastic free in line with CPCB guidelines prohibiting the manufacture, import, stocking, distribution and sale of certain single use plastic from January 1, 2022. In our operations, plastic is only used in product packaging and equipment used for mining. We are already looking for sustainable alternatives, to achieve this goal. All Operating assets of Cairn, TSPL, and HZL have been certified as “Single Use Plastic free” premises.

W10.5

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

	Activity applies	Comment
Production of plastic polymers	No	We do not manufacture or process plastic polymers.
Production of durable plastic components	No	We do not manufacture or produce durable plastic components.
Production / commercialization of durable plastic goods (including mixed materials)	No	We don not produce or commercialize, durable plastic goods.
Production / commercialization of plastic packaging	No	Plastic packaging is not applicable to our business.
Production of goods packaged in plastics	No	We do not produce goods that can be packaged in plastics.

Provision / commercialization of services or goods that use plastic packaging (e.g., retail and food services)	No	We do not have a provide or commercialize services/goods that use plastic packaging.

W11. Sign off

W-FI

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

Vedanta_Water Management Policy.pdf

TCFD Report_Web.pdf

Vedanta Limited_CDP Water Report 2023_260723.pdf

W11.1

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

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

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.

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

Please confirm below

I have read and accept the applicable Terms