

# Welcome to your CDP Water Security Questionnaire 2022

## **W0. Introduction**

### W0.1

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

#### Our Journey for 1,5oC

We are a 100% renewable electricity generation company, offering resilient, competitive and responsible solutions and customized solutions to meet the different demands and needs of our customers.

For over 20 years, we have promoted the supply of clean energy across the country, with excellence in asset management, expansion of the generation complex, and development of innovations and complementary solutions for our portfolio.

Guided by the goal of being the top-of-mind choice for customers in the free market, we have expanded our set of Generation. The Company expects to invest approximately R\$ 3.8 billion in the period from 2022 to 2026, destined to the expansion of projects already contracted and with a defined construction plan.

#### Our Capacity:

2016: 2.658 MW

2017: + 386 MW (Wind Alto Sertão II) + 144 MW (Solar Ouroeste)

2018: + 150 MW (Solar Guaimbê)

2019: + 322 MW (Wind Tucano)

2020: + 346 MW (Wind- Mandacaru, Salinas and Ventus)

2021: + 479 MW (Cajuína) +216 MW (Lot B remains)

Total Capacity in 2021- 4.702 MW (57% hydroelectric, 37% wind and 6% solar) Total Capacity in the Next Years: Total- 6 GW (44,428% hydroelectric, 44.323% wind and 14.240% color)

11.249% solar)

#### Our Strategy

Three pillars support our strategy and will lead us to be the best customer choice in the free energy market:

**Resilience-** We invest in projects for growth and diversification of the portfolio of generation assets, with sources that complement the seasonality between them (hydropower, wind, and solar). We operate with market intelligence to take advantage of opportunities in energy trading and mitigate risks while optimizing increasing the level of contracting of the generation park. **Competitiveness-** The continuous search for greater operational and financial efficiency guarantees our leading role in the free energy market. We work with focus on the customer to



develop tailor-made products and solutions that exceed expectations in the provision of carbonfree energy, 24 hours a day, and 7 days a week.

**Responsibility-** We conduct and develop our business with the aim of promoting positive impacts and avoid or mitigate any negative impacts. With ethics and transparency, our corporate governance and decision-making processes consider the best practices and criteria for the management of social and environmental aspects

#### 2030 ESG Commitments related to our Climate Strategy

Our 2030 ESG Commitments, approved by the Board of Directors, were established at the end of 2021, considering 2020 as the base year.

## To contribute to the energy transition by increasing renewable sources in the Brazilian electricity matrix.

§ To contribute through the generation of renewable energy so that our customers can prevent the emission of 582,000 tCO2e per year from 2025.

#### To positively impact climate change mitigation efforts.

§ By 2030, to reduce Scope 1 and 2 greenhouse gas emissions by 18% tCO2e per MWh generated, compared to 2020. In 2021 our intensity emission reached 0,0001738 t CO2/MWH higher than 2020 due operational problem and new plants added to the GHG inventory.

§ To maintain carbon neutral (Scope 1+2 +3). In 2020 and 2021 our Scope 1, 2 and 3 emissions were neutralized by offset program.

 $\$  By 2025, to offset historical emissions since the beginning of AES Brasil's operations (Scope 1+2 )

#### Conserve, protect and preserve biodiversity

§ By 2030, to increase reforestation by at least 20% in addition to the commitment to recover occupied areas. In 2020 and 2021, 394.84 ha were reforested 1.86% higher than the legal commitments.

#### External Commitments

• Business Ambition for 1,5°C

Recover Better

• Sustainable Development Goals: AES Brasil has been a signatory of the Global Compact since 2006 and has its CEO as a spokesperson for SDG 7 in the initiative Leadership with ImPact, in addition to integrating other voluntary commitments.

• Science Based Targets: We are already a net-zero company.

Note: The company joined the SBTi, however it was defined, along with SBTi and WRI representative, that the two methods available do not apply to its business model, because the Sectoral Decarbonization Approach is destined to companies that need to decarbonize their electric matrix (which is not the case, because the company is 100% renewable) and the Absolute Contraction Approach method sets the goal in absolute number without considering the growth in MWh for the coming years (AES Brasil is increasing its renewable generation). "The conclusion is that we don't have a good methodology for a 100% renewable energy company at the moment". SBTi and WRI representative in response to AES Brasil request to become a SBTi member.

2021 Highlights

MSCI Rating- AAA

R\$983.4 million invested in modernization, maintenance, and expansion

R\$11 million invested in research & development

R\$2.5 billion in net operating revenue (+24.9% compared to 2020)



## **W-EU0.1a**

## (W-EU0.1a) Which activities in the electric utilities sector does your organization engage in?

Electricity generation Other, please specify Commercialization and development of clean energy solutions

## **W-EU0.1b**

## (W-EU0.1b) For your electricity generation activities, provide details of your nameplate capacity and the generation for each technology.

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	Nameplate capacity (MW)	% of total nameplate capacity	Gross electricity generation (GWh)	
Coal – hard	0	0	0	
Lignite	0	0	0	
Oil	0	0	0	
Gas	0	0	0	
Biomass	0	0	0	
Waste (non-biomass)	0	0	0	
Nuclear	0	0	0	
Fossil-fuel plants fitted with carbon capture and storage	0	0	0	
Geothermal	0	0	0	
Hydropower	2,658.4	56.66	6,795.6	
Wind	1,738	37.05	2,160.3	
Solar	295.1	6.29	577.8	
Marine	0	0	0	
Other renewable	0	0	0	
Other non-renewable	0	0	0	
Total	4,691.5	100	9,533.7	

### W0.2

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

	Start date	End date
Reporting year	January 1, 2021	December 31, 2021



## W0.3

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

Brazil

### **W0.4**

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

BRL

## 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	BRAESBACNOR7

## 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	Direct use refers to the use of good quality water for electricity production. We chose the vital classification because 57% of the energy produced by the company was water source.



			Water availability is influenced by hydrological conditions. In direct operations, the availability of water in sufficient quantity and good quality is vital for the hydroelectric assets (In 2021 57% of gross electricity generation came from this source) and important for the activities in the other generating sources and offices. In the HPPs and SHPs, lower than expected levels of inflow or high levels of river pollution may compromise energy generation, directly impacting AES Brasil's costs and revenues, since this commitment may lead to the need to purchase energy on the short term market or in the energy reallocation mechanism (MRE) to meet the physical guarantee in the regulated market and the contracts in the free market. In wind and solar complexes, as well as in office activities, water is used for human consumption and cleaning activities and an eventual poor quality condition may lead to increased costs for treatment or purchase from third parties. In indirect operations, the main aspect that causes the classification of water availability in adequate quantity and quality is the shared use of the reservoirs that make up the hydroelectric generating complex. The rivers that enable AES Brasil's hydroelectric generation also supply municipalities in the region for basic sanitation and tourism activities, as well as being a source of abstraction for agricultural producers. In the future, AES Brasil's vision is that dependence in direct operations tends to decrease, since the company has been investing in the diversification of its generation park in non-bydro renewable sources.
Sufficient amounts of recycled, brackish and/or produced water available for use	Not important at all	Not very important	Direct use: AES Brasil rates the importance of direct use as Not important at all because in direct operations, AES Brasil does not use recycled, brackish, and/or produced water. Since 2017, the COGE has had a Biological Effluent Treatment Plant with Water Reuse , but this plant did not operate in 2021due to low organic load. When operational, this system will allow reused water to



be directed to the toilets at COGE. In the HPPs
and SHPs, fresh river water passes through the
turbines to generate energy and follows the
natural course of the river, with no alterations in
quality. In the other generating units (wind and
solar), since consumption is restricted to auxiliary
activities (such as toilets, cleaning, photovoltaic
plate washing, and fire fighting), there are no
reuse and recirculation mechanisms. These
operations generate only biological effluents and
in low volume, due to the small number of
employees, making the implementation of
effluents treatment plant unfeasible. The effluents
are sent to septic tanks and, when necessary, an
external company is hired to collect and clean the
tank.
Indirect use: sufficient amount of recycled,
brackish and/or produced water available for use
by AES Brasil suppliers is rated as not very
important, because it is insignificant, and since it is
not a material topic, we don't monitor our
suppliers' water consumption.
In the future, AES Brasil's view is that dependence
on this type of water will remain low, except in the
case of an extreme water shortage scenario,
which could drive the need to expand treatment
and recirculation mechanisms. Such a condition is
not likely, but it is possible mainly in indirect
operations (customers) and the probability of
occurrence in the company's direct operations is
more remote.

## W1.2

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

	% of sites/facilities/operations	Please explain
Water withdrawals -	100%	At the hydroelectric plant we monitor the total
total volumes		volume of water collected, which is to be used in
		process, passes through the turbines and
		returns to the natural course in 100% of our



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		hydroelectric plants. Method and Frequency: hourly measurements and monitoring, through stations installed in our hydroelectric facilities to measure rainfall and water level in the river, pluviograph and pluviometers installed in hydroelectric plants' reservoirs, monitored by the operations team, Energy Generation Operations Center (COGE), and the data are stored in B.D.H.E – Hydroenergetic Data Bank - Version: 5.01. We monitor the total volume of water catchment for human consumption, cleaning and gardening, and monitor the volume of water in our assets in different regions of Brazil. As for Mandacarú and Salinas wind farms, they will be integrated to the monitoring in 2022. Method and Frequency: daily measurements with hydrometers installed in water catchment points, and monthly monitoring.
Water withdrawals – volumes by source	100%	At AES Brasil we monitor the total volume of water collected in the main reservoirs of hydroelectric plants (HPPs), small hydropower plants (SHPs), and in rivers of the following river basins: Grande, Tietê and Mogi Guaçu, which integrate the company's operations water network. Method and Frequency: hourly measurements and monitoring, through stations installed in our hydroelectric facilities to measure rainfall and water level in the river, pluviograph and pluviometers installed in hydroelectric plants' reservoirs, monitored by the operations team, Energy Generation Operations Center (COGE). Regarding water catchment for human consumption, cleaning and gardening: At AES Brasil we monitor the volume of water catchment by source (surface fresh water, underground water and third party supply) in 100% of the Company's facilities (18 operational assets). Method and Frequency: daily measurements with hydrometers installed in water catchment points, and monthly monitoring.
Water withdrawals quality	100%	At AES Brasil, we monitor 100% of the collected water quality. Analyses are conducted by ISO 17025 certified laboratory, and the results are



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		assessed by the environment team. The frequency varies according to the Monitoring and Measurement Plan, for example: i) Monthly: quality of water for human consumption and potability standard ( MS Nº 888/ 2021 e 5/2017); ii) Quarterly for the quality of water in reservoirs through the collection method in upstream and downstream points (CONAMA Resolution 357, amended by CONAMA 410 and 430), and iii) Semi-annually in artesian wells, according to parameters (SS 65 Resolution and full CVS05 Ordinance). We hourly measure the level of water in our reservoirs and flow of main rivers belonging to Paraná river water network to identify and quantify whether the water courses are somehow impacted, by upstream and downstream monitoring.
Water discharges – total volumes	100%	In hydroelectric plants, the total volume of water discharge is destined to the electricity production process. The water passes through the turbines to rotate a generator that converts the rotating turbines kinetic energy into electric current and follows its natural course. Method and Frequency: At AES Brasil we make hourly measurements and monitoring with flow sensors to ensure efficiency and safety to the operation. As for the effluents generated from the use of water for human consumption, cleaning and gardening, we monthly monitor the administrative liquids effluents from cleaning, bathrooms and gardening activities. The monitoring of Mandacarú and Salinas wind farms will be integrated in 2022. Method and Frequency: the volume of effluent discharge is estimated based on Brazilian standard NBR 7229, which considers the contribution of discharge, in case of effluents, the value of 80% of the local water consumption.
Water discharges – volumes by destination	100%	At AES Brasil, we monitor water discharge volumes by destination in 100% of our facilities. Water discharge for process represents 99.999964% of the total water discharge volume of AES Brasil facilities. Method and Frequency: hourly measurements and monitoring of the total



		volume of water used for electricity production in hydroelectric plants, and monitoring is made regularly. Regarding the effluents generated from the use of water for human consumption, cleaning and gardening, they represent 0.000036% of the total volume generated by the company. These effluents are destined to septic tanks (primary treatment), and cleaning is made by specialized company, when necessary), or downstream. Method and Frequency: the total volume of effluent discharge is monthly estimated based on Brazilian standard NBR 7229, which considers the volume of effluents as 80% of the local water consumption, and is monitored according to CONAMA Resolution 357 of 2005.
Water discharges – volumes by treatment method	100%	At AES Brasil, we monthly monitor the volumes of water discharge by treatment method in 100% of our facilities. -Discharge of water for process: there is no applicable legislation requiring hydroelectric operation water discharge treatment, as presented, the water passes through the turbines to generate electric current and returns to its natural course. - Effluents generated from the use of water for human consumption, cleaning and gardening: 0.000036% of the total water discharge volume of AES Brasil facilities is destined to septic tanks (primary treatment), and cleaning is made by specialized company, when necessary), or downstream. Method and Frequency: the total volume of effluent discharge is monthly estimated based on Brazilian standard NBR 7229, which considers the volume of effluents as 80% of the local water consumption, and is monitored according to CONAMA Resolution 357 of 2005.
Water discharge quality – by standard effluent parameters	100%	At AES Brasil, we monitor the water discharge quality by standard effluent parameters. Analyses are conducted by ISO 17025 certified laboratory. Results are assessed by auditors during ISO 14001 audits, through sampling.



		<ul> <li>-Discharge of water for process: we monitor the effluent quality of 100% of hydroelectric plants, dams upstream and downstream water quality to identify any impact on water courses. Method and Frequency: the main parameters monitored annually are: BOD, Total phosphorus, Total nitrogen, Chlorophyll A, Transparency, pH, Temperature, DO, oils and greases, and cyanobacteria.</li> <li>Effluents generated from the use of water for human consumption, cleaning and gardening: at AES Brasil we monitor the effluent parameters of Effluent Treatment Plants and Oil-water separators. Method and Frequency: semi-annually, according to standards established by CONAMA Resolution 430 and article 18 of Decree 8468.</li> </ul>
Water discharge quality – temperature	100%	To ensure appropriate levels for the development of aquatic species and comply with local legislation and Sustainability, Biodiversity and Land Use Policies guidelines; at AES Brasil, the temperature monitoring of water discharges occurs in all hydroelectric generation operating units and is related to the cooling system of the plants. When the river water passes through the turbines to generate energy, a portion is diverted to a chamber in which it cools the plants' oil system by means of heat exchange with the pipes. After this process, the water is returned to the river course. AES Brasil monitors the water temperature at this point of discharge in order to avoid any impact on the river conditions. Method and Frequency: we monitor water temperature in dams quarterly, according to CONAMA Resolution nº 357/2005 (amended by CONAMA Resolutions nº 410/2009 and nº 430/2011).
Water consumption – total volume	100%	At AES Brasil hydroelectric plants, we don't consume water, we use water to produce electricity, and this water returns to its natural course. So there is no impact on the quantity and quality of this natural resource. Method and Frequency: water consumption for human consumption, cleaning and gardening is



		calculated and monitored monthly by estimate, 20% of the total water captured, since 80% is the estimate of effluent generation based on the Brazilian Standard NBR 7229 and monitoring is monthly. In relation to the water used for the generation of energy is non-consuntive use, it uses the water in the operation without consuming it. At AES Brasil, we monitor water for human consumption, cleaning and gardening: in 100% of our operational assets and at the Energy Generation Operations Center (COGE) integrated to the water catchment control, whose measurement is made by hydrometers. Mandacarú and Salinas wind farms will have their water quality monitoring integrated in 2022.
Water recycled/reused	Not relevant	The monitoring of recycled water is not relevant since AES Brasil does not perform this process. Since 2017, the company has had a Biological Effluents Treatment Plant with Water Reuse in COGE, but this plant did not operate in 2021 due to low demand and decrease in the amount of employees in the unit. When it becomes operational, this system will receive all the biological effluent in a compact and automated station. The volume will be treated by sand filters, activated carbon, UV lamps, and chlorine injection, to be later directed as reuse water for the COGE toilets.
The provision of fully- functioning, safely managed WASH services to all workers	100%	At AES Brasil, we comply with standards in force related to the rendering of water, sanitation and hygiene services. This management is made monthly to ensure safe consumption and use of water by our collaborators in 100% of our facilities. The company's potable water is monthly analyzed as to turbidity, total coliforms, thermotolerants/E. Coli, heterotrophic bacteria, Ph, residual chlorine, apparent color, odor, taste and fluoride. The monitoring is made to ensure water supply with quality and safety for human consumption, and its potability standard. Consolidation Ordinance nº 5/GM/MS, of 2017 and Ordinance GM/MS Nº 888, of 2021 Amends



Annex XX of Consolidation Ordinance GM/ nº 5,
of September 28, 2017, and Resolution SS 65,
quality of water for human consumption in the
ambit of São Paulo State Water Quality
Surveillance Program.

## W-EU1.2a

## (W-EU1.2a) For your hydropower operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations measured and monitored	Please explain
Fulfilment of downstream environmental flows	100%	In the 9 hydroelectric plants, 3 small hydropower plants belonging to AES Brasil, the Operations area monitors, on a daily basis, upstream flows. Using meters installed along the river, flow data are continuously monitored and analyzed by the Energy Generation Operation Center (COGE) teams. Moreover, the company monitors upstream, with measurements in the main tributaries. This information is used in the process of decision making for energy generation or opening of Gates. Therefore, in reservoirs and tributaries we promote the Water Monitoring Program, which enables the assessment of upstream and downstream water conditions.
Sediment loading	100%	At AES Brasil we monitor the removal of sediments to keep the water quality and the hydroelectric plants reservoirs storage capacity, to achieve more efficiency in energy production and contributing to reduce service life. We quarterly measure samples of sediment load in the rivers, according to the environmental licensing requirements of AES Brasil's 9 hydroelectric plants, and 3 small hydropower plants. These data are monitored to identify eventual situations of siltation, thus enabling timely action in case any irregular parameter is identified. The sediments physical and chemical parameters are assessed according to CONAMA Resolution 454/2012, which establishes general guidelines for the management of dredged material.



Other, please	100%	AES Brasil also keeps several programs for
specify		biodiversity conservation, and the Fishery
		Management Program is outstanding. It is an
		initiative for fish repopulation in the rivers,
		promoting annual release of 2.5 million fingerlings
		by the company. These efforts contribute to the
		ecosystem quality as a whole and also impact on
		sources preservation and, indirectly, on the water
		quality for operations and for the other players
		that use bodies of water. In 2021, we semi-
		annually monitored the dynamics of reservoirs
		due to the limnological and hydrological
		characteristics of the system. The results assist in
		the adoption of control measures to improve the
		water quality.

## W1.2b

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

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	80,226,239.43	Much lower	Hydroelectric operations represent 99.999955% of the total volume of our water withdrawals. This volume passes through turbines and return to its normal course, so it does not impact on the water quantity and quality. At AES Brasil, in 2021, the total volume of water withdrawal was much smaller than that of the previous year, amounting to 80,226,239.43 megaliters, 33.20% reduction against 2020 (120,094,080.44 megaliters). Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend. The main factors for this performance were the hydrological conditions that marked the year 2021, year that presented the worst affluence history since 1931. Since climate changes affect water availability, at AES Brasil we study several possible scenarios that must be



			constantly re-assessed, since the standard variables correlation underwent changes, for example rainfall, flow and evapotranspiration. At AES Brasil we count on a strategy focused on the portfolio growth and diversification by developing projects of renewable sources to complement water sources, expanding our installed capacity to produce energy from wind
			and solar sources. Note: to better comply with CDP methodology, this year we started to report the volumes of water withdrawal to be used in the energy generation process.
Total discharges	80,491,420.73	Much lower	Hydroelectric operations represent 99.99964% of the total volume of our water discharges. At AES Brasil, in 2021, the total volume of water discharge was much smaller, amounting to 80,491,420.73 megaliters, 33.39% reduction against 2020 (120,094,080.44 megaliters). The main factors for this 2021performance are the same as those applicable to withdrawal, associated to the water crisis. In 2022, this volume tends to be larger due to the hydrological conditions caused by the recovery of Tietê- Paraná waterway. The volume of "Total discharges" is higher than the volume of "Total withdrawals" due to the year 2021 representing the largest water drought in the last 90 years, so it is observed that the reservoirs had to be depleted at very low levels, that is, the affluent flows fell, being necessary the use of the dammed volumes, which happened for the entire water generation sector. Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend.
			Discharges from water consumption in administrative activities of sanitary use (cleaning, toilets and gardening) represent



			0.000036%.
			As for discharge of effluents for human consumption, cleaning and gardening, the expectation for the coming years is that the total volume of water collected for human consumption will increase in some assets, due to the operation of Salinas and Mandacarú wind farms (conclusion of assets in April/2021) and start of operation of Tucano wind farm in 2022 and Cajuína wind farm in 2023.
			report discharge volumes of effluents from the energy process.
Total consumption	-265,181.3	Much lower	In 2021, AES Brasil total water consumption was lower against 2020; -265,181.3 , -64.29% against 2020 that was -742,509.50.
			Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend.
			The reduction in water consumption for human consumption, cleaning and gardening occurred due to actions like elimination of leakages, internal awareness campaign on the correct use of water and water consumption optimization, reducing by 44% the consumption of water to clean the 258,795 photovoltaic panels by using remotely controlled robots.
			At AES Brasil hydroelectric plants we don't consume water, we use water to produce electricity, and this water returns to its natural course. So there is no impact on the quantity and quality of this natural resource.
			Note: for hydroelectric plants we inform only withdrawals and discharges, because in AES Brasil operation we don't consume water for energy production, since the natural resource is stored, used and then returned to its natural course, without impacting on the water quantity



	and quality.

## W1.2d

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

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year		Please explain
Row 1	Yes	11-25	Much lower	WRI Aqueduct	For reporting purposes in the CDP, AES Brasil used the WRI Aqueduct tool, from the World Resources Institute (WRI), to assess the level of water stress in water withdrawal locations. It is worth pointing out that the water withdrawal measured by AES Brasil is limited to that intended for human consumption, cleaning and auxiliary activities, not covering the volumes that pass through the turbines to generate electricity and normally follow the course of the river, with no impact on quality or quantity. Of the company's 18 operational units in 2021, 11 units withdraw water directly from artesian wells, one collects it from surface water, and three are supplied by the local utility. To assess water stress on the WRI platform, the addresses of the operational units were entered. For the 13 operations with direct local withdrawal, the address of the unit is the same as the withdrawal point. In the three units where there is third-party supply, it is not possible to determine the specific point of



	withdrawal from the utility.
	At AES Brasil, for purposes of
	monitoring and reporting, we
	annually assess the framing of
	our units in areas with water
	stress using Aqueduct Risk
	Atlas platform, from the World
	Resources Institute (WRI). In
	2021, three HPPs (Caconde,
	Limoeiro and Euclides da
	Cunha) and Alto Sertão II wind
	farm were under high or
	extremely high general water
	risk, according to the platform
	parameters. As for the Global
	Risk, they were classified as
	High (3-4).
	In 2021, these operations
	withdrawn a very lower volume,
	when compared to 2020;
	44.09% reduction. In 2021, the
	volume withdrawn in HPPs
	Caconde, Limoeiro and Euclides
	da Cunha and Alto Sertão II
	wind farm was 2,811,074.95
	megaliters of water
	(corresponding to 3.50% of the
	total withdrawn by AES Brasil
	assets), much lower when
	compared to the water
	withdrawal in 2020
	(5,027,448.06 megaliters).
	Our definition for change: About
	the same: <5%, Lower/Higher:
	<5%, Much lower/higher >20%.
	This threshold is also used for
	the future trend.
	In terms of management, the
	company counts on area of
	Energy Studies that monitors
	with software and
	meteorological and climate



	analyses the condition of rainfall and affluence of the basins where the company's assets are located and in Brazil as a whole. The water stress assessment is dynamic, updated according to the hydrological scenario, because climate changes interfered with the magnitude and frequency of climate conditions in several Brazilian regions. The teams monitor from daily reports and short term projections to long term hydrological scenarios to support AES Brasil hydrological risk protection and strategic planning.
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## W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	80,226,202.93	Much lower	Hydroelectric operations represent 99.999958% of the total volume of our withdrawals of fresh surface water, including rain water, water from swamps, rivers and lakes. In 2021, the volume withdrawn was 80,226,202.93 megaliters, much lower than in 2020: 120,094,051.08 megaliters, 33.20% less. Our definition for change: About the same: <5%, Lower/Higher: <5%, Much



				lower/higher >20%. This threshold is also used for the future trend. The main factor for this performance in 2021 was water scarcity. Water withdrawal for human consumption, on the other hand, was 2.99 megaliters, corresponding to 0.0000037% of the total volume of water withdrawn by AES Brasil facilities, and 8.18% of the total withdrawn for their sanitary use administrative activities.
Brackish surface water/Seawater	Not relevant			At AES Brasil we consider surface brackish water/sea water not relevant, as the company does not collect surface brackish water or sea water.
Groundwater – renewable	Relevant	32.02	About the same	We classify as relevant the withdrawal of ground Waters – renewable. The volume is measured monthly in all operational units directly by hydrometers. Groundwater withdrawal occurs in 11 units. In 2021, the volume withdrawn of groundwater – renewable, was 32,024 m3 (32.02 megaliters), almost the same against 2020: 33,428 m3 (33.43 megaliters), 4.20% less. Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend.



				The main factors for this performance were: replacement of hydrometers in HPP Promissão and HPP Limoeiro. When there is deviation from the monthly withdrawal against the volume granted, the Environment team manages the situation through the action plan.
Groundwater – non- renewable	Not relevant			At AES Brasil we consider Groundwater – non- renewable water not relevant because does not draw groundwater - non-renewable.
Produced/Entrained water	Not relevant			At AES Brasil we consider Produced/Entrained water not relevant because does not generate produced/existing water in its processes.
Third party sources	Relevant	1.49	Lower	At AES Brasil we consider relevant withdrawal of water from third party sources for human consumption. This measurement is made monthly with the reading of hydrometers by the local sanitation concessionaire at AES Brasil facilities that count on supply by third party sources. In 2021, the volume collected was 1,488 m3 (1.49 megaliters), smaller, when compared to that of 2020 (1,610 m3 or 1.61 megaliters), with 7.58% reduction. Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the



		future trend.
		The main factors for this performance were the corrections of leakage at SHP São José and hydrometer at SHP Mogi Guaçu.

## W1.2i

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	80,491,367.11	Much lower	AES Brasil considers relevant the discharge of fresh surface water. In 2021 it represented 99.99993% of the discharge associated to water use in hydroelectric plants for electricity generation. In 2021, there was 33.39% reduction in the volume of discharge of fresh surface water in AES Brasil operations, which amounted to 80,491,367.11 megaliters, much less, when compared to 2020, which 120,836,533.88 megaliters. The main factors for this performance were the hydrological conditions of 2021, which presented the worst history of affluences since 1931. Since climate changes affect water availability, at AES Brasil we study several possible scenarios that must be constantly re-assessed, since the standard variables correlation underwent changes, for example rainfall, flow and evapotranspiration. To compare the annual performance, the premises



				indicated in the previous question were considered.
Brackish surface water/seawater	Not relevant			AES Brasil does not collect brackish surface water, or seawater.
Groundwater	Relevant	25.62	About the same	At AES Brasil we consider relevant the discharge of groundwater effluent discharge, because it represented, in 2021, 87.74% of effluents generated from water use for human consumption, cleaning and gardening. The total discharge in 2021 of this effluent was 25,619 m3 (25.62 megaliters), almost the same as that of 2020, which was 26,742 m3 (26.74 megaliters). The main factors for this reduction were the replacement of hydrometers and maintenance for elimination of leakages. Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend.
Third-party destinations	Relevant	1.19	Lower	AES Brasil considers the discharge of effluents from third party source water for human consumption in administrative activities and destined to septic tanks as not relevant. In 2021, the volume was 1,190 m3 (1.19 megaliters) smaller when compared to that of 2020 (1,288 m3 or 1.29 megaliters), - 7.58% . Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%.



		This threshold is also used for the future trend.
		The main factors for this reduction were the replacement of hydrometers and elimination of leakages. Monitoring in 100% of facilities of administrative liquid effluents referring to sanitary uses, with NBR 7229, considers the contribution of effluent discharge as 80% of local water consumption.

## W1.2j

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

	Relevanc e of treatment level to discharge	Volume (megaliters/year )	Compariso n of treated volume with previous reporting year	Please explain
Tertiary treatment	Not relevant			AES Brasil generates effluents from administrative activities of sanitary uses (cleaning, toilets, gardening), cleaning of photovoltaic panels, which represents 0.000036% of the total volume of effluents generated by the company,



	therefore, it is
	not relevant.
	As for
	hydroelectric
	plants effluent,
	it is not
	relevant either,
	because the
	river water that
	passes through
	the turbines
	follows its
	natural course
	without
	changing the
	amount of
	water, so it is
	not necessary
	to treat
	effluents due to
	the low
	concentration,
	below the
	parameters of
	the legislation
	in force.
	Since 2017, the
	COGE has had
	a Biological
	Effluent
	Treatment
	Plant with
	Water Reuse,
	but this plant
	did not operate
	in 2021 due to
	low demand
	and the
	reduction in the
	number of
	employees at
	COGE. When
	operational,
	this system will
	allow reused



					water to be directed to the toilets at COGE.
Secondary treatment	Not relevant	22.04		74.00	The total effluent generated by AES Brasil from water use in administrative activities of sanitary uses (cleaning, toilets, gardening), cleaning of photovoltaic panels, is not relevant compared to the volume of effluents generated by the company. AES Brasil monitors 100% of its 8 compact Effluent Treatment Plants.
Primary treatment only	Relevant	28.01	Much lower	71-80	AES Brasil sent, in 2021, a total of 28,009 m3 (28.01 megaliters) of sanitary effluent to primary treatment in septic tanks. Compared to the previous



		year, it was
		much lower; in
		2020 it was
		31,288 m3
		(31,29
		megaliters),
		10.48%
		reduction. This
		effluent is
		destined to
		septic tanks,
		considered as
		primary
		treatment, and
		their cleanings
		are performed
		by specialized
		company when
		necessary, and
		downstream.
		Our definition
		for change:
		About the
		same: <5%,
		Lower/Higher:
		<5%, Much
		lower/higher
		>20%. This
		threshold is
		also used for
		the future
		trend.
		In 2021, we
		monitored the
		quality of
		effluents by
		specialized
		outsourced
		company, and
		the analyses
		were
		conducted by
		ISO 17025
		certified



					laboratory for assessment and monitoring
					of all 8 Sewage
					Treatment
					Plants installed
					and the
					parameters of
					oil and grease
					at effluent
					drainage and
					outlet points
					from the 12 Oil-
					Water
					Separators, of
					all our facilities
					(9 hydroelectric
					plants, 3 small
					hydropower
					plants),
					compliant with
					CONAMA
					Resolution 430
					and art.18 of
					Decree 8468.
					In 2022,
					Salinas and
					Mandacaru
					wind farms, whose
					acquisition
					occurred on
					04/30/2021,
					will be
					integrated to
					the monitoring
					of AES Brasil
					water quality in
					2022.
Discharge	Relevant	80,491,391.53	Much lower	61-70	The total
to the	ποισνατιι	00,701,001.00			volume of AES
natural					Brasil
environmen					discharge to
					the natural



t without			environment in
treatment			2021 was
			80,491,391.53
			megaliters,
			associated to
			water use in
			hydroelectric
			plants for
			generation of
			electricity,
			maneuver of
			spillways and
			cooling of
			equipment.
			There was
			33.39%
			reduction,
			much lower
			against 2020,
			which was
			120,836,557.37
			. This reported
			value refers to
			100% of AES
			Brasil facilities
			that generate
			energy from
			water source,
			that is, 9
			Hydroelectric
			plants (HPP)
			and 3 small
			hydropower
			plants (SHP),
			which
			represents
			63% of the
			company's
			assets and
			57% of the
			company's total
			installed
			capacity in
			2021.
			AES Brasil



		annually
		monitors the
		quality of
		water,
		upstream and
		downstream of
		dams, to verify
		whether the
		water courses
		are suffering
		any impact.
		The main
		parameters
		monitored are:
		BOD, total
		phosphorus,
		total nitrogen,
		chlorophyll A,
		Transparence,
		pH,
		Temperature,
		DO, oils and
		greases, and
		cyanobacteria.
		Our definition
		for change:
		About the
		same: <5%,
		Lower/Higher:
		<5%, Much
		lower/higher
		>20%. This
		threshold is
		also used for
		the future
		trend.
		The results of
		the effluent
		analyses of
		AES Brasil are
		in compliance
		with regulatory
		standards.



Discharge to a third party without treatment	Not relevant		AES Brasil considers Not relevant discharge to third party without treatment, because it does not carry
			does not carry out such destination.
Other	Not relevant		not relevant

## 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	2,511,700,000	80,226,239.43	31.3077120135	AES Brasil considers total efficiency in water withdrawal, net revenue division by the total volume of water withdrawal (megaliters) in AES Brasil operations. In 2021, this index was 31.31 reais of revenue generated for each megaliter withdrawn. There was 87% evolution against the previous year, which was 16.75; due to portfolio diversification, which expanded the installed capacity for production of energy from wind and solar sources, complementing the water source.

## **W-EU1.3**

## (W-EU1.3) Do you calculate water intensity for your electricity generation activities? $$_{\mbox{Yes}}$$



## **W-EU1.3**a

## (W-EU1.3a) Provide the following intensity information associated with your electricity generation activities.

Water intensity value (m3)	Numerator: water aspect	Denominator	Comparison with previous reporting year	Please explain
8,415.02	Total water withdrawals	MWh	Lower	AES Brasil is composed of 18 operational assets, of which 12 (9 hydroelectric plants and 3 small hydroelectric plants) use water for power generation, therefore non- consuntive use, that is, it uses water in operation without consuming it. The water used in the operation of AES Brasil returns to its natural course. AES Brasil monitors the Value of water intensity (m3), calculated by the relationship between total water collection and the electricity generated by its hydroelectric plants, its wind and solar complexes. The monitoring of the indicator is carried out by the areas of environment and sustainability. Over the next few years the company will have a historical information base of the indicator to assist in the evaluation for decision-making in favor of the evolution and best practices of water collection The total water intensity in AES Brasil operations considers the total volume withdrawn by operational units divided by the total of raw energy generated by its generating units. In 2021, this index was 8,415.02 cubic meters withdrawn for each raw 1 MWh of energy generated, lower against the previous year, which was 9,516.59 m3/MWh (11.57% reduction in water intensity).
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<ul> <li>Iower/Ingher &gt;20%. This threshold is also used for the future trend.</li> <li>The main factor for the index reduction was the reduction in raw energy generation in 2021, a total of 9,533,700.00 MWh, lower than in 2020 (12,619,500.00 MWh), and compared to the reduction in volume withdrawn from 120,094,080,439.73 m3 in 2020 to 80,226,239,425.80 m3 in 2021, resulting mainly from the water scarcity scenario in the period, with historical levels of low affluence in SIN during the nine first months of the year, which influenced the water dispatch for recovery of the System reservoirs' levels.</li> <li>This indicator is followed up by AES Brasil to monitor the water efficiency of the auxiliary activities supplied by this catchment (human consumption, cleaning, gardening, etc.) For the coming years, an increase in the volume captured is expected due to the entry into operation of new assets. However, in line with the good practices of transparency of the B3 New Market, AES Brasil does not disclose a trend for the result of water intensity in the coming years.</li> </ul>	
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coming years.	
	coming years.

## W1.4

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

Yes, our customers or other value chain partners

### W1.4c

## (W1.4c) What is your organization's rationale and strategy for prioritizing engagements with customers or other partners in its value chain?

AES Brasil manages through dialogue and with responsibility the shared use of reservoirs with communities and other business segments, such as tourism exercising practices for the safety of the surroundings and the integrity of the dams in its hydroelectric plants is a fundamental



condition for the safety of operations and the availability of assets. An example of engagement AES Brasil is a member of the Management Council of environmental protection areas Corumbataí, Tanquã and Rio Batalha, and discusses, together with other actors, initiatives to protect these habitats. As in other aspects of environmental management, the assessment of water risks related to the Company's business occurs in an integrated manner to the corporate risk management process. In this context, it evaluates, prioritizes and defines mitigation measures, whenever necessary, for situations such as conflicts related to the use of reservoirs, leaks in operations, emergencies in the integrity of dams and adverse conditions of river inflow and rainfall.

In this model, the company provides the planting area, seedlings, and the management expertise of its engineers and biologists, and relies on investments from partners to multiply the scale and positive impacts of the recovery of areas. The AES Brasil nursery at the Promissão hydroelectric power plant produces about 1 million seedlings every year, used in the Mãos na Mata program. In 2021, the company reforested 251.5 hectares and 1 million seedlings were produced.Since the beginning of Mãos na Mata, AES Brasil has reforested 4,443 hectares, and the company's goal is to recover another 1,713 hectares of Atlantic Forest and Cerrado by 2029. The initiative generated a reduction in the direct cost of reforestation processes, since this is shared with the program partners. With impacts in scale, Mãos na Mata allows the reforestation of more extensive areas, contributing more effectively to the protection of springs.

## W2. Business impacts

## W2.1

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

## W2.1a

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

**Country/Area & River basin** Brazil Parana

#### Type of impact driver & Primary impact driver

Chronic physical

Other, please specify

R04: Deviation above expected in the Commercial Margin. Risk Description: Deviation above expected in the expected commercial margin in Budget, causing energy purchase/sale actions in the year to reduce exposure to PLD.

#### **Primary impact**

Changing revenue mix and sources



#### **Description of impact**

In 2021 this risk presented the following assessment in AES Brasil strategic risk matrix: Impact – Very High, Probability – High, and Rating – Very High. AES Brasil operates +10 hydroelectric plants in Paraná basin which represents 57% of its installed capacity. Our hydroelectric generation facilities are sensitive to changes in the weather, particularly the level of water inflows into generation facilities which can impact our results of operations and may require us to purchase power in the spot markets. There has been dryer than normal years in the country. During 2021 Brazil faced, once again, a period of water scarcity, and to establish emergency measures in favour of this challenge, measures for optimization of hydro-energy resources were taken to ensure continuity and safety to the electro-energy supply in the country.

#### **Primary response**

Other, please specify Portfolio diversification strategy, adding new solar and wind assets

#### **Total financial impact**

288,500,000

#### **Description of response**

Unfavorable hydrological conditions can adversely impact the businesses and operational results. This happened in 2021 due to the hydrological crisis in which the country experienced lower volumes of rain compared to previous years. AES Brasil water EBITDA was impacted with a reduction of R\$ 288.5 million as a reflection of the higher volume of energy purchases in the period. These amount was obtained from the difference in water EBITDA in 2021 compared to 2020. The hydroelectric plants' operational capacity in Brazil strongly depends on the level of reservoirs and rainfall. As response strategy to address this impact reported here, the approach to energy trading, through active portfolio management, is extremely important for mitigating the risks of hydrological impact on the company's margin. Thanks to integrated management by the commercial and intelligence areas, AES Brasil can foresee the effects of hydrologic conditions on market prices and adjust its energy balance to mitigate the risks of exposure to the short-term market.

AES Brasil has a strong strategy of growth and portfolio diversification through acquisitions and development of wind and solar power projects, a important response strategy to address this impact reported here.

### W2.2

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

No



## **W3. Procedures**

## **W-EU3.1**

(W-EU3.1) How does your organization identify and classify potential water pollutants associated with your business activities in the electric utilities sector that could have a detrimental impact on water ecosystems or human health?

At AES Brasil we conduct Water Quality Monitoring aligned with Sustainability, Biodiversity and Land Use Policies that have as guidelines for efficiency in biodiversity conservation the following aspects: i) Manage risks and vulnerabilities in water use aiming at adaptation to climate changes; ii) Monitor water quality in the Company's reservoirs, ensuring safety and adequacy to the multiple uses given to the area by the company and neighboring communities; and iii) Keep follow-up of indicators associated to water consumption through the Environmental Management System. With the results of monitoring analyses, the company can assess the environmental impact.

At AES Brasil, we conduct limnological monitoring of reservoirs in HPPs Água Vermelha, Barra Bonita, Bariri Ibitinga, Promissão, Nova Avanhandava, Euclides da Cunha, Caconde and Limoeiro, and SHP Mogi Guaçu, depicting the quality of the water to be used in the whole industrial process, including effluent discharge. This monitoring is made with 4 water sample collections of Água Vermelha and Caconde reservoirs to comply with ANA and semi-annual collections to comply with LO IBAMA. For the other reservoirs, CETESB licensed, quarterly collection are made to meet legal requirements.

With the Limnological Monitoring Program, we monitor the reservoir dynamics according to the system limnological and hydrological characteristics, which subsidizes the adoption of control measures to improve the water quality. Next we present the methodology used according to technical report prepared by the company hired to make the mentioned monitoring in 2021. The physical-chemical and biological parameters assessed and analysis methodologies adopted in the monitoring are as follows: Air temperature (Analytical thermometer); Water transparency (Visual disappearance of Secchi disk); Local depth (Speedtech depth gauge); Water temperature (Horiba, model U53 multiparameter probe); Dissolved oxygen (Horiba, model U53 multiparameter probe), Percent of oxygen saturation (Horiba, model U53 multiparameter probe), pH (Horiba, model U53 multiparameter probe), Electric conductivity (Horiba, model U53 multiparameter probe), Total alkalinity (SMWW, 23th ed. Method 2320B), Ammonia (SMWW, 23th ed. Method 4500-NH3 F), Total metal (Barium, Cadmium, Calcium, Lead, Chromium, total Iron, Magnesium, Manganese, Mercury, Nickel, Zinc); Dissolved metals (Aluminum, Copper, Iron) (SMWW, 23th ed. Method 3120B, EPA SW-846 - 6010D - 2014, Method 3030); Chlorides (SMWW, 23th ed. Method 4500CI-B), Chlorophyll A (CETESB L5.306 – 2014); Thermotolerant coliforms (SMWW, 23th ed. Method 9221 A, C and E2), Color (HACH - 8025 10th ed.); BOD (SMWW, 23th ed. Method 5210B); COD (SMWW, 23th ed. Method 5220D); Total phosphorus (SMWW, 23th ed. Method 4500P); Nitrate (HACH 8039 9th ed.); Nitrite (HACH 8507 10th ed.); Total nitrogen (SMWW, 23th ed. Method 4500N); Total dissolved solids (SMWW, 23th ed. Method 2540C); and Turbidity (SMWW 2130B.).

The methodology adopted for the water physical and chemical parameters is in situ sampling of the following limnological variables: temperature, dissolved oxygen, pH, electrical conductivity,



at each depth meter, with Horiba, model U53 multiparameter probe previously calibrated. Based on the data obtained, the Water Quality Index (WQI), and the Trophic State Index (TSI) were determined, according to methodologies described in CETESB (2018). For WQI calculation, quality variables that indicate discharge of effluents, chiefly domestic, in the water body are considered, providing an overview of surface water quality conditions. TSI, on the other hand, classifies water bodies in different trophic levels, that is, assesses water

quality according to enrichment by nutrients and their effect associated to excessive growth of algae and cyanobacteria. The classification of water bodies according to the Water Quality Index (WQI) is given by the WQI Value (Classification):  $79 < IQA \le 100$  (Optimal),  $51 < IQA \le 79$  (Good),  $36 < IQA \le 51$  (Regular),  $19 < IQA \le 36$  (Bad),  $IQA \le 19$  (Very bad). And water bodies classification according to Trophic State Index (TSI) – TSI Value (Classification):  $\le 47.0$  (Ultra-oligotrophic),  $47 < IET \le 52$  (Oligotrophic),  $52 < IET \le 59$  (Mesotrophic),  $59 < IET \le 63$  (Eutrophic),  $63 < IET \le 67$  (Super-eutrophic) and > 67 (Hyper-eutrophic).

Physical –chemical parameters assessed in sediment and analysis methodology adopted: Metals (Total Aluminum, Cadmium, Lead, Copper, Iron, Manganese, Mercury, Nickel and Zinc) (SMWW 3120B Ed.23); Total nitrogen (SMWW 4500N Ed.23), total phosphorus (SMWW 3120B Ed.23),Granulometry (IAC – B. Technical 106 2009 Ed. 1) and Organic matter (POP 089 Ed. 15).

## W-EU3.1a

(W-EU3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants associated with your activities in the electric utilities sector on water ecosystems or human health.

Potential water pollutant	Description of water pollutant and potential impacts	Management procedures	Please explain
Hydrocarbons	Oil residues or spills of gasoline, lubricants, etc. can potentially enter the environment through stormwater. Hydrocarbons can have a visible impairment on surface water, creating a sheen on the water surface or coating shorelines. Oils can also impact wildlife by coating them with oily film and disrupting sensitive ecosystems such as wetlands and nesting areas. The scale and magnitude of the impact would depend on the amount released. One gallon of oil can contaminate up to 1 million gallons of water.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Emergency preparedness	AES Brasil's operational units have special areas for the containment and storage of oils and chemical products to prevent leaks and spills from reaching the environment, especially through rainwater. These areas are inspected regularly. The company also has emergency and spill response plans for the prompt response to possible incidents. The measurement of the effectiveness of these strategies is carried out through the monitoring of occurrences and compliance with the requirements applicable to



			environmental licensing. Eventual cases of spills are registered in management systems and reported internally and to the competent authorities, when necessary.
Thermal pollution	Discharges of water at temperatures higher than the normal watercourse temperature can impact aquatic biodiversity by altering environmental conditions. In hydroelectric plants, water diverted for cooling the pipeline system through heat transfer may eventually heat up above the expected optimum levels.	Compliance with effluent quality standards	In order to avoid this type of impact, AES Brasil continuously monitors the temperature of the cooling water at the point of exit, taking corrective measures whenever necessary to ensure optimal operating conditions and not impact the environment. The success of this management is measured by compliance with environmental licensing requirements and by the monitoring of occurrences outside the parameters
			established by the Integrated Management System (IMS).

### 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 Other stages of the value chain

#### Coverage

Full

#### **Risk assessment procedure**

Water risks are assessed as part of an established enterprise risk management framework



#### Frequency of assessment Annually

#### How far into the future are risks considered? More than 6 years

#### \_ \_ \_ \_ \_ \_ \_ \_ \_

#### Type of tools and methods used

Enterprise risk management

#### Tools and methods used

COSO Enterprise Risk Management Framework ISO 31000 Risk Management Standard

#### **Contextual issues considered**

Water availability at a basin/catchment level Water quality at a basin/catchment level Stakeholder conflicts concerning water resources 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 Water utilities at a local level Other water users at the basin/catchment level

#### Comment

AES Brasil risk management policy was approved by AES Brasil Energia S.A. Board of Directors on 09/10/2021 and is available on AES Brasil institutional website at Policies and Rules.

AES Brasil's continuous risk management process is conducted in a structured manner and considers the identification of and response to climate risks. This management is guided by the Risk Management Policy and follows the best methodologies (COSO Enterprise Risk Management) and market practices. The company has a risk matrix (Heat Map) and classifies the risks identified and monitored into ten categories - market, legal, compliance, environmental, strategic, financial, regulatory, operational, credit and technology. Each of the risks, regardless of the category it falls into, is assessed considering financial, socio-environmental, security, reputational, regulatory and operational impacts. In the environmental risk category are potential impacts of operations on water resources. Also noteworthy in this risk matrix is the issue of dam safety and climate risk (which includes impacts from water availability). AES Brasil is



also engaged in the basin committees that operate in the regions where its hydroelectric power plants are located. In these forums, the company articulates with other local players initiatives for the shared use of water and the conservation of biodiversity. Additionally, the company has a specific area, which continuously monitors this critical aspect of the hydroelectric generation sector and is subject to regulation by the National Electric Energy Agency (Aneel).

### 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.

Among the action plans for mitigating risk identified by AES Brasil are the formation of partnerships with external groups and initiatives that are attentive to the issue of water stress in the hydrographic basins where the hydroelectric plants are located, for the evaluation and creation of joint solutions that guarantee the availability of the necessary affluence for the generation of hydroelectric energy. The impacts of climate risk for AES Brasil's business are assessed by a corporate committee on climate issues - the Weather Risk Committee. Another plan of action foreseen in the risk management process is the continuous assessment of new opportunities to diversify the portfolio of assets, seeking complementary sources to hydropower generation - such as wind and solar.

Additionally, the company has a specific area , which continuously monitors this critical aspect to the hydroelectric generation sector and target of regulation by the National Electric Energy Agency (Aneel). All conceptual aspects and the company's stakeholders are considered in this process.

Based on AES Brasil Risk Management Policy, the main risks are presented to the Statutory Audit Committee, which advises the Board of Directors in the fulfillment of several responsibilities, for example: inspection of AES Brasil internal control and risk management system.

Based on the Committee – Enterprise Risk Management Framework (COSO), the Company establishes a risk management process that comprises the following aspects: (i) internal environment; (ii) setting of goals; (iii) identification of events; (iv) risk assessment; (v) response to risk: demands from the administration the implementation of a set of initiatives and action plans to mitigate risks, where applicable, based on the Company's risk profile; (vi) control activities; (vii) information and communication; and (viii) monitoring.

A specific example of risk identified in 2021 was water scarcity: type of risk: chronic physique. Impact: Lower levels of river inflow can harm hydroelectric generation, generating costs from buying energy to fulfill contracts. E Management: Diversification of the generation portfolio through the inclusion of complementary energy sources, daily monitoring of the evolution of the system and agility in decision making to optimize the level of asset contracting and anticipate energy purchases.

-Contextual issues considered:

Water availability at a basin/catchment level: Satisfactory quantity and quality of water withdrawn and discharged is essential for almost all operations. For the hydroelectric portfolio, adequate levels of inflow are required for effective operation.



**Water quality at a basin/catchment level:** For the hydroelectric power plant, poor water quality can decrease operational efficiency, causing excessive wear on turbine blades and increasing maintenance costs.

**Implications of water on your key commodities/raw materials:** Water is a critical commodity for AES Brasil's hydroelectric plants.

**Water regulatory frameworks**: Because AES Brasil's operations depend on adequate water quality and quantity, any regulatory limitations or costs associated with water supply are an important business consideration.

**Status of ecosystems and habitats:** Biodiversity is important for water security in several aspects, especially the role played by native vegetation. It is an indicator of water quality as well.

Access to fully-functioning, safely managed WASH services for all employees: All operations depend on adequate sanitation conditions for employees and contractors.

- An explanation of why each of the stakeholders selected:

- Customers may be impacted in the event of low levels of affluence that impair hydroelectric power generation.

- Employees can be impacted if the WASH service supply is not in proper condition.

- Investors, as well as customers, can be impacted in the case of low levels of affluence that impair the generation of hydroelectric power. AES Brasil's profitability and growth objectives are defined in the strategic planning and monitored by the operations, finance and strategy teams, with corrective measures being taken whenever necessary.

-Local communities are affected by the shared use of the four reservoirs that supply the operations of AES Brasil's hydroelectric plants.

-NGOs represent the interests of communities and civil society, with a special focus.

- Water utilities at a local level: Sanitation and tourism companies, as well as communities, depend on the same reservoirs that supply AES Brasil and are involved in multi-sector forums and regional events

-Regulatory agencies demand compliance with legal requirements and those applicable to the environmental licensing of the units.

-The management authorities of the Paraná Basin, where AES Brasil's plants are located, monitor risks related to thermal releases, hydrocarbon leakage, dam safety, and shared use of reservoirs.

## 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?



AES Brasil climate risk and opportunity and water security assessment is made in the ambit of the company's strategic risk assessment, using COSO ERM methodology and through medium and long-term strategic studies, named respectively MMS (Market Management Strategy) and MVF (Multiple Future Visions). Under the ERM, the climate risks and opportunities were assessed in 3 main pillars: (1) probability of occurrence, (2) impact magnitude, and (3) risk rating. Each element is classified according to the following criteria: (1) **Probability**: how much probable is the risk materialization in two-year horizon characterized as very low, low, medium, high and very high. (2) **Impact** on 6 risk dimensions: Financial, Reputation, Safety, Regulatory/Legal; Socio-environmental; Operational, characterized as very low, low, medium, high and very high. The risks assessed in the ERM process have monthly updating and annual review of its criteria for prioritization and risk management.

MMS evaluates the company's business strategy for a medium-term horizon, in this study we access the climatic risks associated with the generation of our plants and the optimal level of contracting of our assets and the respective associated commercial strategy. This study is reviewed annually and identified risks monitored monthly in specific committees. Within the MVF, the evolution of the Energy System and markets to a long-term horizon is evaluated, considering the evolution of regulation and risks of the company's portfolio in different climate scenarios, evolution of market regulation and penetration of new technologies. The time horizon characterized as short, medium and long term reflects the horizon of materialization of risk and opportunity. This study defines possible future scenarios, in addition to defining a Base Case that serves as reference for several strategic studies. The assumptions considered are monitored periodically to ensure that the Base Scenario remains the most representative. If relevant deviations are identified, a new future scenario may be selected as Base Case, or even a review of the study as a whole may be requested.

### W4.1b

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

	Total number of facilities exposed to water risk	% company- wide facilities this represents	Comment
Row 1	12	51-75	AES Brasil's 12 hydroelectric generation units (9 HPPs and 3 SHPs) are exposed to significant hydro risks. They represent 63.0% of the number of units in the generation park and 57% of the company's total installed capacity in 2021. In this set of units, the main water risks are related to hydrological risk and dam safety issues, in addition to potential impacts on water bodies from thermal discharge or hydrocarbon leakage. For all of them, AES Brasil adopts mitigation and control measures that guarantee operation within adequate



		parameters. AES Brasil is continuously diversifying its
		portfolio to reduce exposure to water risks. From 2016 to
		2021, the percentage of installed capacity in this source went
		from 100% to 57%. For the coming years, an even more
		significant reduction is expected, with the expansion of the
		wind portfolio through the incorporation of new operational
		assets and greenfield construction.

### 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 Brazil Parana Number of facilities exposed to water risk 12 % company-wide facilities this represents 51-75 % company's annual electricity generation that could be affected by these facilities 51-75 % company's total global revenue that could be affected 71-80 Comment AES Brasil's 12 hydroelectric units are exposed to hydrological risk. In these cases, a scenario of extreme water scarcity could lead ONS to suspend dispatches, reducing energy generation and exposing the units to hydrological risk. In addition, AES Brasil has three reservoirs for 5 of these plants (the others are run-of-river), exposing this subgroup of units to risks related to dam safety.

### 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

Brazil Parana

#### Type of risk & Primary risk driver

Acute physical Other, please specify Impact of water overflow on dam safety

#### **Primary potential impact**

Reduction or disruption in production capacity

#### **Company-specific description**

Possible situations where AES Brasil's dams are compromised may jeopardize the company's hydroelectric generation capacity, in addition to representing a potential social and environmental impact for neighboring populations and a high regulatory cost with fines and the unavailability of assets. The probability of an occurrence of dam failure is extremely low and unlikely, given the project criteria, construction methods and dam safety management systems adopted by the company, with prevention and control plans. Even so, since the impact is very high, all the necessary measures are taken to protect against this risk.

#### Timeframe

More than 6 years

Magnitude of potential impact High

#### Likelihood

Exceptionally unlikely

#### Are you able to provide a potential financial impact figure? Yes, an estimated range

#### Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency) 60,000,000

#### Potential financial impact figure - maximum (currency)

5,750,000,000

#### **Explanation of financial impact**

Structural rupture of dams is contained in the Company's Risk Map and is classified as: HIGH impact and LOW probability, reaching medium rating. The risk is classified as low probability due to the design safety factor (decamillennial) and prevention and control plans implemented (instrumentation, inspections and maintenance). The risk is monitored by the Dam Safety Plan, continuous process of inspection of dams and spillways, and maintenance, if needed. In line with the Company's insurance hiring



policy, Operational Risk insurance policy was hired (Property), to ensure to the Company's assets reimbursement of values paid as indemnification, according to conditions established in contract, resulting from repair of material damages caused to properties, equipment and other goods of the Company during the regular exercise of its activities. The current policy is issued with AIG Seguros Brasil and is valid from December 31, 2021 to December 31, 2022, and whose maximum indemnification limit is R\$5,750 billion. The Company and other AES Brasil group companies are covered. In addition to the Operational Risks policy, the Company also keeps for hydraulic assets (and the other AES Group companies) General Civil Responsibility policy, issued with Chubb Seguros Brasil S.A. currently valid from April 1st 2022 to April 1st 2023, with maximum indemnification limit of R\$60 million. For further details on this risk, see item 4.1 and 7.3 of the Reference Form.

#### Primary response to risk

Develop flood emergency plans

#### **Description of response**

The safety of the dams of AES Brasil's hydroelectric plants and SHP is carried out continuously through the monitoring of instruments installed on the civil structures, in addition to periodic visual inspections with the support of drones for submerged and aerial areas. This work is carried out by specialized technical staff, composed of civil engineers, hydrologists, topographers and technicians. Every two months, technical reports are issued on the consistency of the monitoring, validating the safety status of the structures. Among the measures taken, we highlight the real-time monitoring of all weather conditions and the affluence of the rivers that can impact the reservoirs, in addition to periodic assessments of the structures and control instruments. There are 54 meteorological stations distributed in the tributaries of the reservoirs so that it is possible to foresee behavior in flood situations. The verifications of the dams also include the use of drones to inspect aerial or submerged structures, in addition to visual inspections foreseen in specific procedures. In line with the provisions of Resolution number 696/2015 of the National Electric Energy Agency (Aneel), AES Brasil updates and forwards to the inspection agent the risk assessment form (FSB). Internal training of the procedure SOSEm (System of Operation in Emergency Situations) is also carried out, an emergency plan developed to act and restore normal operating conditions in situations of risk. Additionally, the company develops and distributes the Emergency Action Plan (EAP), a technical and administrative procedure that simulates the rupture of dams and the generation of flood spots, to assist civil defense agencies in the preparation of municipal contingency plans for evacuation and assistance to communities.

#### Cost of response

78,200,000

#### Explanation of cost of response

The cost of the answer inserted above refers to the 2021 budget for civil maintenance of dam safety



In 2021, the Company invested R\$ 78.2 million in the modernization and maintenance of plants and sluices.

### 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	AES Brasil manages the water resources used for energy production. It is important to explain that hydroelectric plants do not consume water, only use water to produce electricity, and this water returns to its natural course. Therefore, there is no impact on the quantity and quality of this natural resource AES Brasil's commercialization strategy aims to optimize the commercial margin of the company's integrated portfolio in order to mitigate the effects of hydrological risk on the bottom line. Through a joint action of the commercial and market intelligence teams, several measures are adopted to reduce the volatility of commercial margins and ensure an intelligent and more efficient energy allocation. In these analyses, due to the operation of the Energy Reallocation Mechanism (MRE), the hydrological scenarios of all the Brazilian basins are considered. Significant impacts in other generating companies participating in the MRE would have no significant impact on AES Brasil, since the sale of surplus energy to compensate the units below the physical guarantee would be diluted among all participants. That is, the increase in revenue for the company would be marginal. Considering the downstream chain, the customers served by AES Brasil may also suffer impacts related to water resources, either by the quality or quantity of water available. It is possible that these impacts would lead to pressure for cost optimization with other inputs, such as energy, expanding business opportunities for AES Brasil. Conversely, this same pressure could compromise the cash availability of customers, raising default rates. In any case, the company believes that these impacts (positive or negative from AES Brasil's point of view) would not be enough to significantly compromise contracts and revenues. Regarding the supply chain, AES Brasil relates mainly to companies for the maintenance of the generator park and specialized services. The greatest impact could be on the manufacturers of equipment used in the operational units, but is



### 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 Resilience

### Primary water-related opportunity

Increased resilience to impacts of climate change

#### Company-specific description & strategy to realize opportunity

The reported opportunity is related to the maintenance of the quality and quantity of water resources, and through this strategy of Conserving, protecting and preserving biodiversity through the recovery of riparian forest, with the reforestation of reservoir edges with the help of the Mãos na Mata Program, AES Brasil increases its efficiency for the production of electricity in its hydroelectric plants, because with the recovery of the cliar forests, siltation is avoided on the banks of rivers beyond the importance for biodiversity, since this vegetation is used as shelter and food source for the fauna and in the creation of a microclimate that influences the dynamic balance of the ecosystem.

Aligned with the Biodiversity and Land Use Policy guidelines, in 2021 AES Brasil worked on the reforestation of the reservoirs margins through the Mãos na Mata Program. Through Mãos na Mata, in partnership with SOS Mata Atlântica and WeForest, AES Brasil drives reforestation actions by signing partnerships with other organizations. In this model, the company provides the planting area, seedlings, and the management expertise of its engineers and biologists, and relies on the investments of partners to multiply the scale and positive impacts of area recovery. Reforestation contributes to the preservation of springs, generating a positive impact for the entire region. In partnership with the National Center for Research and Conservation of Carnivorous Mammals (CENAP) from Chico Mendes Institute for Biodiversity Conservation (ICMBio), we promote projects to study and monitor two species listed among those endangered by the International Union for Conservation of Nature (IUCN): cougar and maned wolf.

#### Estimated timeframe for realization

More than 6 years

Magnitude of potential financial impact



High

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

## Potential financial impact figure (currency) 16,400,000

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

In 2021, the total expense for biodiversity projects activities was R\$ 16.4 million. This value is associated to the amount spent by AES Brasil in projects to study and monitor two species listed among those endangered and in Mãos na Mata Program for reforestation of the reservoirs margins. In the program ambit, 251.5 hectares were restored in 2021 and 1 million seedlings were produced. The goal is to recover 1,713 hectares of Atlantic Forest and Cerrado by 2029. One of the news was the joint work proposal with Federal University of São Carlos (UFSCar), in which two doctorate students of the institution started to work in the field, implanting scientific experiments, monitoring plantations, and assessing the best practices to promote ecological restoration.

## 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)

Água Vermelha HPP

#### Country/Area & River basin

Brazil Parana

Latitude

-19.867396

#### Longitude



#### -50.346158

- Located in area with water stress
- Primary power generation source for your electricity generation at this facility Hydropower
- Total water withdrawals at this facility (megaliters/year) 31,292,381.07
- Comparison of total withdrawals with previous reporting year Much lower

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

31,292,381.07

#### Withdrawals from brackish surface water/seawater

0

## Withdrawals from groundwater - renewable

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water 0

#### Withdrawals from third party sources

0

## Total water discharges at this facility (megaliters/year) 31,200,057.72

Comparison of total discharges with previous reporting year Much lower

## Discharges to fresh surface water 31,200,057.36

## 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)



#### 92,323.35

#### Comparison of total consumption with previous reporting year Much lower

#### **Please explain**

"0" means there is no this type of withdrawals/discharge in the operations. AES Brasil withdraws water from Água Vermelha HPP for: i) the process of energy generation in which the water passes through turbines to generate energy and follows the river natural course; ii) cooling of generation equipment, and after this cooling process the water withdrawn is returned to the river; iii) administrative activities. In 2021, Água Vermelha HPP recorded:

-Total water withdrawal of 31,292,381.07 megaliters, 35.12% lower against that of 2020 (48,232,617.14 megaliters), therefore, much less.

-Total discharge of 31,200,057.72 megaliters, 36.32% lower against that of 2020 (48,991,523.31 megaliters); much lower.

-Total water consumption was 92,323.35 megaliters, - 87.83% compared to 2020 (758,906.17 megaliters); much smaller. Consumption was calculated (in absolute values) considering the use of water from captures minus discharges.

It is important to explain that the hydroelectric plants, doesn't consume water, they just uses water to produce electricity, and this water returns to its natural course. So there is no impact on the quantity and quality of this natural resource.

The 2021 performance was due to water scarcity that limited the energy production operation, which depends on the country regulatory environment.

Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend.

#### Facility reference number

Facility 2

#### Facility name (optional)

Nova Avanhandava HPP

### Country/Area & River basin

Brazil Parana

#### Latitude

-21.117691

#### Longitude

-50.201533

#### Located in area with water stress

No

Primary power generation source for your electricity generation at this facility



Hydropower

### Total water withdrawals at this facility (megaliters/year) 10,791,635.02 Comparison of total withdrawals with previous reporting year Much lower Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes 10,791,632.16 Withdrawals from brackish surface water/seawater 0 Withdrawals from groundwater - renewable 2.858 Withdrawals from groundwater - non-renewable 0 Withdrawals from produced/entrained water 0 Withdrawals from third party sources 0 Total water discharges at this facility (megaliters/year) 10,910,434.45 Comparison of total discharges with previous reporting year Much lower Discharges to fresh surface water 10,910,432.16 Discharges to brackish surface water/seawater 0 **Discharges to groundwater** 2.286 Discharges to third party destinations 0 Total water consumption at this facility (megaliters/year) -118,799.43 Comparison of total consumption with previous reporting year Much higher

Please explain



"0" means there is no this type of withdrawals/discharge in the operations. AES Brasil withdraws water from Nova Avanhandava HPP for: i) the process of energy generation in which the water passes through turbines to generate energy and follows the river natural course; ii) cooling of generation equipment, and after this cooling process the water withdrawn is returned to the river; iii) administrative activities. In 2021, Nova Avanhandava HPP recorded:

-Total water withdrawal of 10,791,635.02 megaliters, 30.79% lower against that of 2020 (15,591,830.20 megaliters), much lower.

-Total discharge of 10,910,434.45 megaliters, 30.16% lower against that of 2020 (15,621,828.27 megaliters); much lower.

-Total water consumption was negative: -118,799.43 megaliters, an increase of 296.02% compared to 2020 (-29,998.07 megaliters), in absolute values; much higher than the previous year. It is important to explain that the hydroelectric plants doesn't consume water they just uses water to produce electricity and this water returns to its natural course. So there is no impact on the quantity and quality of this natural resource. The 2021 performance was due to water scarcity that limited the energy production operation, which depends on the country regulatory environment, subject to dispatches from the National Electric System Operator to operate.

Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend.

#### Facility reference number

Facility 3

#### Facility name (optional)

Promissão HPP

#### Country/Area & River basin

Brazil Parana

#### Latitude

-21.297691

#### Longitude

-50.201533

#### Located in area with water stress

No

#### Primary power generation source for your electricity generation at this facility Hydropower

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

10,103,753.04

#### Comparison of total withdrawals with previous reporting year



Much lower

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

10,103,741.38

## Withdrawals from brackish surface water/seawater

Withdrawals from groundwater - renewable 11.66

Withdrawals from groundwater - non-renewable

Withdrawals from produced/entrained water 0

Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year) 10,370,490.8

Comparison of total discharges with previous reporting year Much lower

Discharges to fresh surface water 10,370,481.48

Discharges to brackish surface water/seawater

0

#### **Discharges to groundwater**

9.32

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year) -266,737.77

#### Comparison of total consumption with previous reporting year Much higher

#### **Please explain**

"0" means there is no this type of withdrawals/discharge in the operations. AES Brasil withdraws water from Promissão HPP for: i) the process of energy generation, in which the water passes through turbines and follows the river natural course; ii) cooling of generation equipment and after this cooling process the water withdrawn is returned to the river; iii) administrative activities



In 2021, Promissão HPP recorded:

-Total water withdrawal was much lower against that of the previous, amounting to 10,103,753.04 megaliters, 32.49% lower against that of 2020 (14,967,203.88 megaliters)

-Total discharge was much lower against that of the previous, amounting to 10,370,490.80 megaliters, 30.58% lower against that of 2020 (14,937,862.56 megaliters)

-The total water consumption was negative: -266,737.77 megaliters, an increase of 809.09% compared to 2020 (-29,341.32 megaliters), in absolute values, was much higher than 2020. It is important to explain that the hydroelectric plants doesn't consume water they just uses water to produce electricity and this water returns to its natural course

The 2021 performance was due to the worst history of affluences since 1931 that limited the energy production operation, which depends on the country regulatory environment, and for administrative activities the reason was the elimination of punctual leakages. Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend

Facility reference number Facility 4

Facility name (optional) Ibitinga HPP

#### Country/Area & River basin

Brazil Parana

#### Latitude

-21.758065

#### Longitude

-48.991717

#### Located in area with water stress

No

#### Primary power generation source for your electricity generation at this facility Hydropower

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

9,352,858.15

#### Comparison of total withdrawals with previous reporting year

Much lower



Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes 9,352,855.27
Withdrawals from brackish surface water/seawater
Withdrawals from groundwater - renewable 2.885
Withdrawals from groundwater - non-renewable
Withdrawals from produced/entrained water
Withdrawals from third party sources
Total water discharges at this facility (megaliters/year) 9,357,283.23
Comparison of total discharges with previous reporting year Much lower
Discharges to fresh surface water 9,357,280.92
Discharges to brackish surface water/seawater
Discharges to groundwater 2.31
Discharges to third party destinations
Total water consumption at this facility (megaliters/year) -4,425.07
Comparison of total consumption with previous reporting year Much lower

#### Please explain

"0" means there is no this type of withdrawals/discharge in the operations. AES Brasil withdraws water from Ibitinga Hydroelectric Plant (HPP) for: i) the process of energy generation, in which the water passes through turbines and follows the river natural course; ii) cooling of energy generation equipment, and after this cooling process the water withdrawn is returned to the river; and iii) administrative activities. In 2021, Ibitinga HPP recorded:

-Total water withdrawal was much lower against that of 2020: 9,352,858.15 megaliters,



in 2020 (13,485,160.10 megaliters), 30.64% lower

-Total discharge was much lower against that of 2020, 9,357,283.23 megaliters, in 2020 (13,499,642.55 megaliters); 30.68% lower

-The total water consumption was negative: - 4,425.07 megaliters, - 69.45% compared to 2020 (- 14,482.45 megaliters), in absolute values; much smaller than the previous year. It is important to explain that the hydroelectric plants, doesn't consume water they just uses water to produce electricity and this water returns to its natural course. So there is no impact on the quantity and quality of this natural resource

The 2021 performance was due to the reduction in reservoirs level caused by water scarcity, and the history of affluences since 1931, and for administrative activities the reason was the elimination of punctual leakages.

Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend

#### Facility reference number

Facility 5

#### Facility name (optional)

Bariri HPP

#### Country/Area & River basin

Brazil Parana

#### Latitude

-22.153743

#### Longitude

-48.752936

#### Located in area with water stress

No

#### Primary power generation source for your electricity generation at this facility Hydropower

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

7,695,920.37

#### Comparison of total withdrawals with previous reporting year Much lower

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

7,695,913.93

#### Withdrawals from brackish surface water/seawater



Withdrawals from groundwater - renewable 6.442

- Withdrawals from groundwater non-renewable
- Withdrawals from produced/entrained water 0

#### Withdrawals from third party sources

0

**Total water discharges at this facility (megaliters/year)** 7,694,717.15

Comparison of total discharges with previous reporting year Much lower

Discharges to fresh surface water

7,694,712

Discharges to brackish surface water/seawater

0

Discharges to groundwater

5.154

Discharges to third party destinations

0

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

1,203.21

#### Comparison of total consumption with previous reporting year

Much lower

#### **Please explain**

"0" means there is no this type of withdrawals/discharge in the operations.

AES Brasil withdraws water from Bariri HPP for: i) the process of energy generation, in which the water passes through turbines and follows the river natural course; ii) cooling of generation equipment and after this cooling process the water withdrawn is returned to the river; iii) administrative activities. In 2021, Bariri HPP recorded:

-Total water withdrawal was much lower against that of 2020: 7,695,920.37 megaliters in 2020 (11,160,057.71 megaliters), 31.04% lower

-Total discharge was much lower against that of 2020: 7,694,717.15 megaliters in 2020 (11,167,910.31 megaliters); 31.10% lower

-Total water consumption was: 1,203.21 megaliters, a reduction of 84.68% compared to 2020 (-7,852.60 megaliters), in absolute values was much lower than 2020. It is important to explain that the hydroelectric plants doesn't consume water they just uses

water to produce electricity and this water returns to its natural course



The 2021 performance was due to water scarcity that reduced energy production operations, according to the country regulatory environment; and for administrative activities the reasons were maintenances to avoid leakages, increase in the number of employees due to modernization activities in Generating Unit 3 and substation maintenance

Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend

Facility 6 Facility name (optional) Barra Bonita HPP Country/Area & River basin Brazil Parana Latitude -22.519713 Longitude -48.534733 Located in area with water stress No Hydropower 6,556,428.97 Much lower wetlands, rivers and lakes 6,556,428.97 0 Withdrawals from groundwater - renewable 0 Withdrawals from groundwater - non-renewable 0

### **Facility reference number**

## Primary power generation source for your electricity generation at this facility

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

## Comparison of total withdrawals with previous reporting year

## Withdrawals from fresh surface water, including rainwater, water from

#### Withdrawals from brackish surface water/seawater



Withdrawals from produced/entrained water 0 Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year) 6,625,115.87

Comparison of total discharges with previous reporting year Much lower

Discharges to fresh surface water

6,625,115.87

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)

-68,686.9

Comparison of total consumption with previous reporting year

Higher

#### **Please explain**

"0" means there is no this type of withdrawals/discharge in the operations. AES Brasil withdraws water from Barra Bonita Hydroelectric Plant (HPP) for: i) the process of energy generation, in which the water passes through turbines to generate energy and follows the river natural course; ii) cooling of energy generation equipment, and after this cooling process the water withdrawn is returned to the river; and iii) administrative activities.

In 2021, Barra Bonita HPP recorded:

-Total water withdrawal was much lower against that of 2020: 6,556,428.97 megaliters, in 2020 (9,650,268.90 megaliters), 32.06% lower.

-Total discharge was much lower against that of 2020: 6,625,115.87 megaliters, in 2020 (9,586,274.72 megaliters); 30.89% lower.

-Total water consumption was negative: - 68,686.90 megaliters, an increase of 7.33% compared to 2020: 63,994.18 megaliters), in absolute values was higher compared to the previous year. It is important to explain that the hydroelectric plants, doesn't consume water, they just uses water to produce electricity, and this water returns to its natural course.

The 2021 performance was caused by the reduction in reservoirs levels due to water scarcity caused by the history of affluences since 1932 that interfered with energy



production, and for administrative activities the reason was leakage elimination. Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend.

#### Facility reference number

Facility 7

#### Facility name (optional)

Limoeiro HPP

#### Country/Area & River basin

Brazil Parana

#### Latitude

-21.625795

#### Longitude

-47.009366

#### Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility Hydropower

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

1,002,010.12

#### Comparison of total withdrawals with previous reporting year Much lower

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

1,002,009.15

#### Withdrawals from brackish surface water/seawater

0

### Withdrawals from groundwater - renewable

0.971

## Withdrawals from groundwater - non-renewable

Withdrawals from produced/entrained water 0

#### Withdrawals from third party sources



#### 0

## Total water discharges at this facility (megaliters/year) 1,001,764.14

Comparison of total discharges with previous reporting year Much lower

#### Discharges to fresh surface water

1,001,763.36

#### Discharges to brackish surface water/seawater

0

#### **Discharges to groundwater**

0.776

#### Discharges to third party destinations

0

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

245.98

#### Comparison of total consumption with previous reporting year

Much higher

#### Please explain

"0" means there is no this type of withdrawals/discharge in the operations.

AES Brasil withdraws water from Limoeiro Hydroelectric Plant (HPP) for: i) the process of energy generation, in which the water passes through turbines and follows the river natural course; ii) cooling of generation equipment and after this cooling process the water withdrawn is returned to the river; iii) administrative activities.

In 2021, Limoeiro HPP recorded:

-Total water withdrawal was much lower against that of 2020: 1,002,010.12 megaliters, in 2020 (1,848,696.43 megaliters), 45.80% lower.

-Total discharge was much lower against that of 2020: 1,001,764.14 megaliters, in 2020 (1,848,804.74 megaliters); 45.80% lower.

-Total water consumption was: 245.98 megaliters, an increase of 127.12% compared to 2020: - 108.31 megaliters), in absolute values was higher compared to the previous year. It is important to explain that the hydroelectric plants, doesn't consume water, they just uses water to produce electricity, and this water returns to its natural course. The 2021 performance was due to the worst history of affluences since 1931 that limited energy production operations, which depends on the country regulatory environment; and for administrative activities the reasons were maintenances for elimination of leakages and replacement of hydrometer.

Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend.



#### Facility reference number Facility 8

#### Facility name (optional) Euclides da Cunha HPP

#### Country/Area & River basin

Brazil Parana

#### Latitude

-21.603079

### Longitude

-46.948998

#### Located in area with water stress Yes

Primary power generation source for your electricity generation at this facility Hydropower

## Total water withdrawals at this facility (megaliters/year) 1,084,276.77

#### Comparison of total withdrawals with previous reporting year Much lower

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

1,084,276.31

#### Withdrawals from brackish surface water/seawater

0

## Withdrawals from groundwater - renewable

0.454

## Withdrawals from groundwater - non-renewable

#### Withdrawals from produced/entrained water

0

#### Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year) 1,084,296.96

#### Comparison of total discharges with previous reporting year



#### Much lower

Discharges to fresh surface water

1,084,296.6

Discharges to brackish surface water/seawater

0

**Discharges to groundwater** 

0.363

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year) -20.2

Comparison of total consumption with previous reporting year

Much lower

#### **Please explain**

"0" means there is no this type of withdrawals/discharge in the operations. AES Brasil withdraws water from Euclides da Cunha Hydroelectric Plant (HPP) for: i) the process of energy generation, in which the water passes through turbines and follows the river natural course; ii) cooling of generation equipment and after this cooling process the water withdrawn is returned to the river; iii) administrative activities. -Total water withdrawal was much lower against that of 2020: 1,084,276.77 megaliters, in 2020 (1,984,326.52 megaliters), 45.36% lower.

- Total discharge was much lower against that of 2020: 1,084,296.96 megaliters, in 2020 (1,848,804.74 megaliters); 45.80% lower.

- Total water consumption was - 20.19 megaliters, - 90.14% compared to 2020: - 204.78 megaliters), in absolute values was much lower compared to the previous year. It is important to explain that the hydroelectric plants, doesn't consume water, they just uses water to produce electricity, and this water returns to its natural course.

The 2021 performance was due to water scarcity, which limited energy production operations, which depends on the country regulatory environment. The National Electric System Operator (ONS) coordinates and controls the National Interconnected System (SIN).

Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend.

#### Facility reference number

Facility 9

Facility name (optional) Caconde HPP

Country/Area & River basin



### Brazil Parana Latitude -21.578055 Longitude -46.627222 Located in area with water stress Yes Primary power generation source for your electricity generation at this facility Hydropower Total water withdrawals at this facility (megaliters/year) 724,787.55 Comparison of total withdrawals with previous reporting year Much lower Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes 724,787.39 Withdrawals from brackish surface water/seawater 0 Withdrawals from groundwater - renewable 0.154 Withdrawals from groundwater - non-renewable 0 Withdrawals from produced/entrained water 0 Withdrawals from third party sources 0 Total water discharges at this facility (megaliters/year) 626,023.33 Comparison of total discharges with previous reporting year Much lower Discharges to fresh surface water 626,023.21 Discharges to brackish surface water/seawater



#### Discharges to groundwater

0.123

#### Discharges to third party destinations

0

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

98,764.21

#### Comparison of total consumption with previous reporting year

Much higher

#### **Please explain**

"0" means there is no this type of withdrawals/discharge in the operations.

AES Brasil withdraws water from Caconde Hydroelectric Plant (HPP) for: i) the process of energy generation, in which the water passes through turbines and follows the river natural course; ii) cooling of generation equipment and after this cooling process the water withdrawn is returned to the river; iii) administrative activities.

In 2021, Caconde HPP recorded:

- Total water withdrawal was much lower against that of 2020: 724,787.55 megaliters, in 2020 (1,194,629.44 megaliters), 39.33% lower.

- Total discharge was much lower against that of 2020: 626,023.33 megaliters, in 2020 (1,218,513.98 megaliters); 48.62% lower.

- Total water consumption was: 98,764.21 megaliters, an increase of 313.51% compared to 2020: - 23,884.54 megaliters), in absolute values was much higher compared to the previous year.

The 2021 performance was due to water scarcity, which limited energy production operations, and depends on the National Electric System Operator (ONS) dispatches to operate, therefore, influenced by the country regulatory environment; and for administrative activities the reasons were preventive maintenances to avoid leakages. Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend.

Facility reference number

Facility 10

Facility name (optional) Mogi Guaçu SHP

#### Country/Area & River basin

Brazil Parana

Latitude

-22.379722

Longitude



#### -46.900586

Located in area with water stress

No

- Primary power generation source for your electricity generation at this facility Hydropower
- **Total water withdrawals at this facility (megaliters/year)** 744,543.49
- Comparison of total withdrawals with previous reporting year Much lower
- Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

744,542.86

Withdrawals from brackish surface water/seawater

0

- Withdrawals from groundwater renewable
- Withdrawals from groundwater non-renewable

0

- Withdrawals from produced/entrained water
- Withdrawals from third party sources

0.631

- Total water discharges at this facility (megaliters/year) 743,593.69
- Comparison of total discharges with previous reporting year Much lower
- Discharges to fresh surface water 743,593.19
- Discharges to brackish surface water/seawater

**Discharges to groundwater** 

0

- Discharges to third party destinations 0.505
- Total water consumption at this facility (megaliters/year)



#### 949.8

#### Comparison of total consumption with previous reporting year Much higher

#### **Please explain**

"0" means there is no this type of withdrawals/discharge in the operations. AES Brasil withdraws water from Mogi Guaçu Hydroelectric Plant (HPP) for: i) the process of energy generation, in which the water passes through turbines and follows the river natural course; ii) cooling of generation equipment and after this cooling process the water withdrawn is returned to the river; iii) administrative activities. In 2021, Mogi Guaçu HPP recorded:

-Total water withdrawal was much lower against that of 2020: 744,543.49 megaliters, in 2020 (1,277,552.52 megaliters), 41.72 % lower.

- Total discharge was much lower against that of 2020: 743,593.69 megaliters, in 2020 (1,277,961.93 megaliters); 41,81% lower.

-Total water consumption was: 949.80 megaliters, an increase of 131.99% compared to 2020: - 409.41 megaliters), in absolute values was much higher compared to the previous year. It is important to explain that the hydroelectric plants, doesn't consume water, they just uses water to produce electricity, and this water returns to its natural course. So there is no impact on the quantity and quality of this natural resource The 2021 performance was due to water scarcity, which limited energy production operations, and depends on the country regulatory environment; and for administrative activities the reasons were preventive maintenances to avoid leakages.

#### Facility reference number

Facility 11

#### Facility name (optional)

São Joaquim SHP

#### Country/Area & River basin

Brazil Parana

#### Latitude

-21.873056

#### Longitude

-46.890278

#### Located in area with water stress

No

#### Primary power generation source for your electricity generation at this facility Hydropower

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



403,732.49

#### Comparison of total withdrawals with previous reporting year Much higher

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

403,732.19

#### Withdrawals from brackish surface water/seawater

0

## Withdrawals from groundwater - renewable 0.304

Withdrawals from groundwater - non-renewable

### Withdrawals from produced/entrained water

0

#### Withdrawals from third party sources

0

## Total water discharges at this facility (megaliters/year) 403,732.43

Comparison of total discharges with previous reporting year Much higher

#### Discharges to fresh surface water

403,732.19

#### Discharges to brackish surface water/seawater

0

### Discharges to groundwater

0.24

#### Discharges to third party destinations

0

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

0.06

#### Comparison of total consumption with previous reporting year About the same

#### **Please explain**

"0" means there is no this type of withdrawals/discharge in the operations. AES Brasil withdraws water from São Joaquim Small Hydropower Plant (SHP) for: i) the



process of energy generation, in which the water passes through turbines and follows the river natural course; ii) cooling of generation equipment and after this cooling process the water withdrawn is returned to the river; iii) administrative activities. In 2021, São Joaquim SHP recorded:

-Total water withdrawal was much higher against that of 2020: 403,732.49 megaliters, in 2020 (231,041.00 megaliters), 74.74% higher.

- Total discharge was much higher against that of 2020: 403,732.43 megaliters, in 2020 (231,040.94 megaliters); 74.74% higher.

-Total water consumption was: 0.0609 megaliters, a reduction of 0.32 % compared to the year 2020: - 0.0611 megaliters), in absolute values was almost the same as in the previous year. It is important to explain that the hydroelectric plants, doesn't consume water, they just uses water to produce electricity, and this water returns to its natural course. So there is no impact on the quantity and quality of this natural resource. The 2021 performance was due to reduction in reservoirs levels caused by water scarcity resulting from the history of affluences since 1932, which interfered with energy production.

Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend.

#### Facility reference number

Facility 12

Facility name (optional) São José SHP

#### Country/Area & River basin

Brazil Parana

#### Latitude

-21.938056

#### Longitude

-46.815833

#### Located in area with water stress

No

#### Primary power generation source for your electricity generation at this facility Hydropower

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

473,905.3

### Comparison of total withdrawals with previous reporting year

About the same



Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes 473,905.22
Withdrawals from brackish surface water/seawater
Withdrawals from groundwater - renewable
Withdrawals from groundwater - non-renewable
Withdrawals from produced/entrained water 0
Withdrawals from third party sources 0.08
Total water discharges at this facility (megaliters/year) 473,905.29
Comparison of total discharges with previous reporting year About the same
Discharges to fresh surface water 473,905.22
Discharges to brackish surface water/seawater
Discharges to groundwater
Discharges to third party destinations 0.064
Total water consumption at this facility (megaliters/year) 0.02
Comparison of total consumption with previous reporting year Much lower
Please explain

"0" means there is no this type of withdrawals/discharge in the operations. AES Brasil withdraws water from São José SHP for: i) the process of energy generation, in which the water passes through turbines and follows the river natural course; ii) cooling of generation equipment and after this cooling process the water withdrawn is returned to the river; iii) administrative activities. In 2021, São José SHP recorded:

-Total water withdrawal was almost the same as that of 2020: 473,905.30 megaliters, in



2020 (470,895.49 megaliters), 0.64% higher.

- Total discharge was almost the same as that of 2020: 473,905.29 megaliters, in 2020 (470,895.39 megaliters); 0.64% higher.

- Total water consumption was: 0.016 megaliters, a reduction of 83.19% compared to the year 2020: 0.095 megaliters), in absolute values was much lower compared to the previous year. It is important to explain that the hydroelectric plants doesn't consume water they just uses water to produce electricity and this water returns to its natural course. So there is no impact on the quantity and quality of this natural resource. The 2021 performance was due to reduction in reservoirs levels caused by water scarcity resulting from the history of affluences since 1931, which limited energy production operations that depend on the country's regulatory environment. Our definition for change: About the same: <5%, Lower/Higher: <5%, Much lower/higher >20%. This threshold is also used for the future trend.

### 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

Water withdrawal data – volume per source, presented by Hydroelectric Plant in question 5.1 were verified by the National Electric System Operator (ONS) for coordination and control of the National Interconnected System (SIN) operations and dispatch of hydroelectric plants operations, which manages according to the affluence scenario.

As for water withdrawal data – volume per water source used in administrative activities involving sanitary uses (cleaning, toilets, and gardening), and cleaning of photovoltaic panels, verification of results was made by: i) auditors during ISO 14001 audit, by sampling; ii) National Water Agency (ANA) and environmental bodies through presentation of monitoring reports to meet licensing and/or legislation in force constraints; and iii) Those informed in AES Brasil 2021 Sustainability Integrated Report were verified by KPMG Auditores Independentes Ltda auditors.

Standards adopted:

- Federal Law 9.433 (item VIII, of art. 35,) that grants the use of water resources for purposes of electric energy generation;

- ISO 14001;

- CONAMA Resolution 357/05 for Class 2 water, amended by CONAMA 410 and 430;
- Global Reporting Initiative GRI Standards for Sustainability Report.



Note 1: for purposes of understanding, we did not report the information in the previous year questionnaire.

#### Water withdrawals - volume by source

#### % verified

76-100

#### Verification standard used

Water withdrawal data – volume per source presented for each Hydroelectric Plant in question 5.1 were verified by the National Electric System Operator (NOS), for coordination and control of operations in the National Interconnected System (SIN) for dispatch of hydroelectric plants' operations, whose management is made according to the affluence scenario.

As for water withdrawal data – volume per water source used in administrative activities involving sanitary uses (cleaning, toilets and gardening) and cleaning of photovoltaic panels, verification of results were conducted by i) auditors during ISO 14001 audits, by sampling; ii) National Water Agency (ANA) and environmental bodies through presentation of monitoring reports to meet licensing and/or legislation in force constraints; and iii) Those informed in AES Brasil 2021 Sustainability Integrated Report were verified by KPMG Auditores Independentes Ltda.

#### Standards adopted:

- Federal Law 9.433 (item VIII, of art. 35,) that grants the use of water resources for purposes of electric energy generation;

- ISO 14001;
- CONAMA Resolution 357/05 for Class 2 water, amended by CONAMA 410 and 430;
- Global Reporting Initiative GRI Standards for Sustainability Report

Note 1: for purposes of understanding, we did not report the information in the previous year questionnaire.

#### Water withdrawals - quality by standard water quality parameters

#### % verified

76-100

#### Verification standard used

Water withdrawal data – quality per standard quality parameters of the water used in administrative area involving sanitary uses (cleaning, toilets and gardening) and



cleaning of photovoltaic panels, results verification was conducted by i) auditors during ISO 14001 audits, by sampling; ii) National Water Agency (ANA) and environmental bodies through presentation of monitoring reports to meet licensing and/or legislation in force constraints; and iii) Those informed in AES Brasil 2021 Sustainability Integrated Report were verified by KPMG Auditores Independentes Ltda.

Standards adopted:

- ISO 14001;
- CONAMA Resolution 357/05 for Class 2 water, amended by CONAMA 410 and 430;
- Global Reporting Initiative GRI Standards for Sustainability Report

Note 1: for purposes of understanding, we did not report the information in the previous year questionnaire.

#### Water discharges - total volumes

#### % verified

76-100

#### Verification standard used

Water discharge data – total volumes recorded per Hydroelectric Plant in question 5.1 were verified by the National Electric System Operator (NOS), for coordination and control of operations in the National Interconnected System (SIN) for dispatch of hydroelectric plants' operations, whose management is made according to the affluence scenario.

As for water discharge data – total volumes of water used in administrative activities involving sanitary uses (cleaning, toilets and gardening) and cleaning of photovoltaic panels, verification of results were conducted by i) auditors during ISO 14001 audits, by sampling; ii) National Water Agency (ANA) and environmental bodies through presentation of monitoring reports to meet licensing and/or legislation in force constraints; and iii) Those informed in AES Brasil 2021 Sustainability Integrated Report were verified by KPMG Auditores Independentes Ltda.

#### Standards adopted:

- Federal Law 9.433 (item VIII, of art. 35,) that grants the use of water resources for purposes of electric energy generation;

- ISO 14001;
- CONAMA Resolution 430/11;
- Global Reporting Initiative GRI Standards for Sustainability Report

Note 1: for purposes of understanding, we did not report the information in the previous



year questionnaire.

#### Water discharges - volume by destination

% verified 76-100

#### Verification standard used

Water discharge data –volume per destination, presented per Hydroelectric Plant in question 5.1 were verified by the National Electric System Operator (ONS), for coordination and control of operations in the National Interconnected System (SIN) for dispatch of hydroelectric plants' operations, whose management is made according to the affluence scenario.

Technical reports of analyses for verification of water discharges - volume per destination of reservoirs in hydroelectric plants and effluent treatment plants (compact ETP), and oil and grease separator are verified by i) auditors during ISO 14001 audits, by sampling; ii) National Water Agency (ANA) and environmental bodies through presentation of monitoring reports to meet licensing and/or legislation in force constraints.

#### Standards adopted:

- Federal Law 9.433 (item VIII, of art. 35,) that grants the use of water resources for purposes of electric energy generation;

- ISO 14001;
- CONAMA Resolution 430/11;
- Global Reporting Initiative GRI Standards for Sustainability Report

Note 1: for purposes of understanding, we did not report the information in the previous year questionnaire.

#### Water discharges - volume by final treatment level

#### % verified

Not verified

#### **Please explain**

Technical reports of analyses for verification of water discharges - volume per level of final treatment in reservoirs of hydroelectric plants and effluent treatment plants (compact ETP), and oil and grease separator are verified by i) auditors during ISO 14001 audits, by sampling; ii) National Water Agency (ANA) and environmental bodies through presentation of monitoring reports to meet licensing and/or legislation in force constraints.



Standards adopted:

- ISO 14001;
- CONAMA Resolution 430/11;
- Global Reporting Initiative GRI Standards for Sustainability Report

Note 1: for purposes of understanding, we did not report the information in the previous year questionnaire

#### Water discharges - quality by standard water quality parameters

#### % verified

76-100

#### Verification standard used

Water discharge data – quality per standard quality parameters of the water used in administrative activities involving sanitary uses (cleaning, toilets and gardening) and cleaning of photovoltaic panels, results verification was conducted by i) auditors during ISO 14001 audits, by sampling; ii) National Water Agency (ANA) and environmental bodies through presentation of monitoring reports to meet licensing and/or legislation in force constraints.

Standards adopted:

- ISO 14001;
- CONAMA Resolution 430/11;
- Global Reporting Initiative GRI Standards for Sustainability Report

Note 1: for purposes of understanding, we did not report the information in the previous year questionnaire

#### Water consumption - total volume

#### % verified

76-100

#### Verification standard used

Water consumption data – total volume recorded per Hydroelectric Plant in question 5.1 were verified by the National Electric System Operator (ONS), for coordination and control of operations in the National Interconnected System (SIN) for dispatch of hydroelectric plants' operations, whose management is made according to the affluence scenario.



As for data on water consumption – total volume of water used in administrative activities involving sanitary uses (cleaning, toilets and gardening) and cleaning of photovoltaic panels, results verification was conducted by i) auditors during ISO 14001 audits, by sampling; ii) National Water Agency (ANA) and environmental bodies through presentation of monitoring reports to meet licensing and/or legislation in force constraints; and iii) Those informed in AES Brasil 2021 Sustainability Integrated Report were verified by KPMG Auditores Independentes Ltda.

Standards adopted:

- Federal Law 9.433 (item VIII, of art. 35,) that grants the use of water resources for purposes of electric energy generation;

- ISO 14001;
- CONAMA Resolution 357/05 for Class 2 water, amended by CONAMA 410 and 430;
- Global Reporting Initiative GRI Standards for Sustainability Report

Note 1: for purposes of understanding, we did not report the information in the previous year questionnaire.

## 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 business dependency on water Description of business impact on water Description of water- related performance standards for direct operations Description of water- related standards for procurement Reference to international standards	Sustainability, Biodiversity and Land Use Policies whose guidelines for efficiency in biodiversity conservation are: i) Manage risks and vulnerabilities in water use aiming at adaptation to climate changes; ii) Monitor water quality in the Company's reservoirs, ensuring safety and adequacy to the multiple uses given to the area by the company and nearby communities; and iii) Keep follow-up of indicators associated to water consumption using the Environmental Management System. With the monitoring analyses' results, the company can assess the environmental impact. AES Brasil has a Sustainability Policy, in line with AES Corporation's Environmental Policy, which establishes expectations



## W6.2

(W6.2) Is there board level oversight of water-related issues within your organization?  $$_{\mbox{Yes}}$$ 

## 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	Please explain
Board-level committee	The company's board of directors and executive board are responsible for the company's sustainable growth strategic implementation. Targets of sustainable growth are included in the variable remuneration program of these executives. This growth plan refers to the company growth in renewable energy, mainly wind energy, which has made the company, already fully renewable, even more resilient, with diversified portfolio, and less dependent on water sources. In 2021 the board of directors approved 2030 ESG Commitments, which include: contribute to the energy transition



	by increasing renewable sources in the Brazilian electricity matrix; positively impact climate change mitigation efforts; and conserve, protect and preserve biodiversity. AES Brasil has a Sustainability Committee as one of the advisory bodies to the Board of Directors. This Committee is chaired by the CEO of the company and includes the participation of other directors of AES Brasil, the chairman of the Board of Directors, an independent member of the Board of Directors and an external expert member. At least every six months, according to the internal regulations, the Sustainability Committee reports to the Board of Directors on the recommendations and activities performed by the Committee. The purpose of this Committee is to support the Board of Directors in integrating sustainability into the entire management and governance process, proposing a strategy of action and the goals to be achieved, as well as following up on the execution of initiatives to generate value and monitor the positive and negative impacts on the economic, social and environmental dimensions. Since 2017, the Sustainability Committee includes a forum especially dedicated to climate change, the Climate Change Subcommittee, which is led by the company's COO.
Board-level committee	In 2021 the executive board approved the business risks that are monitored through Heatmap and submitted periodically to the Statutory Audit Committee which is an advisory committee of the Board of Directors to fulfill various responsibilities, such as: it has a role of supervision of the internal control system and risk management of AES Brasil. Mitigating plans and actions to reduce risks related to water security and climate change were also defined. The body meets the governance requirements of the New Market, a segment of the B3 (São Paulo stock exchange) that brings together companies with the best and most transparent shareholder relations practices. The body meets monthly and has, among other attributions, the responsibility of supervising the risk control and management systems, monitoring the effectiveness and sufficiency of the respective structures, as well as the quality and integrity of its processes, proposing the necessary actions to the Board of Directors. At the company, the corporate risk management process is guided by the Risk Management Policy. The risks are assessed as to probability and impact, classified into ten categories and consolidated in the risk matrix (Heat Map). Among the strategic risks, AES Brasil identified the risk of climate change, which includes the assessment and mitigation actions for aspects such as water availability (precipitation and river inflow), chronic imbalances caused by climate change (wind regime and solar incidence) and extreme weather events. The CAE has an annual work plan, with an agenda to periodically address all the issues under its responsibility. The evaluation of the Heat Map and respective mitigation plans occurs at least quarterly. After its creation, the CAE held an evaluation meeting of the Heat Map in June 2021.

## 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 Overseeing acquisitions and divestiture Overseeing major capital expenditures Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Reviewing innovation/R&D priorities Setting performance objectives	The Sustainability Committee meetings take place quarterly, by ordinary call. At all meetings, topics related to AES Brasil's performance in water resources and the climate agenda are discussed. The meetings have as a recurring agenda the evaluation of indicators and the monitoring of action plans and initiatives aimed at reduction opportunities. Specific themes can be included by the areas. Annually, the Sustainability Committee approves the Sustainability Report (in accordance with the GRI Standards and the Integrated Reporting framework) and the Aneel Social and Environmental Responsibility Report. The documents are also validated by the Board of Directors and the Fiscal Council.

## 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 criterion adopted to assess the board member competence in climate changes is the board member experience in relevant forums on the theme. In the AES Brasil case, the board member with such competence is member of advisory boards of institutions directly



associated to the theme, like WRI (World Resources Institute). Another criterion adopted to assess the board member competence in climate changes is his/her experience in leading carbon-intensive companies. In this case the board member was CEO at Alcoa for several years. The board member has degree from Fundação Getúlio Vargas' São Paulo School of Business Administration and obtained his MBA at IMD Program, in Lausanne. He started his professional career as consultant - Adela, Technomic, Booz, Allen & Hamilton - and later worked as business leader through a relationship with Alcoa that covers over twenty years, and in the last ten years he worked as Regional CEO for Latin America and Caribbean. Prior to this position, he worked as Financial Director for the region and, seated in New York, he was responsible for company's global financial planning and analysis. He is currently member of the Advisory Boards or Administrative Boards of five organizations - Ethos Institute, WRI Brasil (World Resources Institute), Sitawi-Finanças para o Bem, Unigel S.A. and Companhia Brasileira de Alumínio-CBA. In the last 5 years, the board member was not subject to any criminal conviction, or conviction in CVM (Security Commission) administrative process, or any other unappealable conviction at judicial or administrative level, that could have suspended or disabled the practice of professional or commercial activity.

### 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) President

#### Responsibility

Assessing future trends in water demand Assessing water-related risks and opportunities Managing water-related risks and opportunities

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

#### **Please explain**

The CEO of AES Brasil is responsible, at the highest executive level, for the assessment and management of water risks and opportunities. The executive is president of the Sustainability Committee, which formally advises the Board of Directors on the analysis of topics related to sustainable development.

On a monthly basis, AES Brasil presents to the Board of Directors the business overview in which it details the performance related to water issues, including the



hydrological scenario, the precipitation of the month and accumulated, inflows, storage, level of hydroelectric reservoirs and future prospects.

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

Chief Operating Officer (COO)

#### Responsibility

Assessing future trends in water demand Assessing water-related risks and opportunities Managing water-related risks and opportunities

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

Quarterly

#### **Please explain**

The COO analyzes and defines strategies related to the operational management of the generating complex and locks. This executive is responsible for evaluating and defining strategies that enable operational efficiency and mitigate impacts on water bodies. This operational management is influenced by water aspects (such as inflow and precipitation), especially in hydroelectric operations. This Director is also responsible for the Health, Safety and Environment team, which together with the executive defines the main strategies for water management and periodically reports on its results. Additionally, the COO chairs the Climate Change Subcommittee, reporting to the Sustainability Committee, within the scope of the Board of Directors. On a monthly basis, AES Brasil presents to the Board of Directors the business overview in which it details the performance related to water issues, including the hydrological scenario, the precipitation of the month and accumulated,

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

Other committee, please specify Weather Risk Committee

#### Responsibility

Assessing future trends in water demand Assessing water-related risks and opportunities Managing water-related risks and opportunities

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

Quarterly

#### Please explain

AES Brasil is part of the Weather Risk Committee, a global committee of AES Corporation, in which long-term projections and expert studies provide an overview to guide all activities and business strategy. Physical conditions, such as rain, river inflow,



winds and solar and market incidence, such as demand behavior and regulatory aspects, are discussed by professionals from all AES units in the world. On a monthly basis, AES Brasil presents to the Board of Directors the business overview in which it details the performance related to water issues, including the hydrological scenario, the precipitation of the month and accumulated,

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

Chief Risk Officer (CRO)

#### Responsibility

Assessing future trends in water demand Assessing water-related risks and opportunities Managing water-related risks and opportunities

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

Quarterly

#### **Please explain**

Within the Executive Board, three executives have functions related to the assessment of climate risks and opportunities. The CRO leads corporate risk management, which includes among the strategic risks those associated with climate change, dam safety and other impacts on water resources (risks explicitly scored in the risk matrix – Heat Map – of AES Brasil). The risk assessment is carried out quarterly. On a monthly basis, AES Brasil presents to the Board of Directors the business overview in which it details the performance related to water issues, including the hydrological scenario, the precipitation of the month and accumulated.

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

Chief Sustainability Officer (CSO)

#### Responsibility

Assessing future trends in water demand Assessing water-related risks and opportunities Managing water-related risks and opportunities

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

Quarterly

#### **Please explain**

Within the Executive Board, three executives have functions related to the assessment of climate risks and opportunities. The Strategy and Sustainability Director is responsible for the company's strategic planning and the governance and management of corporate sustainability practices, including aspects related to water risks and opportunities.

On a monthly basis, AES Brasil presents to the Board of Directors the business



overview in which it details the performance related to water issues, including the hydrological scenario, the precipitation of the month and accumulated,

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

Environmental health and safety manager

#### Responsibility

Assessing future trends in water demand Assessing water-related risks and opportunities Managing water-related risks and opportunities

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

More frequently than quarterly

#### Please explain

The Health, Safety and Environment Management acts more strongly both in assessment and management of these aspects by measuring and acting to improve performance in water withdrawaland consumption, monitoring the quality of discharges and measuring the quality of water in reservoirs, affluents and points upstream and downstream of the plants.

On a monthly basis, AES Brasil presents to the Board of Directors the business overview in which it details the performance related to water issues, including the hydrological scenario, the precipitation of the month and accumulated,

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

Other, please specify ESG/Sustainability manager

#### Responsibility

Assessing future trends in water demand Assessing water-related risks and opportunities Managing water-related risks and opportunities

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

More frequently than quarterly

#### Please explain

The Strategy and ESG Board leads efforts related to guidelines in water management and the integration of environmental aspects into AES Brasil's sustainability governance, aligning efforts with the 2030 Agenda.

On a monthly basis, AES Brasil presents to the Board of Directors the business overview in which it details the performance related to water issues, including the hydrological scenario, the precipitation of the month and accumulated,



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

Process operation manager

#### Responsibility

Assessing future trends in water demand Assessing water-related risks and opportunities Managing water-related risks and opportunities

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

More frequently than quarterly

#### Please explain

The Operation Manager directly monitors operating assets. Especially in the hydroelectric assets, the role of this area involves coordinating activities to maintain adequate flow levels, prevent leaks and act promptly in case of emergencies. On a monthly basis, AES Brasil presents to the Board of Directors the business overview in which it details the performance related to water issues, including the hydrological scenario, the precipitation of the month and accumulated,

## 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	100% of the company's executive board members adopt Green Growth target that considers business growth in the coming years, only with renewable energies in their incentive plans (short, medium and long terms). The 2030 ESG Commitments and targets are also contemplated in the variable remuneration of board and management members. AES Brasil has monetary incentives for leadership related to operational performance indicators. In the case of the 12 hydroelectric generating units, the dependence on adequate levels of affluence for energy generation above the physical guarantee is essential to achieve results and protect against hydrological risk. Indicators of availability of assets and achievement of physical guarantee affect the variable remuneration of the Executive Board.

## 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) Perform entitled to indicat incentive	·
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Monetary reward	Corporate executive team Other, please	Improvements in efficiency - direct operations	Corporate executive team: 100% of the company's executive board members
	specify All employees		adopt Green Growth target that considers business growth in the coming years, only with renewable energies in their incentive plans (short, medium and long terms). In the context of performance indicators, efficiency and business growth targets through non-hydro renewable sources (green growth) contribute to expanding the supply of renewable energy to the market and directly affect executive compensation. All employees:
			AES Brasil has monetary incentives for leadership related to operational performance indicators such as Water intensity m <sup>3</sup> /GWh. In the case of the 12 hydroelectric generating units, the dependence on adequate levels of affluence for energy generation above the physical guarantee is essential to achieve results and protect against hydrological risk. Indicators of availability of assets and achievement of physical guarantee affect the variable remuneration of the Executive Board.
			The performance and efficiency indicators of the non-hydro power generation portfolio contribute to expanding the supply of renewable energy to the market and directly affect the remuneration of all AES Brasil employees.
Non- monetary reward	No one is entitled to these incentives		AES Brasil does not offer recognitions, internal awards or other non-financial rewards related to water practices or indicators.

## 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, other



## W6.5a

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

AES Brasil participates in basin committees (collegiate made up of representatives of civil society, water users and civil entities, and public authorities, which can have both deliberative and advisory roles), in addition to discussing in working groups of sectorial entities like the Brazilian Association of Electricity Generator Companies and common challenges in the management of water resources, impacts, risks and opportunities.

AES Brasil counts on a Sustainability Policy, with guidelines on water resources, like regular communication of environmental performance to internal and external publics. The document also indicates specific channel for denunciation of incompatibilities, inconsistencies or divergences in practices adopted against the guidelines established by regulation. Moreover, by means of permanent work by the Sustainability Committee, the different areas' efforts to interact with external agents, like representative entities and multi-sector organizations are aligned and monitored. Another highlight is the Biodiversity and Land Use Policy, with guidelines for management of risks and vulnerabilities in water use; monitoring of water quality, and keeping follow-up of indicators associated to water consumption.

If practical inconsistencies are detected, it is initiate internal evaluation with the responsible areas, the information will be reported periodically to the Sustainability Committee for monitoring of corrective actions until they have been resolved.

## 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)

## 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	16-20	AES Brasil's strategic planning cycle is revised annually based on guiding pillars: being the customer's best choice in the free energy market; resilience; responsibility; and competitiveness. Strategic planning considers a 5-year time horizon and serves as the basis



			for preparing the company's annual budget.
			AES Brasil aligns responsibility and efficiency to promote growth with sustainable development aiming at promoting added value for its shareholders from the Diversification of the generation portfolio through the inclusion of complementary energy sources, increasing its installed capacity to 6 GW, from 43% to 55% the current installed capacity by non-water source with the complementarity of renewable sources increasing resilience and resilience competitiveness of its portfolio The Company annually evaluates the framing of its units in areas with water stress, using the Aqueduct Risk Atlas platform of the World Resources Institute (WRI). In 2021, three UHEs (Caconde, Limoeiro and Euclides da Cunha) and The Alto Sertão II Wind Complex were in regions with high or extremely high general water risk, according to the parameters of the platform. These operations captured 2,100 cubic meters of water and consumed 0,400 cubic meters in the year, equivalent to 5.8% of the
Strategy for achieving long-term objectives	Yes, water- related issues are integrated	16-20	In addition to diversifying its portfolio into non-hydro sources, AES Brasil invests in long-term bilateral contracts that make greenfield projects viable and contribute to predictable financial returns. Contracts in this area have been signed mainly for wind projects, driven by clean generation and the trend towards a low- carbon economy, but also not exposed to significant water risk. In early 2021, as announced in a material fact disclosed to the market, AES Brasil signed two new Power Purchase and Sale Agreements (PPA) with two different customers - Ferbasa and Minasligas - with a term of 20 years (long term). Customers will be supplied with renewable energy generated from the Cajuína Wind Complex.
			Therefore, we expanded our efforts in 2021 to maintain and ensure safety in greenfield wind farm projects. On a monthly basis, AES Brasil presents to the Board of



			Directors the business overview in which it details the performance related to water issues, including the hydrological scenario, the precipitation of the month and accumulated, inflows, storage, level of hydroelectric reservoirs and future prospects. With this, it monitors the actions to achieve long-term objectives of its Strategy.
Financial planning	Yes, water- related issues are integrated	16-20	AES Brasil performs financial planning where water issues, considering unfavorable future hydrological scenarios, due to the Brazilian electric sector, underwent several changes that affected water source electricity generation operations. To reduce this dependence on water in direct operations, AES Brasil's strategy is the diversification of its energy generation matrix with renewable, non hydroelectric sources, investing in solar and wind sources. That can be demonstrated with the 18% reduction against the previous year of the water source installed capacity, which went from 75% to 57%; and according to installed capacity estimated considering pipeline for expansion of energy production to 6.0 GW, energy generation with water source will reduce 13%, starting to represent 44% of AES Brasil energy matrix, while wind energy will represent 44% of the total energy produced, and solar energy will be 11%. Therefore, the company, in the future, will count on 55% of energy production from sources other than water, expanding alternatives of supply of new products and services for customers with diversified consumption profiles. Given the above the diversification of its energy matrix expanding to non-water sources is one of AES Brasil's strategies in the strategic business plan to reduce the risk that the Brazilian electric system is subject to hydrological conditions and the risk of energy scarcity and maintain balance in its financial planning.

## 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) -2.74



#### Anticipated forward trend for CAPEX (+/- % change) 9.08

Water-related OPEX (+/- % change)

74.61

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

#### **Please explain**

AES Brasil considered capex for maintenance and modernization to calculate the yearon-year change. This amount does not include capex targeted at expansion investments, which are focused on non-water sources.

In 2021, R\$ 78.2 million was invested in maintenance and modernization (out of a total of R\$118 million invested in the year), -2.74% compared to CAPEX's R\$ 80.4 million for maintenance and modernization in 2020. For the period 2022, the estimate is an increase of 9.08% in the maintenance and modernization of CAPEX, totaling R\$ 85.3 million.

In relation to OPEX, operating costs and expenses were considered.

In 2021, these amounts totaled R\$ 594.376 million, an increase of 74.61% over 2020 (R\$340.4 million). In line with the good transparency practices of B3's Novo Mercado, AES Brasil does not disclose guidance on future operational and financial results, making it impossible to disclose an opex trend for next year.

## W7.3

	Use of scenario analysis	Comment
Row 1	Yes	AES Brasil annually carries out the Multiple Visions of the Future (MVF) process, in which it evaluates scenarios with a horizon of up to 20 years to forecast their impacts and consequences on the business model. The MVF includes climate projections, which make it possible to predict the likely physical conditions of precipitation, affluence, etc. In addition, the assessments consider possible trends in the evolution of the energy market, technologies, regulation and other factors that may impact the business in the future. Projections are used as an input for strategic planning and serve to test the resilience of the strategy in each of the scenarios, price conditions and investments in expansion. The MVF is submitted for approval by the Board of AES Corporation and the main results are also presented to all employees, in order to disseminate knowledge internally and engage the entire workforce in the same understanding and strategic direction.

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



## 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
Climate- related	Made by AES Corporation, our parent company, we selected internationally recognized, third-party climate scenarios to stress test the resilience of our portfolio, as scenarios developed by the International Energy Agency and the Intergovernmental Panel on Climate Change (IPCC) for physical risk (IPCC AR5; RCP 2.6 & 6.0). The stress test was conducted over the projected time period of 2020 to 2040 and includes all of AES' businesses and global assets, both current and anticipated, included AES Brasil. The stress test includes varying growth trajectories for building new renewable energy assets and future growth in our asset-light product lines. The transition risk analysis of AES Corporation focus on the potential impact of carbon policies and other changes in the electricity market associated with the low-carbon transition. The key third-party variables considered: power, fuel and	As part of the 2DS scenario analysis conducted by AES Corporation, three reference scenarios were chosen to test AES Brasil's portfolio against the impacts resulting from varying climate change responses including changes in policy and improvements in technology, as well as physical risks. The main impact identified is related to hydrological risk: lower precipitaition and afluence levels may reduce the company's generation and cause additional costs for purchasing electricity in the short term market to comply with contracts signed by AES Brasil.	AES Brasil has a Weather Risk Committee, which daily monitors projections for this risk and takes protective measures. The main response to this risk is the adoption of strategies for contracting the portfolio, which allow establishing an energy reserve that avoids a possible purchase in the MRE. Other measures are added to this contracting management, such as investment in non-hydro assets. AES Brasil has a growth plan focused on the diversification of its portfolio through the development of projects in sources complementary to hydro and with long-term contracts and consistent returns. In 2020, AES Brasil acquired the Ventus Wind Complex, advanced in the negotiations of the MS and Santos Wind Complexes (concluded in 2021 with the acquisition of the assets), progressed in obtaining licenses for the construction of the Tucano Wind Complex (whose construction



	& the potential for energy	continued investments in
	efficiency and demand side	a greenfield wind complex
	response. Also includes	(Cajuína Wind Complex -
	AES-specific assumptions so	expected to start
	our modeling approach	construction activities still
	enables us to assess our	in 2021). Together, these
	profitability at an individual	assets will add 2,028.3
	asset and product line level	MW of additional installed
	to identify areas of risk, and	capacity to AES Brasil. In
	where we are positioned for	early 2021, as announced
	growth. We also consider	in a material fact
	expected asset retirement	disclosed to the market,
	and potential divestment	AES Brasil signed two
	scenarios, our ownership	new Power Purchase
	structure for different assets,	Agreements (PPA) with
	market share and margin	two different customers -
	considerations across our	Ferbasa and Minasligas -
	product lines.	with a term of 20 years
	The physical risk analysis,	(long term). The
	mad by The AES	customers will be supplied
	Corporation, expands upon	with renewable energy
	the 2018 approach by	generated from the
	incorporating additional	Cajuína Wind Complex.
	weather and climate peril	
	datasets.	
	The stress test assesses	
	how a changing climate	
	affects the risk exposure of	
	our current and future	
	assets.	
	Scenarios are both	
	quantitative & qualitative.	

### 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**

There is Financial Compensation tax for the Use of Water Resources for Hydroelectric Generation (CFURH), which is paid by the electric sector since 1990, according to Decree N<sup>o</sup> 3.739/ 2001., which provides for the reference updated tariff calculation for financial compensation for the use of water resources. According to the National Electric



Energy Agency, the Reference Updated Tariff (TAR) calculation prices the energy generated for purposes of Financial Compensation for Water Use, and Art. 1 of the decree mentions the total value of the energy produced for purposes of the financial compensation addressed in art. 1st of Law 8.001/1990, will be obtained by the water source energy product effectively verified, measured in megawatt-hour, multiplied by the Reference Updated Tariff – TAR, set by the National Electric Energy Agency – ANEEL. In 2021, TAR value was R\$ 76.00/MWh, with 4.55% reduction against that of 2020 (R\$ 79.62/MWh).

## 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	43% of AES Brasil products are from wind and solar sources.	In 2021, at AES Brasil we counted on 43 % of the current installed capacity from sources other than water sources, with ongoing plans to further balance this set of assets. In 2021, we reduced by 18% the water source installed capacity, which went from 75% to 57%. In 2023, with the completion of Cajuína Wind Farm, there will be 12% increase, and AES Brasil will count on 55% of installed capacity from wind and solar sources. Our strategy for business and value generation capacity growth was built for us to be ahead in the Brazilian electric sector transformation. The modernization of our segment and the opening of the free market bring several options for customers to choose more sustainable solutions in the purchase and consumption of energy. Moreover, they create opportunities for us to expand and diversify personalized products, promoting the best solution and experience to our customers.

## W8. Targets

## W8.1

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



	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company- wide targets and goals Site/facility specific targets and/or goals Country level targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	At AES Brasil, the Sustainability and Biodiversity and Land Use Policies establish responsibilities and commitments, and directs the goals and objectives that it has as guidelines for efficiency in biodiversity conservation: i) Manage the risks and vulnerabilities in water use aimed at adapting to climate change; ii) Monitor the water quality in the Company's reservoirs, ensuring safety and adequacy for the multiple uses given to the area by the company and nearby communities; and iii) Maintain monitoring of indicators related to water consumption through the Environmental Management System. AES Brasil monitors the water quality in the Company's reservoirs, ensuring safety and adequacy for the multiple uses given to the area by the company and nearby communities AES Brasil monitors water withdrawal on a monthly basis through hydrometers, to ensure that the volumes collected comply with the grants authorized by the environmental regulatory agencies. Likewise, the quality of effluents is subject to parameters established by environmental licenses. Annually, in a continuous improvement cycle of the Integrated Management System (IMS), AES Brasil sets environmental goals for the following year. In relation to water management, the company's main objective is to ensure legal compliance of the volumes withdrawed and the quality of effluent discharges. This objective is defined for the entire company and broken down into specific targets for each unit, according to the concession limits and discharge parameters defined for each unit by the environmental authority. Advances in operational eco-efficiency are continuously pursued by the IMS, but are not formalized in targets. The 2030 ESG Commitments's performance, which has a goal related to reforestation that directly contributes to the issue of water, is monitored quarterly by the AES Brasil Sustainability Committee, which is an advisory committee to the Board of Directors.

## W8.1a

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



#### Target reference number

Target 1

#### **Category of target**

Other, please specify Biodiversity: Reforestation of Reservoir Edges

#### Level

**Basin level** 

#### **Primary motivation**

Recommended sector best practice

#### **Description of target**

Our target defined in 1999 is to recover 6,408 hectares of Atlantic Forest and Cerrado by 2029. In 2021, 251.4 hectares were reforested. The result of this goal is due to the success of the Program Mãos na Mata wich has the mission of revitalizing forests in areas of Atlantic Forest and Cerrado in the State of São Paulo. Ensuring the fulfillment of this goal is fundamental, because it directly influences the availability of water and its quality, increasing the efficiency in the production of energy by AES Brasil hydroelectric plants.

#### **Quantitative metric**

Other, please specify Reforestation of Reservoir Edges

#### **Baseline year**

1999

#### Start year 2000

2000

#### Target year

2029

#### % of target achieved

73

#### **Please explain**

The Company promotes in partnership with SOS Mata Atlântica reforestation activities and actions through the establishment of partnerships with other organizations. In this program, AES Brasil has as counterpart to cede the planting area, seedlings and management expertise of its environmental technicians and relies on the investments of its partners to multiply the scale and positive impacts on the recovery areas. The objective of the Hands in the Forest Program is to conserve the flora by assisting in the supply of groundwater and minimizing erosion and silting of reservoirs. The success of the initiative is guaranteed by the Hands in the Forest Program, which works with the surrounding communities in forest restoration and supports projects for the recovery of



springs and other Permanent Preservation Areas in the hydrographic basins where the reservoirs of AES Brasil hydroelectric plants are located.

### W8.1b

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

#### Goal

Other, please specify Biodiversity: reforestation

Level

Basin level

#### Motivation

Climate change adaptation and mitigation strategies

#### **Description of goal**

In addition to the target defined in 1999 to be achieved in 2029 (reforest 6,408 hectares of Atlantic Forest and Cerrado), AES Brasil has committed to increasing reforestation by 20% by 2030, this is part of the 2030 ESG Commitments approved in December 2021 by the Board of Directors.

#### **Baseline year**

2021

#### Start year

2022

#### End year

2030

#### Progress

Ensuring the fulfilment of this goal is fundamental, because it directly influences the availability of water and its quality, increasing the efficiency in the production of energy by AES Brasil hydroelectric plants.

Annually, AES Brasil publishes performance information regarding water management in the Integrated Sustainability Report and in the CDP Water Security questionnaire. For the monitoring of the reforestation goal in addition to the commitment to recover the occupied areas, the following indicators are monitored monthly: i) Total hectares of Atlantic Forest and Cerrado restored; (ii) total tree seedlings produced; iii) Total endangered species conserved through projects and Investment in biodiversity projects. The performance of the 2030 ESG Commitments, including this objective, is monitored quarterly by the AES Brasil Sustainability Committee, which is an advisory committee to the Board of Directors.



#### Goal

Other, please specify Ensure that groundwater withdrawal is within the granted limit

#### Level

Company-wide

#### Motivation

Recommended sector best practice

#### **Description of goal**

In water management, the company's main objective is to ensure legal compliance of the volumes withdrawed and the quality of effluent discharges. This objective is defined for the entire company and broken down into specific targets for each unit, according to the concession limits and discharge parameters defined for each unit by the environmental authority.

**Baseline year** 

2018

Start year 2016

#### End year

2021

#### Progress

All withdrawals and discharges were monitored in 2021, and AES Brasil achieved 100% compliance with the withdrawal grants and discharge parameters.

## **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

### W9.1a

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

Disclosure	Data verified	Verification	Please explain
module		standard	



W1 Current state	GRI 303 WATER	ASAE3000	our sustainability report including water data has been verified by KPMG
W7 Strategy	STRATEGY CHAPTER OF OUR SUSTENAIBAILITY REPORT	ASAE3000	our sustainability report including our strategy has been verified by KPMG
W8 Targets	OUR SUSTAINABILITY COMMITMENTS FOR 2030	ASAE3000	our sustainability report including ESG targets has been verified by KPMG

## W10. 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.

## W10.1

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

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

### W10.2

(W10.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].

Yes

## 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	Response
with all requesting stakeholders	permission



Please select your	Yes	Public
submission options		

#### Please confirm below

I have read and accept the applicable Terms