Welcome to your CDP Water Security Questionnaire 2023

W0. Introduction

W0.1

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

Ameren Corporation, headquartered in St. Louis, MO, is a public utility holding company whose primary assets are its equity interests in its subsidiaries. Ameren's principal subsidiaries are Ameren Illinois Company (AIC), Union Electric Company, doing business as Ameren Missouri (AMO), and Ameren Transmission Company of Illinois (ATXI). Ameren serves approximately 2.4 million electric and more than 900,000 natural gas customers across 64,000 square miles in Illinois and Missouri. Ameren’s net generating capacity, substantially all of which is owned by AMO, was approximately 10,000 MWs as of 12/31/22. In 2022, AMO’s energy supply was approximately 62% from coal, 22% from nuclear, 3% from hydro, 5% from wind, <1% from methane gas and solar, <1% from purchased wind, 1% from natural gas and 7% from purchased power. In 2022, Ameren had total annual operating revenues of more than $7.9 billion.

AMO operates a rate-regulated electric generation, transmission and distribution business and a rate-regulated natural gas distribution businesses in Missouri. AIC operates rate-regulated electric transmission, electric distribution, and natural gas distribution businesses in Illinois. ATXI operates a rate-regulated electric transmission business in the Midcontinent Independent System Operator, Inc .

Ameren's 2018 Water Resilience Assessment assessed the current and future resilience of water resources in regions that include our service territory and major supply chain components under a variety of potential climate change scenarios. Ameren also has a target to reduce withdrawal for thermal generation by 95% by 2045 (2005 baseline), enabled by recently completed transition to dry ash handling, upgrades to wastewater treatment systems, and planned retirement of all coal fired energy centers by 2045. Ameren also has a goal to improve the quality of groundwater enabled by the ongoing installation of groundwater treatment systems at three energy centers. In May 2023, we released the 2023 Ameren Sustainability Report (available at Ameren.com/Sustainability), which offers a comprehensive view of our actions on key environmental, social and governance (ESG) matters.

Ameren's strategy for addressing climate risk is largely embedded in AMO's 2020 Integrated Resource Plan (IRP), as updated in June 2022, which outlines plans to retire more than 3,500 megawatts (MW) of fossil-fired generation by 2030. The IRP reflects the addition of 2,800 MW

of new, clean, renewable (wind and solar) generation by 2030 and a total of 4,700 MW by 2040, along with the addition of 800 MW of battery storage by 2040. To maintain energy reliability and resiliency for customers after the retirement of three coal-fired energy centers by the end of 2030, the IRP reflects the addition of a 1,200 MW combined-cycle energy center by 2031. Ameren has a goal of achieving net-zero carbon emissions by 2045. This goal includes both Scope 1 and 2 emissions including other greenhouse gas emissions of methane, nitrous oxide and sulfur hexafluoride, and encompasses direct emissions from operations, as well as electricity usage at Ameren buildings. The company also has strong interim goals including 60% emissions reduction by 2030 and an 85% reduction by 2040, as compared to 2005 levels. More information is available at AmerenMissouri.com/IRP. Ameren Missouri will file a new Integrated Resource Plan in September 2023.
FORWARD-LOOKING STATEMENTS. Statements in this report not based on historical facts are considered “forward-looking” and, accordingly, involve risks and uncertainties that could cause actual results to differ materially from those discussed. Although such forward-looking statements have been made in good faith and are based on reasonable assumptions, there is no assurance that the expected results will be achieved. These statements include (without limitation) statements as to future expectations, beliefs, plans, projections, strategies, targets, estimates, objectives, events, conditions, and financial performance. We are providing this cautionary statement to identify important factors that could cause actual results to differ materially from those anticipated. In addition to factors discussed in this report, Ameren's Annual Report on Form 10-K for the year ended December 31, 2022, and its other reports filed with the SEC under the Securities Exchange Act of 1934 contain a list of factors and a discussion of risks that could cause actual results to differ materially from management expectations suggested in such forward-looking statements. All "forward-looking" statements included in this report are based upon information presently available, and, except to the extent required by the federal securities laws, Ameren undertakes no obligation to update or revise publicly any forward-looking statements to reflect new information or future events.

W-EU0.1a

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

Electricity generation
Transmission
Distribution

W-EU0.1b

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

	Nameplate capacity (MW)	% of total nameplate capacity	Gross electricity generation (GWh)
Coal – hard	5,514	46.09	26,734
Lignite	0	0	0

Oil	230	1.92	7
Gas	3,418	28.57	587
Biomass	0	0	0
Waste (non-biomass)	14	0.12	65
Nuclear	1,236	10.33	9,275
Fossil-fuel plants fitted with carbon capture and storage	0	0	0
Geothermal	0	0	0
Hydropower	388	3.24	1,453
Wind	699	5.84	2,270
Solar	15	0.13	18
Marine	0	0	0
Other renewable	0	0	0
Other non-renewable	450	3.76	385
Total	11,964	100	40,794

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, 2022	December 31, 2022

W0.3

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

United States of America

W0.4

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

USD

W0.5

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

Companies, entities or groups over which operational control is exercised

W0.6

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

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Non- generation facilities including call centers, office buildings and administration sites, unmanned facilities (i.e. substations), and other sites unrelated to direct energy generation.	Ameren and its subsidiaries own over 800 separate energy-generation and non-energy generation facilities, including administrative buildings, substations, warehouses etc. This report excludes all non-energy-generation facilities, which account for less than 1% of total water use. All non-generation sites and facilities were estimated to consist of less than 0.0002% of total withdrawals, making them an immaterial proportion of overall water accounting.). • Approximately 99% of Ameren's water usage occurs at Ameren Missouri's 27 energy generation centers. • Approximately four million megaliters of surface water are used annually as cooling water at the thermal cycle generation plants (coal-fired and nuclear centers) and also for pollution controls and other operations. In addition, about 53 million mega liters of surface water were used in 2022 for direct energy generation at Ameren's three hydroelectric generation sites. Due to the immaterial nature of non-generation water usage, the scope of this disclosure will exclude all facilities except for the following 16 Ameren Missouri energy centers: 3 coal, 1 coal and natural gas, 1 nuclear, 2 hydroelectric dams, 1 pumped storage, and 8 combustion turbines (CTGs). Over 99% of water withdrawn for generation operations is discharged back to surface water sources. Groundwater volume usage at our energy centers is less than 0.01% of total withdrawal. Ameren strives to minimize water use in accordance with its Water Policy and has invested millions of dollars in efficient water and treatment technologies. Our 2018 Water Resilience Assessment report describes the future resiliency of water resources in our service territory and select regions of our supply chain, and our Report on our Responsible Management of Coal Combustion Residuals (CCR) provides information regarding our efforts to reduce water usage and improve the quality of effluent consistent with corporate sustainability initiatives. Updated information on our CCR plans is available at Ameren.com/CCRFacts.

Natural Gas distribution	Ameren's operations associated with procuring and distributing natural gas to our customers use little to no direct water resources. These operations include the use of potable water as a resource for personnel use at related sites, as well as limited amounts of water for hydrostatic testing, and for excavation operations to construct gas lines. We are implementing practices to reduce the necessary volumes of water required to perform these operations. The volumes of water used in these operations are less than 0.1% of our electrical generation centers. Therefore, Ameren's natural gas distribution activities are excluded from the scope of this disclosure.
Solar, wind, methane gas, and oil generation facilities	Ameren Missouri's operates 27 energy generation centers, fueld by coal, natural gas, nuclear, hydro, wind, solar, landfill methane gas, and oil. Solar and wind use no water for generation and methane gas and oil use negligible amounts (<0.1% of total withdrawal) compared to our nuclear, coal, and hydroelectric energy centers. Therefore, these wind, solar, landfill methane gas, and oil generation facilities (representing 11 of the total 27 energy centers) are excluded from the report. Ameren and its subsidiaries own approximately 714 MW of nameplate solar and wind energy generation capacity. Ameren plans to add 2,800 MW of new, clean, renewable (wind and solar) generation by 2030; and a total of 4,700 MW by 2040. We also plan to add 800 MW of battery storage by 2040. Solar and wind generation do not use water for generation. Therefore, these sites will be excluded from the scope of this disclosure.

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	US0236081024
Yes, a CUSIP number	023608102
Yes, a Ticker symbol	AEE

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: "Vital" was chosen because large volumes of freshwater from rivers in the Midwest are required for thermal cooling and pollution control at our nuclear and coal-fired energy centers and energy production at our hydroelectric generation sites. Large volumes of water availability is more important than the quality of the water. About 99% of water withdrawn is discharged back to the environment. Should large volumes of water no longer be available at our nuclear and coal-fired energy centers, our operations would suffer significantly. Our Water Resilience Assessment indicates all of our generation facilities are located in regions with low water scarcity risk, and little change is expected in water availability through 2030. Starting in 2022, we began to decrease our reliance on large volumes of water, with the retirement of our Meramec Energy Center. We expect this trend to continue as we plan for all coal-fired energy centers to be retired by 2042. Indirect Use/Value Chain: The largest key input within our supply chain is coal, the primary fuel source for our three coal-fired energy centers. About 97% of our coal supply is purchased from the Powder River Basin (PRB) in Wyoming. Our Water Resilience Assessment indicated water stress is likely to increase through 2030 in the PRB. In addition, barges are sometimes used in our supply chain to transport coal on freshwater rivers. Therefore, "important" was chosen because water is necessary for coal production, and water scarcity could affect our suppliers and logistics. However, we continually monitor our supply chain and are not currently aware of any water related

			risks that cannot be managed. Future Outlook: We expect to reduce our reliance on water use as we plan to retire all coal fired generation by 2042, and add a total of 4,700 MW of new, clean renewable generation by 2040, along with 800 MW of battery storage by 2040, which will reduce water use in alignment with our water reduction targets.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Neutral	Direct Use: Some of Ameren's generation operations use recycled water. "Important" was chosen because recycled water is necessary for our closed loop and storage systems, and we have alternative measures in place should the volumes of used recycled water become disrupted. Recycled water is used at Taum Sauk, a pumped storage hydroelectric facility located in Missouri, for direct energy generation. Recycled water is also used in the flue-gas desulfurization (FGD) scrubber at the Sioux Energy Center (coal-fired) and at the Callaway Energy Center (nuclear) for cooling purposes, which are both located in Missouri. Recycled water is also used at one of our combustion turbine energy centers for use in the cooling towers, although this volume is negligible compared to the volumes used at our coal, nuclear and hydroelectric energy centers. Utilizing recycled water reduces the amount of water withdrawn and discharged. Future Outlook: We expect to continue our current recycled water operations, but are considering ways in which we can better measure and incorporate larger volumes of recycled water into our operations in future. Indirect Use/Value Chain: Coal from the Powder River Basin (PRB) is the primary fuel source for four coal-fired energy centers and represents the largest key input within the supply chain. Neutral was chosen because some water is used to mine coal and our Water Resilience Assessment indicated potential increased water stress in the PRB. Ameren is not currently aware of any specific brackish or recycled water related issues or improvements within our supply chain. Therefore, in the near future, we are expecting no

			significant changes to recycled water use in our indirect operations.

W1.2

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

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water withdrawals – total volumes	100%	Daily	Coal-fired and Hydroelectric: (7 facilities) Daily calculations based on design pump flow rate multiplied by daily run times estimate withdrawal volume. The total volumes are rolled up into monthly permitting reports and annual reports. Nuclear and Combustion Turbine Generator (CTG): (9 facilities) volumes are measured with flow meters at our CTG locations (via 3rd party readings), and daily metered volumes are measured at specific withdrawal and discharge outfalls	All 16 energy centers (facilities) covered by the scope of this disclosure calculate water withdrawals daily and include this data in monthly permitting reports for regulatory reasons (which is why 100% was selected). The withdrawal and discharge flows are calculated daily as required to evaluate compliance with National Pollutant Discharge Elimination System (NPDES) permit limitations, and are reported in monthly Discharge Monitoring Reports (DMRs) to regulation authorities. These volumes are expected to

			at our nuclear energy center.	remain relevant in future given generation and regulatory requirements.
Water withdrawals – volumes by source	100%	Daily	Coal-fired and Hydroelectric: (7 facilities) surface and groundwater volumes are calculated based on design pump flow rate multiplied by run times for each energy center. Nuclear: (one facility) groundwater is estimated based on design pump flow rate multiplied by run time, and surface withdrawals are measured by flow meters at intake points. CTGs: (8 facilities) source water (<0.001% of withdrawals) from 3rd parties, which are measured by flow meters and recorded monthly as billing amounts	All 16 energy centers (facilities) covered by the scope of this disclosure calculate water withdrawals daily and include this data in monthly permitting reports for regulatory reasons (which is why 100% was selected). The withdrawal and discharge flows are calculated daily as required to evaluate compliance with National Pollutant Discharge Elimination System (NPDES) permit limitations, and are reported in monthly Discharge Monitoring Reports (DMRs) to regulation authorities. The principal sources of surface freshwater are within the upper Mississippi and Missouri River

				basins. These volumes are expected to remain relevant in future given generation and regulatory requirements.
Water withdrawals quality	100%	Daily	Coal-fired, hydroelectric, Nuclear: (8 facilities) intake water is monitored daily for temperature and total suspended solids, and other water quality measurements using various types of sampling equipment and manual sample collection and analysis. CTGs: (8 facilities) 3rd pary withdrawal (<0.001% of total withdrawals) is measured daily by flow meters and recorded monthly as billing amounts. Water quality is monitored by the 3rd party and any decreases in quality are communicated to water users	All 16 energy centers (facilities) covered by the scope of this disclosure calculate water withdrawals daily and include this data in monthly permitting reports for regulatory reasons (which is why 100% was selected). Our CTGs source municipal potable water (representing < 0.0001% of total withdrawal). Intake water at our coal-fired energy centers is routinely monitored for temperature and total suspended solids. NPDES (wastewater) permits also require periodic chemical analysis of a broad range of parameters in intake water.

				Our hydroelectric, test water quality either daily, monthly or quarterly depending on the facility in both the reservoir for total suspended solids, pH, oil and grease, temperature, among others. Upstream and downstream water quality is regularly monitored to ensure appropriate environmental quality and maintain our operational permits. These volumes are expected to remain relevant in future given generation and regulatory requirements.
Water discharges – total volumes	100%	Daily	Coal-fired, nuclear and Hydroelectirc: (8 facilities) Discharge flows are estimated based on design pump flow rate multiplied by run times. CTGs: (8 facilities) our CTG discharge is	All 16 Ameren energy centers covered by the scope of this disclosure calculate water discharge in one-minute intervals, daily, or sometimes weekly depending on the site, and include this data in monthly reports

			estimated to be negligible (<0.001% of total discharge). All water is withdrawn from 3rd party municipalities, and is used for WASH and light operational usage so discharge is estimated to be similar to withdrawal.	for Discharge Monitoring Reports (DMRs). These volumes are expected to remain relevant in future given generation and regulatory requirements.
Water discharges – volumes by destination	100%	Daily	Coal-fired, nuclear, and Hydro Generation: (7 facilities) All discharge to surface water and are estimated based on design pump flow rate multiplied by run times. Some water runs through wastewater treatment before discharge to surface. CTGs: (8) most water is discharged to 3rd party municipalities and is estimated to be similar to metered withdrawal (metered by 3rd party provider for billing).	All 16 Ameren energy centers covered by the scope of this disclosure calculate water discharge in one-minute intervals, daily, or sometimes weekly depending on the site, and include this data in monthly reports for Discharge Monitoring Reports (DMRs). Our coal, nuclear, and hydro energy centers discharge to surface water (Mississippi and Missouri River Basins) and calculations are based on design pump flow rate multiplied by run times. Discharge flows are

			Remaining water is discharged to surface and volumes are measured according known to tank volume.	calculated daily as required to evaluate compliance with National Pollutant Discharge Elimination System (NPDES) permit limitations, and are reported in monthly Discharge Monitoring Reports (DMRs) to regulation authorities. Some CTGs discharge to third parties, includes storm water, and volumes are measured for DMRs and calculated via billing amounts. There is negligible (<0.001%) water discharged from our pumped storage energy center (which uses recycled water) and CTGs. These volumes are expected to remain relevant in future.
Water discharges – volumes by treatment method	100%	Daily	Nuclear and coal-fired: (5 facilities) all have wastewater treatment of varying levels (See W1.2j), with volume measured	Discharge volumes are calculated daily using design pump flow rate and run times, and included in monthly permitting

			by flow meters. Hydroelectric: (3 facilities) Discharge is untreated and estimated by calculating design pump flow rate multiplied by run times. CTGs: most water is discharged to 3rd party municipalities which treat it and is metered by 3rd party provider for billing. Remaining water is discharged to surface and volumes are measured according known to tank volume.	reports. For this calculation, Ameren Missouri's hydroelectric and pumped storage facility have been excluded as recommended by the CDP guidance. • (Included) Our nuclear energy center and three coal-fired energy centers discharge to the Mississippi River, and one coal-fired energy center discharges to Missouri River. All have wastewater treatment systems of varying levels and volumes are recorded separately (See W1.2j). • (Excluded) untreated water from three hydroelectric energy centers (run of river, dam, and pumped storage. Flow rates estimate water discharge. • The combustion turbine sites discharge to third party sources after which water is treated. Some water is untreated and discharged to

				surface. Negligible volumes (< 0.001%). These volumes are expected to remain relevant in future given generation and regulatory requirements.
Water discharge quality – by standard effluent parameters	76-99	Daily	Coal-fired, and Nuclear Energy Centers: (5 facilities) Discharge quality is monitored using various types of sensors and sampling equipment, as well as manual sampling and analysis CTGs: (8 facilities) all but one site is monitored using various sensors and sampling equipment. Hydro: (3 facilities) – Excluded on CDP guidance	For this calculation, Ameren's hydroelectric and pumped storage facilities have been excluded as recommended by the CDP guidance. Therefore 13 facilities are in scope (four coal, one nuclear, and eight CTG facilities). At 12 of those 13 facilities (representing 92% of Ameren facilities), 99.9% of our water discharge is monitored for effluent parameters. This excludes one CTG site, where a holding tank is used on site to collect and discharge negligible volumes of employee WASH

				water. Discharges via specified outfalls are monitored daily or before occasional annual discharge for different types of water quality as required by NPDES (wastewater) permits at all energy centers subject to wastewater quality monitoring conditions in their permits. i.e. our nuclear energy center monitors three separate outfalls, as they have different effluent parameters. These volumes are expected to remain relevant in future given generation and regulatory requirements.
Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)	76-99	Daily	Coal-fired, Nuclear, and CTG: (13 facilities) all are monitored for temperature and coal and nuclear sites are monitored for nitrates and phosphates (as well as other pollutants) using	For this calculation, Ameren's hydroelectric and pumped storage facilities have been excluded as recommended by the CDP guidance. CTGs have also been excluded due to negligible

			sensory and sampling methodologies. Hydro: Excluded on CDP guidance	discharge amounts (0.001% of total discharge). Discharges via specified outfalls are monitored at least monthly at some sites, at least quarterly at others, or before occasional annual discharge for different types of water quality emissions as required by NPDES (wastewater) permits. These volumes are expected to remain relevant in future given generation and regulatory requirements.
Water discharge quality – temperature	76-99	Daily	Coal-fired, Nuclear, and CTG: (13 facilities) all are monitored for temperature using sensory and sampling methodologies. Hydro: Excluded on CDP guidance	For this calculation, Ameren's hydroelectric and pumped storage facilities have been excluded as recommended by the CDP guidance. Therefore 13 facilities are in scope (our four coal, one nuclear, and eight CTG facilities). At 12 of those 13 facilities

				(representing 92% of Ameren facilities), 99.9% of our water discharge is monitored for effluent parameters. These sites monitor thermal cooling water discharge outfalls for thermal parameters as required by NPDES (wastewater) permits. This excludes one CTG site, where a holding tank on site collects and discharge negligible volumes of employee WASH water. Our 8 CTGs discharge negligible amounts to surface water (<0.001% of total discharge). Three CTG energy centers discharge to holding tanks which are hauled off site on an annual basis. Water is returned to "air temperature" before discharge. One CTG facility

				with holding tank doesn't monitor for temperature as the water is only used for employee WASH purposes at negligible amounts.
Water consumption – total volume	100%	Yearly	Coal-fired: (4 facilities) estimated based on a consumption factors (i.e. boiler and generation specs) to calculate gallons per MWh evaporated Nuclear: (1 facility) Withdrawal and Discharge volumes are metered, so consumption is withdrawal minus discharge. Hydroelectric: (3 facilities) non-thermal and flow through, estimated to have no consumption. CTGs: (8 facilities) difficult to calculate, total water usage is <0.0001% total withdrawal, so volumes are	A small percentage of water is consumed (about 0.1%) at our energy centers for cooling and about 99% of total water withdrawn is discharged back to the environment. Consumption volumes at our coal-fired energy centers are estimated based on energy center operations i.e. generation, and consumption factors published by regulatory agencies (consumption factors are multiplied by net generation). At our nuclear plant and combustion turbine energy centers, consumption is calculated by subtracting

			estimated to be negligible	discharge from withdrawal. Our hydroelectric energy centers are considered to have no consumption. Total consumption volume is calculated on an annual basis in order to include in reports such as the Water Security CDP. These volumes are expected to remain relevant in future given generation and regulatory requirements.
Water recycled/reused	100%	Yearly	Hydroelectric Pumped Storage: (1 facility) – volume is calculated using known upper reservoir volume multiplied by how often it was emptied/refilled annually (closed loop). Coal-fired (1 facility) – scrubber volume estimated using pump flow volume multiplied by runtime. Nuclear: (1 facility) –	Recycled water is used at three facilities included in this scope and volumes are estimated. At all facilities with recycled water, volumes are monitored and calculated annually according to pump flow volumes multiplied by run times, as well as flow balances developed and provided to regulators as part of NPDES (wastewater)

			Recycled cooling tower water estimated using pump flow volume times runtime and known system volume. All other facilities (13 facilities) – No recycled water. Volumes are estimated to be 0 Liters.	permit applications. For this calculation, Ameren's two hydroelectric facilities have been excluded as recommended by the CDP guidance making the total number of facilities included in the calculation fourteen (three recycle out of fourteen included; all measure water volumes). Recycled water is used at one coal-fired facility for the flue gas desulfurization (FGD scrubber), and at one nuclear facility for thermal cooling. Water is also recycled at the Taum Sauk pumped storage facility, which is considered to be closed-loop system. These volumes are expected to remain relevant in future given generation and regulatory requirements.
The provision of fully-functioning, safely managed	100%	Daily	All sites provide WASH water for employees. Some	Clean and safe potable water is available at all

WASH services to all workers			sites monitor more frequently than others. Nuclear: WASH is monitored daily using various sensors and sampling equipment	Ameren facilities for personnel use. The potable water is either provided by commercial or public water systems, or produced at one of our facilities. Potable water produced at our facilities is monitored at least daily at some sites to ensure its quality.

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%	Ameren owns and operates two river-based hydroelectric facilities, where downstream environmental flows are maintained continuously. • The Keokuk Energy Center is a run-of-the-river facility on the Mississippi River where water flows through at the same rate as the river's natural flow rate. • The Bagnell Dam (Osage Energy Center) withholds water in the Lake of the Ozarks reservoir. The Osage Energy Center has downstream flow obligations. Water releases from the lake are monitored and managed to ensure downstream flows meet regulatory criteria, as contained in our Federal Energy Regulatory Commission license.
Sediment loading	100%	Ameren owns and operates two river-based hydroelectric facilities where sediment loading is monitored.. Ameren has historically performed sediment loading surveys at our hydro facilities. We also monitor sediment suspended in the water (TSS), but it does not affect generation, and flows

		through the turbines as it would normally. Sediment that piles up behind the dams gets flushed through spill gates at Osage and Keokuk (during mandatory spill gate tests which occur at least on an annual basis at Osage, and at Keokuk, spill gates are opened on rotation throughout the year). There is a small dam at our pumped storage energy center where a bin wall collects rocks/sediment and has historically been maintained and emptied when needed over the life of the facility. • The Keokuk Energy Center is a run-of-the-river facility on the Mississippi River where water flows through at the same rate as the river's natural flow rate. • The Osage Energy Center withholds water in a reservoir that is used for recreation. This facility must meet downstream flow obligations, as water releases are monitored and managed to ensure downstream flows meet regulatory criteria (as contained in our Federal Energy Regulatory Commission license).
Other, please specify	Not relevant	We do not measure and monitor other water aspects at this time.

W1.2b

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

	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Please explain
Total withdrawals	57,433,761	About the same	Increase/decrease in business activity	About the same	Divestment from water intensive technology/process	"About the same" is defined as a less than 10% increase or decrease compared to the previous year. Total

						withdrawals were 9% lower in 2022 compared to 2021 , or "about the same". Reasoning: Keokuk Energy Center (run of river facility on the Mississippi) represented 78% and Bagnell Dam (on the Osage River) represented 15% of total withdrawal in 2022. Changes in withdrawal from these two hydroelectric facilities impact year over year (YOY) changes the most. Withdrawal is calculated based on the pump flow volumes multiplied by run times of water through the generation turbines and spillway (spilled water is estimated

						based on spill volume and time spill doors are open). No water is considered to be withheld or consumed. Keokuk had the same (<1% difference) in withdrawal compared to 2021, influencing the resulting "about the same" comparison the most. Osage decreased water withdrawal by about 37% due to decreased availability of water volume for generation, which equals the 9% decrease in total withdrawal. Our Meramec Energy Center also decreased in water withdrawal compared to 2021 (~ 10%),

						due to this facility reaching retirement in 2022 (water withdrawal is estimated based on pump flow curves multiplied by run times) and our nuclear facility had about a 50% increase in water withdrawal, but these facilities only represent about 0.5% of total withdrawal, and do not tangibly impact YOY total withdrawal. 5 Year forecast: We expect water withdrawals to be about the same. By 2026, we plan to retire two coal-fired energy centers (a divestment from water-intensive processes)

						and add an additional 800MW of solar generation, but the withdrawal from these energy centers represents only about 3% of total withdrawal, which is within the +/- 10% difference definition of "about the same". Fluctuations in water withdrawal will largely be dependent on the seasonal and operational conditions of our two largest hydroelectric operations, which represent 78% of total withdrawals.
Total discharges	57,404,430	About the same	Increase/decrease in business activity	About the same		"About the same" is defined as a less than 10% increase or decrease compared to the previous year. Total

						discharges were 9% lower in 2022 compared to 2021 , or "about the same". Reasoning: Keokuk Energy Center (run of river facility; Mississippi) represented 78% and Bagnell Dam (Osage River) represented 15% of total discharges in 2022. Changes in discharge from these two hydroelectric facilities impact year over year (YOY) changes the most. Discharge is considered equal to withdrawal for our hydro operations and is calculated based on the pump flow volumes multiplied by run times of water through

						the generation turbines and spillway (spilled water is estimated based on spill volume and time spill doors are open). No water is considered to be withheld or consumed. Keokuk had the same (<1% difference) in discharge compared to 2021, influencing the resulting "about the same" comparison the most. Osage decreased water discharge by about 37% due to decreased availability of water volume for generation, which equals the 9% decrease in total discharge. Our Meramec Energy Center also

						decreased in YOY water discharge (~ 10%), due to this facility reaching retirement in 2022 (water withdrawal is estimated based on pump flow curves multiplied by run times) and our nuclear facility decreased discharge by about 14%, but these facilities only represent about 0.5% of total discharge, and do not tangibly impact YOY withdrawal. 5 Year forecast: We expect water discharges to be about the same. By 2026, we plan to retire two coal-fired energy centers (a divestment from water-intensive processes)

						and add an additional 800MW of solar generation, but the discharge from these energy centers represents only about 3% of total discharge, which is within the +/- 10% difference of "about the same". Fluctuations in water withdrawal will largely be dependent on the seasonal and operational conditions of our two largest hydroelectric operations, which represent 78% of total discharges.
Total consumption	29,331	Much higher	Increase/decrease in business activity	About the same	Divestment from water intensive technology/process	Total consumption makes up less than 1% of total water withdrawal. The largest consumer of water is our

						nuclear Callaway Energy Center for use in the cooling towers, and made up ~74% of total consumption in 2022. The amount of water consumption is much higher than the previous year ("much higher" is defined as greater than 20%). This is primarily due to decreased generation in 2021 due to a refueling as well as a maintenance outage, comparatively making 2022 volumes higher (~125%) since the energy center was online for more days in 2022 than in 2021. When the plant is offline, there is less water evaporated (consumed) in the cooling

						towers. Consumption at our four coal-fired energy centers decreased slightly (compared to the previous year) due to operational needs, generation scheduling. These facilities represent ~25% of total consumption. There is no consumption at our hydroelectric generation energy centers. Water consumption is estimated annually for all of our generation sites included in the scope and is calculated based on known generation consumption factors per MWh generated (at

						our coal-fired energy centers, and calculated by withdrawal minus discharge at our nuclear energy center). 5 Year forecast: We expect water consumption to stay about the same over the next 5 years. "About the same" is +/- 10% compared to the previous year. We retired one at the end of 2022, and plan to retire an additional coal-fired energy center by the end of 2026. However, these energy center only make up about 5% of total consumption, which is not enough to cross the 10% threshold that defines "about

						the same". We are investing in 2,800 MW of new renewable generation by 2030 (that doesn't use water) by the end of 2040, and we plan to retire all coal-fired generation by 2042. We have a target to reduce water withdrawal for thermal generation by 95% by 2045. More information available in our 2022 Ameren IRP update at Ameren.com/IRP

W1.2d

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

	Withdrawals are from areas with water stress	Identification tool	Please explain
Row 1	No	WRI Aqueduct	Ameren undertook a comprehensive study of water risks using a number of tools concluded that water withdrawals

			are not from regions with high water stressed areas. Our Water Resilience Assessment report in 2018 assessed the then-current and future availability of water resources across Ameren service territory and portions of our supply chain under a variety of potential climate change scenarios. The report evaluated four different publicly available climate change tools and datasets including: the World Resources Institute's Aqueduct and Water Risk Atlas, the U.S. Army Corps of Engineers' Climate Hydrology Assessment Tool, the National Oceanic and Atmospheric Administration's Climate Explorer Tool, and the U.S. Drought Monitor. We applied the WRI Water Risk Atlas to Ameren's service territory (located within the Mississippi and Missouri River Basins), and the Powder River Basin in Wyoming, where we source the majority of our coal for power generation. Water stress was evaluated within these regions according to various future scenarios. The tool was also used to projected changes from a baseline to 2030 for three future scenarios: Optimistic, Business as Usual, and Pessimistic. Ameren's Water Resiliency Assessment concluded that for the time period around 2030, water stress is projected to be near normal for most regions within the study area, but is likely to increase in the already arid Powder River Basin (which is relevant as a portion of Ameren's supply chain). The report concluded that there is no present or expected future water stress (for the time period around 2030) within our boundaries of direct operations. Ameren's Water Resiliency Assessment report is posted on our website at Ameren.com/Sustainability

W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	57,428,024	About the same	Increase/decrease in business activity	"Relevant" was chosen because we rely on freshwater

					resources for generation operations. "about the same" is defined as less than +/- 10% different. Surface withdrawal was ~9% lower than the previous year due to decreased withdrawal at our Osage Energy Center, as there were lower water levels available for generation. Water withdrawal was about the same (<10%) at our coal energy centers and increased at our nuclear plant (~50%) all due to operation schedules and refueling outages ("business activity").

					• Future Outlook: We expect total water withdrawals to be about the same (as 93% of this is hydro generation), and water withdrawals for thermal generation (coal-fired) to decrease. By 2026, we plan to retire and additional coal-fired energy center (divestment from water-intensive processes), but this represents only about 2 % of total withdrawal, which is within the +/- 10% difference definition of "about the same".
Brackish surface water/Seawater	Not relevant				"Not Relevant" was chosen because our operations are not

					located near, nor withdraw from brackish or seawater sources. This is not expected to change as we have no plans to begin withdrawing from new water sources.
Groundwater – renewable	Relevant	5,670	About the same	Increase/decrease in business activity	"Relevant" was chosen because shallow alluvial groundwater supplied by on-site wells is used at three of five generation facilities (two coal-fired energy centers and one nuclear energy center) for drinking water and other plant operations. "about the same" is defined as less than +/- 10% different.

					Groundwater withdrawal was "about the same" (4% higher) than previous year largely due to unchanged operations at our Labadie coal-fired Energy center (this facility represents 94% of total groundwater withdrawal) and fluctuations (or lack of) at Labadie carry heavy weight in driving overall percent volume change YOY. Future outlook: The amount that is withdrawn is expected to stay relatively the same in near-future as our energy centers are expected to

					run at similar capacities to previous years. In the long term, groundwater withdrawal will incrementally decrease as all coal-fired energy centers are expected to be retired by 2042.
Groundwater – non-renewable	Not relevant				"Not Relevant" was chosen because our operations do not withdraw from non-renewable groundwater sources. This is not expected to change as we have no plans to begin withdrawing from new water sources.
Produced/Entrained water	Not relevant				"Not Relevant" was chosen because our operations do not withdraw from

					produced or entrained water. This is not expected to change as we have no plans to begin withdrawing from new water sources.
Third party sources	Relevant	67	Much lower	Increase/decrease in business activity	"Relevant" was chosen because third-party supply of potable and non- potable water is from municipal, public and/or private water providers and is used as potable (WASH) water and for use in our CTG operations. Third-party water volumes are purchased, and therefore metered and reported monthly. Volumes were much lower than the previous year with

					"much lower" being defined as more than 20% lower than the previous year. This is primarily due to on-site holding tanks being discharged in 2022. In addition, the volumes of third party withdrawal are relatively small; therefore, small fluctuations from year to year will have a higher percent change impact. Future Outlook: Overall, these water volumes are negligible (less than 0.001%) compared to the volumes used for total operations and the facilities are expected to

					run similar to previous years so no significant changes in volume withdrawal from third-party sources is expected in future.

W1.2i

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water	Relevant	57,404,398	About the same	Increase/decrease in business activity	"Relevant" was chosen because large volumes of water are discharged to surface water annually. "About the same" is defined as less than 10% difference compared to the previous year. Surface discharge was ~9% lower than previous year largely due to decreased withdrawal at our Osage Energy Center; due to lower water

					levels available. Keokuk Energy Center (hydroelectric) withdrew <1% less than the previous year. Keokuk makes up 78% of total surface discharge for 2022. Fluctuations (or lack of) carry heavy weight in driving overall percent volume change YOY. Future Outlook: We expect total water discharges to be about the same (93% of this is hydro generation), and water discharges for thermal generation (coal-fired) to decrease. By 2026, we plan to retire an additional coal-fired energy center (divestment from water-intensive processes), but this represents only about 2 % of total withdrawal, which is within the +/- 10% difference

					definition of "about the same".
Brackish surface water/seawater	Not relevant				"Not Relevant" was chosen because our operations do not discharge to brackish surface water/sea water sources. This is not expected to change.
Groundwater	Not relevant				"Not Relevant" was chosen because our operations do not discharge to groundwater sources. This is not expected to change.
Third-party destinations	Relevant	32	Much higher	Increase/decrease in business activity	"Relevant" was chosen because six of our 8 CTG energy centers discharge to third-party sources. Discharge to 3rd party sources is much higher (more than 20% higher) than the previous year. This is because third party water is stored on site in holding tanks and is used as needed for turbine wash and other general employee usage. The tanks were

					filled in 2021, and discharged in 2022 making discharge higher comparatively to 2021 (tanks are periodically emptied and refilled). CTG discharge volumes make up a negligible amount and all discharge to local municipal water systems. Future Outlook: Overall, these water volumes are negligible (less than 0.001%) compared to the volumes used for total operations and the facilities are expected to run similar to previous years so no significant changes in volume discharges from third-party sources is expected in future.

W1.2j

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

	Relevance of treatme	Volume (megaliters/year)	Comparison of treated	Primary reason for comparison	% of your sites/facilities/opera	Please explain

	nt level to discharge		volume with previous reporting year	with previous reporting year	tions this volume applies to	
Tertiary treatment	Relevant	6,753	About the same	Increase/decrease in business activity	1-10	Some of the cooling water coming into our coal-fired Sioux Energy Center, is used around the plant, including for floor washes and other cleaning purposes. This water is treated before being returned to the environment with an on-site tertiary-level water treatment system in order to remove any impurities that might have been picked up in the water during wash or cleaning usage. This consists of

						a primary treatment of sedimentation, secondary of oil and grease separation and pH control, and a tertiary clarification stage. Sioux is 1 of the 16 facilities included in our reporting boundary, which represents 6.25% of our facilities, that uses a tertiary waste water treatment system as the highest level of treatment. Tertiary treatment volumes are about the same (less than +/- 10%) in 2022 as the previous year as Sioux

						generated about the same MWh as the previous year, and therefore withdrew and discharged volumes of about the same. Future outlook: The volumes of water treated at tertiary treatment levels is expected to stay the same in the short term, but is expected to decrease after 2030 as our Sioux Energy Center is scheduled to retire by 2030.
Secondary treatment	Relevant	15,931	Lower	Increase/decrease in business activity	11-20	A portion of cooling water at our coal-fired Rush Island and Labadie

						Energy Centers is used for floor washing or other general cleaning purposes. In addition, all of the water used at our Callaway nuclear energy center is treated at a secondary level, which makes up the bulk of the volume of discharge treated at a secondary level. These on-site secondary-level water treatment systems consist of a primary treatment of sedimentation, and a secondary treatment of oil and grease separation and pH control, or a

						chemical treatment, all designed to remove impurities that might have been picked up in the water during wash or cleaning usage Three of our 16 facilities included in the reporting boundary, which represents 18.75% of facilities, have secondary treatment facilities as the highest level of treatment. Water discharge after secondary treatment is lower (10-20% lower) than the previous year. This is because Callaway operated more days in 2022 compared

						to the previous year, which lead to more evaporation of withdrawn water compared to 2021. When Callaway is not generating, water is still withdrawn and discharged, however when the energy center is generating, more water is evaporated in the cooling towers, leading to decreased discharge. This resulted in comparatively less water (~12% less) also being treated at a secondary level before discharge. Future

						outlook: The volumes of water treated at secondary treatment levels is expected to stay relatively the same as our Callaway Energy Center is scheduled to continue operations. Our coal-fired generation is scheduled to retire by 2042, but these volumes only make up a small portion of secondary treatment volume so discharge will only decrease slightly as these energy centers are retired.
Primary treatment only	Relevant	290,722	Lower	Divestment from water intensive	1-10	Our coal-fired Meramec

				technology/process		Energy Center, the only center in the fleet with a wet-ash handling system, was retired in December 2022. All cooling water coming into the Meramec Energy Center was routed through a primary treatment (sedimentation) pond before being returned to the environment. Our other coal-fired energy centers have been transitioned to dry-ash handling (which have higher levels of treatment). Primary treatment was lower

						(~10%) than the previous year. Lower is defined as 10-20% lower than the previous year. Meramec had reduced generation from 2021 to 2022 as it prepared for retirement, leading to lower volumes of primary water treatment relative to the previous year. Meramec is 1 of the 16 facilities included in our reporting boundary, which represents 6.25% of our facilities, that used a primary waste water treatment system as the highest level of

						treatment. Future outlook: The volume of water treated at our Meramec energy center (and therefore only at the primary level) is expected to decrease to near zero after 2022 as the facility was retired in December 2022.
Discharge to the natural environment without treatment	Relevant	57,090,992	About the same	Increase/decrease in business activity	31-40	Our three hydroelectric energy centers do not have water treatment facilities on site, and two discharge untreated water to the environment. These include the Osage and Keokuk dams. Water flows through the

						turbines and out back to the Mississippi and Osage Rivers. Our pumped storage facility has negligible discharge to the environment and is considered a closed-loop system. Three of our coal-fired energy centers that have transitioned to dry-ash handling discharge untreated cooling water back to the environment (see other portions of this table for a description of the water pulled used for cleaning purposes and treated at secondary and tertiary

						levels). This water is used in non-contact cooling, so there is no opportunity for contaminati on during the cooling process. Water is tested for thermal limitations, in accordance with our discharge permits. Six out of 16 (37%) of our facilities discharge some water in this category. Discharge was about the same (less than +/-10%) compared to the previous year mainly due to about the same generation (and therefore water usage) at

						our Keokuk and Osage hydroelectric energy centers. Hydroelectric generation makes up the vast majority of discharge to the natural environment (93%). Future Outlook: The volume of untreated water discharged to the environment is expected to mostly stay the same, but decreasing slightly after 2042. The vast majority of the total water discharged (~93%) is used for hydroelectric generation which is expected to continue in future. The

						remaining ~7% is used at our coal and nuclear energy centers, which we expect to decrease in the future, as we plan to retire all coal-fired generation by 2042.
Discharge to a third party without treatment	Relevant	32	Much higher	Change in accounting methodology	31-40	Six of our 8 CTG (combustion turbine) energy centers discharged to third-party sources, and CTG discharge volumes make up a negligible amount (<0.001%) of total discharge. Discharge was much higher than the previous year (much higher is defined as more than 20% higher) due to discharge

						schedules at each site. At many sites, water tanks are periodically filled and used for turbine wash and domestic use at many sites. Discharge water is collected, and discharged on occasion, which might be not every year. Discharge is lower in years (like 2021) where water tanks were not emptied because they did not reach capacity in that year, and higher (in years like 2022) when tanks are emptied. We also adjusted our accounting methodologi

						es for 2022 data, although CTG discharge volumes make up a negligible amount (<0.001% of total discharge) and all discharge to local municipal water systems. Future Outlook: Overall, these water volumes are negligible (less than 0.001%) compared to the volumes used for total operations and the facilities are expected to run similar to previous years so no significant changes in volume discharges from third-party sources is

						expected in future.
Other	Not relevant					We have no other discharge treatment types.

W1.2k

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

	Emissions to water in the reporting year (metric tonnes)	Category(ies) of substances included	Please explain
Row 1		Nitrates Phosphates	Ameren is unaware of any significant contributions of nitrates or phosphates to its water discharges from plant processes. Ameren's discharges do include these constituents, however, it is known that the intake waters are the source for most, if not all of those constituents. In future reports, Ameren intends to review this section in greater detail and determine if any additional reporting is appropriate.

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	7,957,000,000	57,433,761	138.5422069086	The majority of our withdrawal (93%) is due to our clean hydroelectric generation and is expected to remain similar in future. The remaining 7% is withdrawn (99% of which is discharged back to the environment) for our coal and nuclear-fueled generation. We anticipate our future withdrawal efficiency to increase slightly as withdrawal volumes are expected to decrease with the scheduled retirement

				of all of our coal-fired energy centers (3 by 2030, and all coal is scheduled to retire by 2042).

W-EU1.3

(W-EU1.3) Do you calculate water intensity for your electricity generation activities?

Yes

W-EU1.3a

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

Water intensity value (m3/denominator)	Numerator: water aspect	Denominator	Comparison with previous reporting year	Please explain
1,514	Freshwater withdrawals	MWh	Lower	Water intensity is presented in cubic meters (m3) of freshwater withdrawn per MWh of net generation, including all generation facilities included in the reporting boundary. This intensity factor is lower (11%) compared to the previous year. "lower" is defined to be 10-20% lower compared to the previous year. Our hydroelectric generation represents the largest source of withdrawal of freshwater (~93% total withdrawal), but only makes up ~4% net generation. Fluctuation in river levels and seasonal weather (rain) have the largest impact to our total water withdrawal. Water withdrawal intensity decreased due to decreased water withdrawal at our Osage Dam (~9% lower) than the previous year, on account lower available water volume in the reservoir in 2022.

				In addition, we added 700 MW of wind generation capacity which completed coming online in 2021, and 7 MW of solar by the end of 2022, increasing the proportion of MWh generated with technologies that do not use or consume water. We use water intensity to track and demonstrate progress in efficiency upgrade investments. Several measures of intensity (including various emissions intensities) are included in our voluntary EEI ESG report posted on our website. Future outlook: Our withdrawal intensity is expected to decrease in future. Water intensity reduction strategy: our coal-fired generation technologies withdrawal water for thermal cooling in relation to generation amounts. We plan to retire 3,500 MW of fossil-fired generation by 2042, add 4,700 MW of new renewable generation by 2040, and add 800 MW of battery storage by 2040. To maintain energy reliability, we plan for a 1,200 MW combined-cycle energy center to be in service by 2031. The retirement of coal-fired generation and addition of renewable generation is expected to contribute to reduced freshwater withdrawal intensity in the future. Ameren Missouri's 2022 IRP update is at Ameren.com/IRP.

W1.4

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

	Products contain hazardous substances
Row 1	Yes

W1.4a

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

Regulatory classification of hazardous substances	% of revenue associated with products containing substances in this list	Please explain
Other, please specify Department of Transport (DOT) and Occupational Safety and Health Administration (OSHA)	10-20	We are an electric and natural gas utility that generates, transmits, and distributes electricity, as well as distributes natural gas to our customers. The Department of Transportation Office of Pipeline Safety (DOT OPS) concluded crude oil and natural gas meet the standard's [Hazard Communication Standard (HCS), 29 CFR 1910.1200] definition of hazardous chemicals posing physical and health hazards to exposed individuals. The Occupational Safety and Health Administration (OSHA) has concluded that current OPS regulations address the hazards of fire and explosion in the natural gas distribution and transmission process. Percent revenue is estimated based on natural gas operating revenues.

W1.5

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

	Engagement
Suppliers	Yes

Other value chain partners (e.g., customers)	Yes

W1.5a

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

Row 1

Assessment of supplier impact

No, we do not assess the impact of our suppliers and have no plans to do so within the next two years

Please explain

We do not currently assess the impact of suppliers on water security or calculate those that have a substantive impact on water security.

We do engage with our top suppliers and request information on their water-related dependencies and plans for implementing water minimization activities.

W1.5b

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

	Suppliers have to meet specific water-related requirements	Comment
Row 1	No, and we do not plan to introduce water-related requirements within the next two years	Some selected suppliers are asked to provide their sustainability strategies, which includes proposed action on water-related initiatives, but we do not currently have water-related requirements as part of our purchasing process.

W1.5d

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

Type of engagement

Innovation & collaboration

Details of engagement

Educate suppliers about water stewardship and collaboration

% of suppliers by number

1-25

Rationale for your engagement

Each year, Ameren asks our top suppliers to complete a voluntary industry-specific sustainability assessment which requests information on GHG and water emissions and targets, as well as waste, power procurement, material usage and sourcing, as well as many other topics.

In 2022, we asked 97 of our top suppliers (representing 61% of annual spend) to complete the assessment. We also held a series of three follow up workshops, to which we invited our top suppliers, to engage with and educate them on why our climate goals are important to us, why we ask them to complete the sustainability assessment, and what we do with the data. In these workshops, we are able to interface directly with suppliers, answer their questions, and have sustainability related conversations advising them how we think about our climate action and sustainability goals. At least 50% of Ameren's suppliers joined the workshops in 2022 and we plan to continue to hold engagement and education sessions like this in future.

While the assessment and workshops are voluntary, suppliers are incentivized to join these sessions because through them they are better able to learn how we can continue to work together as we undergo our energy transition in the face of ongoing climate change.

We plan to continue asking top suppliers to take the sustainability survey as well as inviting them to engage with us in workshops on these topics in future.

Definitions:
- Top suppliers are selected based on (1) top annual spend, as these suppliers have a large impact (spend) within our supply chain and (2) those having a unique position in our supply chain.

Impact of the engagement and measures of success

The sustainability assessment survey demonstrates to our supply base that sustainability is an initiative that Ameren cares about. We informally recognize our top supplier(s) from the 2022 survey results.

We also invite our suppliers to join the workshops to engage with them and help them understand the importance of our transitions as a result of climate change and how we can better work with them to further those efforts.

Success is measured by the number of suppliers who respond to the assessment, and that attend our workshops. The more suppliers that respond and join the workshop, the more successful we are in impacting those areas.

Success is achieved if 50% or more of suppliers asked to complete the assessment submit a response and join the workshop. In 2022, 70% of the suppliers asked to complete the TSP assessment submitted a response, and more than 50% joined the workshop. Therefore, we had a successful engagement with our suppliers in 2022.

Success is achieved if 50% or more of suppliers asked to complete the assessment submit a response and join the workshop. In 2022, 70% of the suppliers asked to complete the TSP assessment submitted a response, and more than 50% joined the workshop. Therefore, we had a successful engagement with our suppliers in 2022

We will continue asking top suppliers to complete the sustainability assessment as well as invite them to engage with us in workshops on these topics in the future.

Comment

We are a member of the Sustainable Supply Chain Alliance (SSCA); a collective of utilities that seek to collaborate with suppliers on sustainable initiatives. Through this, we supported creating the sustainability assessment for suppliers , and where we collaborate with other utilities on our supplier workshops. We also helped the develop the“Commodity Documents” that provide sustainability guidance to suppliers on specific products (wood poles, transformers, wire, Investment Recovery, etc.).

W1.5e

(W1.5e) Provide details of any water-related engagement activity with customers or other value chain partners.

Type of stakeholder

Customers

Type of engagement

Innovation & collaboration

Details of engagement

Collaborate with stakeholders on innovations to reduce water impacts in products and services

Rationale for your engagement

Rationale: We engage with customers and partners as a way to identify and meet their needs while also supporting the environment. This also helps us stay aware of rising issues among our stakeholders, offers avenues of collaboration, and open lines of communication and space to discuss water-related issues as they arise among our communities and stakeholders.

Sessions where we can meet with stakeholders and customers and have meaningful conversations help us to build stronger relationships with our community stakeholders. These engagements help us better understand their concerns and needs, and discuss impactful ways that we can be supporting them in their sustainability goals.

Impact of the engagement and measures of success

Engagement and measures of success: We work with municipalities as they (1) regulate the spaces in which we work, and (2) can help us to decrease our water-related impact. Example: we partner with the St. Louis Metropolitan Sewer District to reconstruct the parking lot at our Development & Resource Center to better manage water runoff, enhancing the health of local streams. We work with customers annually in our "Community Voices", where community stakeholders are invited to share their feedback on our initiatives, including water-related topics. In 2021 we updated our water resources website to further inform our stakeholders about where water usage in generation occurs (graphs of water proportions used at each energy center), descriptions of business impacts and dependencies on water, our latest CDP scores, and our water reduction targets (95% reduction by 2045) to show how we plan to reduce water usage in alignment with scheduled coal-fired energy center retirements (all by 2042). We highlighted water metrics in our 2022 Sustainability Report; a primary document of communication with our stakeholders, on water-related topics. We plan to continue sharing and being transparent about our water story on our website and reporting outlets, as well as continuing our "Community Voices" programs in 2024 and further.

Success is measured by having 50% or more of invited stakeholders attend events and meetings.

W2. Business impacts

W2.1

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

No

W2.2

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

	Water-related regulatory violations	Comment
Row 1	No	We had no fines, enforcement orders, and/or other penalties for water-related regulatory violations in 2022.

W3. Procedures

W3.1

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

	Identification and classification of potential water pollutants	How potential water pollutants are identified and classified
Row 1	Yes, we identify and classify our potential water pollutants	Ameren evaluates water-related issues regularly as part of the overall business strategy and financial planning. These are driven by the Clean Water Act and include thermal discharges, organism entrainment and impingement, effluent constituent limitations, and coal combustion residual (CCR) requirements. Ameren identifies and classifies potential water pollutants based on environmental regulatory requirements and the compliance methodologies that are in place for such requirements. We also respond to interactions with our customers and stakeholders. We maintain current National Pollutant Discharge Elimination System (NPDES) permits and comply with applicable state water quality standards. The NPDES process follows the pollutant list found in the Code of Federal Regulations at 40 CFR 401.15. The state permitting agency and Ameren work together to determine the applicable industrial processes present. We identify potential water pollutants that may include: hydrocarbons, CCR, radiation, thermal discharges, and additional pollutants included on the federal Clean Water Act (CWA). Dedicated water quality personnel routinely monitor effluent quality and prepare reports to regulatory agencies. Potential regulatory changes and business risks and opportunities are identified, and regularly reported to teams including senior executives throughout Ameren. We performed ecological and human health risks assessments associated with operations and management at our coal facilities.

W3.1a

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

Water pollutant category

Oil

Description of water pollutant and potential impacts

Hydrocarbons: Toxicity studies have identified alkyl benzenes and naphthalene as chemicals of concern in hydrocarbons because of their water solubility and rapid

partitioning into aquatic organisms. For hydrocarbons to constitute a threat to human health or the environment, concentration levels must exist above a health based screening level and there must be a pathway of actual exposure.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

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

Please explain

Ameren's strategy is to comply with permitting and regulatory requirements and minimizing the impact of operations on the environment. The EPA regulates direct discharges from our facility operations and issues NPDES Permits. Routine analysis of effluent is used to verify compliance to the standards.
Each Ameren facility with 1,320 gallons or more of oil storage has instituted a Spill Prevention Control and Countermeasures (SPCC) Plan to aid the facility in preventing oil spills, leaching, and leakages from reaching navigable waters. Monthly SPCC inspections evaluate oil storage areas for compliance with the plan.
Ameren's SPCC Plans also have response procedures to manage and minimize the impact of a spill. Spill kits and clean up material are maintained near locations of potential spills. Ameren employees involved in this part of the business receive annual spill response training and drills to maintain emergency preparedness.
Success is measured through the speed of response to potential spill emergencies, and our compliance with permit standards . We strive for 100% compliance.

Water pollutant category

Inorganic pollutants

Description of water pollutant and potential impacts

Coal Combustion Residuals (CCR) is defined as fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal to make electricity. CCRs are regulated as non-hazardous solid waste under the Resource Conservation and Recovery Act. CCR contains mostly silicon, iron, and aluminum with trace amounts of mercury, cadmium, boron, and arsenic among other metals. Without proper management, these contaminants can pollute waterways, ground water, drinking water, and could damage the habitat of local threatened and endangered fish. For a pollutant to constitute a threat to human health or the environment, concentration levels must exist above a health-based screening level and there must be a pathway of actual exposure. It is important to comply with the various federal and state regulatory programs related to CCR management in order to ensure minimal impact to human health and the environment.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Reduction or phase out of hazardous substances
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
Upgrading of process equipment/methods

Please explain

In 2022 Ameren has four coal -fired energy centers that manage CCR in various impoundments and landfills, regulated by the National Pollutant Discharge Elimination System (NPDES).

To maintain low risk of leaching or leakages, ongoing off-site sampling adjacent to our energy centers confirms that public water supply resources comply with drinking water standards. We regularly monitor for groundwater impacts to comply with permitting requirements and to minimized risk regarding public or environmental health. In 2018, we conducted ecological and human health risks assessments associated with our operations and CCR management at all coal-fired energy centers, which considered discharges to both receiving surface waters and adjacent ground waters. The studies concluded surface impoundments do not present a risk to human health or the environment.

As of 2019 Ameren has permanently discontinued wet transport of coal ash at 8 of its 12 coal combustion units, and are transitioning all units operating past 2022 to dry ash handling. The remaining four units retired in 2022, reducing additional creation of CCR at this location. The dry handing of CCR uses lower volumes of water, enhancing the efficiency of water use and further reducing the risk of surface and groundwater contamination in future.

Technical reports concerning CCR, 2021 annual groundwater monitoring reports, and extensive answers to the community's comments and questions, are available on Ameren's web site.

Water pollutant category

Other nutrients and oxygen demanding pollutants

Description of water pollutant and potential impacts

Thermal Pollution: Elevated temperatures in cooling water discharges may result in either acute or chronic toxicity to aquatic life in the receiving stream, dependent upon temperatures and exposure.

Higher temperatures of water generally decrease the level of dissolved oxygen available to organisms and aquatic life.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements

Please explain

Thermal impacts from our four coal and nuclear generating facilities operating in 2022 are studied extensively. These include evaluations of entrainment and impingement aquatic organisms in cooling water systems and resulting cooling water effluent. With relatively recent revisions to thermal and water intake provisions in the federal Clean Water Act ("Sections 316 a and b"), updated and expanded studies have been included in the latest round of wastewater NPDES wastewater permits and are currently underway. The purpose of these studies is to determine whether Ameren facilities are having an adverse impact on the aquatic organisms in the adjacent rivers. Several studies have been completed and submitted to the permitting authority while several are ongoing. Interim results from one of these studies for the Labadie Energy Center concludes that the balanced indigenous community of aquatic organisms near the thermal discharge are adequately protected and are not adversely impacted. Success is measured by striving to achieve a 100% compliance rate with applicable laws and regulations.

Water pollutant category

Other physical pollutants

Description of water pollutant and potential impacts

Radiation: Radiation has an ionizing effect on living matter, and different particles can penetrate various layers of material which may pose radiation risks to humans and environments in the event of a contamination event. As nuclear power plants use Uranium-235 (a radioactive material), the primary concern is radiation exposure. The risk of radiation exposure at nuclear power plants in the United States is small because of the diverse and redundant barriers and safety systems in place at nuclear power plants, the training and skills of the reactor operators, testing and maintenance activities, and the regulatory requirements and oversight of the U.S. Nuclear Regulatory Commission. In addition, cooling water cools the condenser in the turbine hall, but is never in contact with the nuclear part of the plant.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience

Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements

Please explain

Our nuclear Callaway Energy Center, is subject to stringent controls per the terms of its federal Nuclear Regulatory Commission (NRC) license, as well as other state and federal regulations and permit programs. Routine monitoring is performed and reported annually to the state of Missouri and the NRC. All effluents are sampled, analyzed and treated prior to discharge. We comply with radiation dose limits for the public and employees, monitor discharge and the surrounding environment, and provide annual reports to the NRC. In addition, our internal procedures include written compliance plans, consistent monitoring, biological studies, self-assessments and internal audits, staff training, and implementation of best management practices to prevent harmful levels of radiation enter waterways or the surrounding environment.

Ameren Missouri also has sufficient installed spent fuel storage capacity, including wet pool and dry cask storage, capacity sufficient for the licensed life of the facility. Callaway participates in the Nuclear Energy Institute's Ground Water Protection Initiative, which identifies actions to improve utilities' management and response to instances where the inadvertent release of radioactive substances may result in low but detectible levels of plant-related materials in subsurface soils and water

Success is measured by striving to achieve a 100% compliance rate with applicable laws and regulations.

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

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

Tools on the market
Enterprise risk management

Tools and methods used

WRI Aqueduct
COSO Enterprise Risk Management Framework

Contextual issues considered

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

Stakeholders considered

Customers
Employees
Investors
Local communities
NGOs
Regulators

Comment

Ameren's Enterprise Risk Management (ERM) process is a robust system whose primary objective is to assist management in identifying, evaluating, and mitigating risks in a timely fashion. Ameren's ERM COSO framework's purpose is to assess potential risk magnitude in order to focus attention on priority threats and lay the groundwork for risk response. Risk level assessments are performed on a consistent schedule and using quantitative and qualitative metrics. Quantitative metrics include financial impacts: Capital expenditures, O&M costs, Earnings per Share, and Customer Affordability. Qualitative impacts include Reputation and Brand, Regulatory and Legal, People, and Safety and Security. Ameren's Board of Directors delegates the risk monitoring function to the Audit and Risk Committee (ARC). The ARC relies on the Risk Management Steering Committee (RMSC) to oversee risk management across the Corporation. This committee meets to discuss various risks and mitigation plans at least 10 times per year, is chaired by the Sr EVP & CFO, and comprised of Senior Executives.

We also have Environmental Strategy Risk assessment, with risk held by our individual operating centers. Our internal Climate and Environmental Advocacy Team meets about monthly to discuss ongoing and emerging environmental topics including Air, Climate, Water, Land & Wildlife, Waste and Chemical Management in our direct

operations. The risks are scored and summarized and (at a minimum) reported to the RMSC (or on as-needed basis) as well as among our stakeholders. Full coverage of our direct operations was chosen because the regions included in the assessment incorporated all of our direct operations, through 2030 (so 6+ years).

We conducted a Water Resilience Assessment (using WRI Aqueduct) to assess current and future availability of water resources.

In connection with NPDES (wastewater discharge) permit renewals, we continually monitor intake and effluent water for a broad range of chemical constituents. We performed risk assessments of river water quality around ash basins as part of the CCR and ash basin studies related to potential exposure pathways from constituents of concern potentially leaching from ash basins into groundwater and then the rivers in order to reduce the risk of contamination to drinking water sources and prioritize the availability of clean drinking water (WASH) for our employees and communities.

Value chain stage

Supply chain

Coverage

Partial

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

Tools on the market
Enterprise risk management

Tools and methods used

WRI Aqueduct

Contextual issues considered

Water availability at a basin/catchment level
Implications of water on your key commodities/raw materials

Stakeholders considered

Suppliers

Comment

Ameren's Enterprise Risk Management (ERM) process is a robust system whose primary objective is to assist management in identifying, evaluating, and mitigating risks in a timely fashion. Ameren's ERM COSO framework's purpose is to assess potential risk magnitude in order to focus attention on priority threats and lay the groundwork for risk response. Risk level assessments are performed on a consistent schedule and using quantitative and qualitative metrics. Quantitative metrics include financial impacts: Capital expenditures, O&M costs, Earnings per Share, and Customer Affordability. Qualitative impacts include Reputation and Brand, Regulatory and Legal, People, and Safety and Security. Ameren's Board of Directors delegates the risk monitoring function to the Audit and Risk Committee (ARC). The ARC relies on the Risk Management Steering Committee (RMSC) to oversee risk management across the Corporation. This committee meets to discuss various risks and mitigation plans at least 10 times per year, is chaired by the Sr EVP & CFO, and comprised of Senior Executives.

We also have Environmental Strategy Risk assessment, with risk held by our individual operating centers. Our internal Climate and Environmental Advocacy Team meets about monthly to discuss ongoing and emerging environmental topics including Air, Climate, Water, Land & Wildlife, Waste and Chemical Management in our direct operations. The risks are scored and summarized and (at a minimum) reported to the RMSC (or on as-needed basis) as well as among our stakeholders. Full coverage of our direct operations was chosen because the regions included in the assessment incorporated all of our direct operations, through 2030 (so 6+ years).

Example: We conducted a Water Resilience Assessment (using WRI Aqueduct) to assess current and future availability of water resources in key areas of Ameren's supply chain, including the Powder River Basin (PRB), where we source the majority of our coal. The report found that the PRB might experience increased water stress risk through 2030 (6+ years).
Partial coverage was selected because our supply chain is so large that it is unrealistic to assess these risks in depth across the full supply chain.

Each enterprise risk has an internal owner who periodically reviews and updates that risk and risk mitigation plan. These processes are in place to identify and assess risks, including those related to water, in both direct operations and our supply chain.

W3.3b

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

	Rationale for approach to risk assessment	Explanation of contextual issues considered	Explanation of stakeholders considered	Decision-making process for risk response
Row 1	Discussions around weather-related risk in	Water Availability, Quality, Regulatory,	Customers, Employees, Local	The ERM program assists management

	direct operations happen regularly within Ameren. Our internal Climate and Environmental Advocacy Team meets about monthly to discuss ongoing and emerging environmental topics including Air, Climate, Water, Land & Wildlife, Waste and Chemical Management in our direct operations. Our ERM team interacts at least annually with this team to get an update on ongoing issues the team is discussing and is concerned with, so they can incorporate these items into the ERM system documentation. These processes are in place to identify and assess risks, including those related to water, in both direct operations and our supply chain. For those risks identified that have the potential to cause substantive financial impact, water risks included, subject matter experts are consulted. The risks are scored and summarized and (at a minimum) reported to the Risk Management Steering Committee (or more frequently on as-needed basis). We also conduct timely	and Implications: We rely on water resources for hydroelectric and thermal generation making water availability important. We strive to minimize the impact of our operations on water quality and availability to meet strict environmental regulatory compliance and practice environmental stewardship within the river basin ecology in which we operate. We consider water levels and relevant permitting requirements in order to meet operation and regulatory requirements. We monitor water levels in surrounding rivers, and in connection with NPDES (wastewater discharge) permit renewals, and we routinely monitor intake and effluent water for a broad range of chemical constituents, to track and remain compliant with limited emission levels to water. WASH: Potable water is available for personnel to use for sanitation and hygiene at each facility. It is	Communities, Stakeholder Concerns, NGOs, Regulators: Local communities are considered in our water-related risk assessments as these represent our customers and employees. Their needs are considered in our water-related risk assessments as these stakeholders also live and work in our areas of operation. We work to engage Ameren employees on water-related issues as they are the stewards of the work Ameren seeks to accomplish, and ultimately will help to create a company culture that promotes sustainable business practices. We hold an annual stakeholder meeting, as well as regular public engagement sessions to address relevant and important topics to our stakeholders, including water-related issues. Stakeholders, including NGOs, special interest groups, customers and local community members, are invited to attend and participate.	in identifying, assessing, and managing risks and supports management in risk-based decision making, enabling achievement of corporate objectives in a manner consistent with Ameren's overall risk tolerance. Each enterprise risk has an internal owner who periodically reviews and updates that risk and risk mitigation plan. Risks and opportunities are assessed using a consistent risk framework and methodology. For those risks identified that have the potential to cause substantive financial impact, subject matter experts are consulted, thus initiating the process to collect more information, apply relevant tools, and use the results to inform a final decision. Tools: In 2018, we used the WRI Aqueduct tool and national databases to conduct a Water Resiliency Assessment to

	additional assessments on an as-needed basis for any issues among our stakeholders.	important to provide this for the health and safety of our coworkers. As part of our commitment to our employees, the water quality is monitored at our facilities that provide potable water to ensure that it is safe for drinking the facilities are incompliance with applicable Ameren and regulatory drinking water supply and treatment systems requirements.	Investors: Ameren is an investor-owned utility, and environmental issue are increasingly gaining attention by large investment institutions. We assess risks associated with our operations, while also striving to provide a fair return to our investors. We report and remain transparent with our investors by engaging with our shareholders and participating in the CDP Climate and CDP Water Security disclosures so that they remain aware of how we are assessing and responding to water-related risks.	assess current and future availability of water resources in Ameren's regions of direct operations. The report found that our direct operations are located in areas of low water stress risk through 2030. As the primary fuel source (raw material) at Ameren Missouri's coal-fired energy centers comes from the Powder River Basin (PRB) in Northeastern Wyoming, the WRI tool also helped us understand how this area could experience increased water stress in the future.

W4. Risks and opportunities

W4.1

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

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

W4.1a

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

Ameren's Enterprise Risk Management (ERM) process is a robust system whose primary objective is to assist management in identifying, evaluating, and mitigating risks in a timely fashion. It plays a critical role in the sustained, successful execution of Ameren's long-term strategy and achieving its goals to deliver superior long-term value to customers and

shareholders. Ameren's ERM COSO framework's purpose is to assess how big the risk impacts potentially are in order to focus attention on the most important threats and to lay the groundwork for risk response. Risk level assessments are performed within the business on a consistent schedule and are based on a combination of both quantitative and qualitative metrics. The quantitative metrics include financial impacts: Capital expenditures, O&M costs, Earnings per Share, and Customer Affordability. Qualitative impacts include Reputation and Brand, Regulatory and Legal, People, and Safety and Security. Ameren's Board of Directors delegates the risk monitoring function to the Audit and Risk Committee (ARC). The ARC relies on the Risk Management Steering Committee (RMSC), comprised of the CFO and Senior Executives, to oversee risk management across the Corporation.

Definition of Substantive Risk: Ameren's Enterprise Risk Management system defines substantive risk based on the significant qualitative and quantitative risk assessment impact level. Ameren's ERM COSO framework considers probability and impact, both on a 1-5 scale. The overall risk level is determined based on the probability and the highest impact resulting in a risk score of low (1-9), medium (10-18), or high (19-25). ERM defines substantive when quantitative impacts reach a significant level when a risk occurs at CapEx or O&M reaching greater than or equal to $50M, Earnings Impact (one-time) at greater than $200M, and/or Customer Affordability CAGR of greater than 0.75%. Qualitative impacts reach substantive at a significant impact level when a risk occurs and, for example, enterprise level assets are damaged, an event reaches national news coverage, there is reputational damage to Ameren, and/or the workforce becomes disengaged and higher levels of turnover are occurring.

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	7	26-50	Ameren and its subsidiaries own over 800 separate facilities including generation centers, administrative and business buildings, substations, and warehouses. The scope of this disclosure is limited to the sixteen energy generation facilities (that use water for generation). Of these, only seven have the potential to have substantive financial or strategic impacts and include our four coal-fired, one nuclear, and two hydroelectric energy centers. Of the facilities in scope, these seven facilities represent approximately 44% of Ameren's total facilities. These seven energy centers accounted for 94% of total net generation in 2022 , withdrew 99% of the

			total water withdrawn and discharge about 99% of the water they withdraw back to the environment. These energy centers rely on large volumes of water for operations and may be exposed to water risk due to flooding or insufficient flows or increasing regulatory risk. However, our Water Resilience Assessment concluded that the regions in which we operate have low risk of future water scarcity within our direct operations through 2030. The two hydroelectric dams may also be exposed to water risk due to insufficient flows. However, gross hydroelectric generation is relatively low (approximately 4%) of total net generation in 2022. In addition, our 2018 Water Resilience Assessment concluded that the major river basins (i.e. the Missouri and the Mississippi) in our operating regions are expected to have ample water supply into the long term. The greater risk is extreme weather and flood events as opposed to drought in these regions. The combustion turbines are not exposed to substantive water-related risk due to their very small reliance on water resources in comparison to the larger energy centers.

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

United States of America
Mississippi River

Number of facilities exposed to water risk

7

% company-wide facilities this represents

26-50

% company's annual electricity generation that could be affected by these facilities

76-99

% company's total global revenue that could be affected

Unknown

Comment

Ameren does not selectively disclose revenues from energy centers. Seven energy centers, all located within the Mississippi River Basin, are exposed to substantive water related risk. These include four coal-fired, two hydroelectric, and one nuclear energy center. Each of these energy centers can be substantively affected by flooding or insufficient flows. The four coal-fired facilities comprised approximately 67% of 2022 net generation, making up the largest portion of Ameren's generation. In comparison, the hydroelectric facilities made up a small portion of net generation capacity in 2022 (approximately 4%).

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

United States of America
Mississippi River

Type of risk & Primary risk driver

Regulatory
Regulatory uncertainty

Primary potential impact

Increased cost of capital

Company-specific description

Section 316(b) of the US Clean Water Act (CWA) establishes criteria to protect fish and other aquatic organisms from detrimental impacts associated with large water intake structures. At power plants (including Ameren's energy centers), aquatic organisms can be impinged or entrained within cooling water intake structures, piping and condenser systems. The US Environmental Protection Agency issued revised Section 316(b) regulations in 2014, requiring extensive studies for review by the Missouri Department of Natural Resources and other agencies. These include assessments and cost-benefit analysis of various control technologies, up to and including cooling tower retrofits. Outcomes of CWA Section 316(b) studies might result in regulatory agencies requiring cooling system modifications or replacement technologies at our Rush Island and Sioux energy centers. Ameren will be working closely with the resource agencies over the next 2-3 years to implement required technologies. It is possible that one of the recommendations to come out of these analyses will require installation of modified traveling screens at one or more of our coal-fired energy centers included in the studies. Therefore, as part of our risk assessment processes, the estimated costs for the installation of the modified screens are provided in Table 5.3 of Ameren's 2020 IRP (for Rush Island and Sioux Energy Centers) and are included in the potential financial

impact figure below. See the 2022 update to Ameren's 2020 IRP for details: https://www.ameren.com/IRP.

Timeframe

4-6 years

Magnitude of potential impact

Medium-high

Likelihood

Likely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

41,000,000

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

Costs for traveling screen retrofits at the the energy centers were estimated in Table 5.3 of Chapter 5, Environmental Compliance, (Environmental Mitigation Costs) as part of the development of Ameren Missouri's 2020 Integrated Resource Plan (IRP)(as referenced above). These costs were estimated as a part of our triennial filing of our IRP. The Integrated Resource Plan is available at: https://www.ameren.com/IRP

Primary response to risk

Improve pollution abatement and control measures

Description of response

Upon completion of the current Section 316(b) studies, we begin dialogue with the regulatory agencies, and if warranted, begin design, budgeting and procurement of the required technologies.

Cost of response

41,000,000

Explanation of cost of response

The approximate cost of fitting two energy centers with traveling screens is estimated to be $41 million dollars, as reported in table 5.3 of Ameren Missouri's 2020 IRP.

Country/Area & River basin

United States of America
Mississippi River

Type of risk & Primary risk driver

Regulatory

Regulation of discharge quality/volumes

Primary potential impact

Increased operating costs

Company-specific description

Section 316(a) of the US Clean Water Act requires limitations on thermal discharges from industrial sources, including power plants. Cooling water discharges at Ameren's energy centers are regulated by the US Environmental Protection Agency and the Missouri Department of Natural Resources, through the NPDES (National Pollutant Discharge Elimination System) permit program. As required by the current Labadie Energy Center permit, extensive thermal studies, monitoring, and modeling are being conducted at that energy center. Based on the results to date, we believe we are in full compliance with Section 316(a). In the event of changing thermal conditions, changes in operating procedures might be necessary to address thermal issues, avoiding the high-cost alternative of installing cooling towers. We do not believe there are thermal issues at our other coal-fired energy centers that would require cooling towers. Nonetheless, if one of our energy centers would need to reduce or cease operations or install capital intensive modifications, we could experience stranded costs that may not be recovered through rates, and therefore could lead to an impairment or abandonment of assets.

Timeframe

More than 6 years

Magnitude of potential impact

Medium-high

Likelihood

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

The actual amount of expenditures to comply with these environmental regulations may vary substantially because of uncertainty as to whether EPA will revise regulatory obligations, which would impact our compliance strategy and ultimate cost of compliance, among other things.

Primary response to risk

Improve pollution abatement and control measures

Description of response

In the event that ongoing studies indicate that the Labadie Energy Center may not fully meet compliance requirements in the future, we expect operating procedures would be implemented to address thermal issues and thereby avoid requirements to install cooling towers at the Labadie Energy Center.

Cost of response

50,000

Explanation of cost of response

NPDES (permitting regulation) required cooling studies be completed to assess thermal discharge levels at one of our coal-fired energy centers. A Thermal Discharge Parameter (TDP) was put in place to make sure we are in compliance with thermal discharge regulations. These studies were estimated to have cost approximately $50,000.

Country/Area & River basin

United States of America
Mississippi River

Type of risk & Primary risk driver

Chronic physical
Dependency on water intensive energy sources

Primary potential impact

Closure of operations

Company-specific description

Our coal-fired and hydroelectric energy centers withdraw and discharge a little over 60 million megaliters of surface water per year from the Mississippi and Missouri river basins. These basins are large, covering broad geographic areas, and flows are highly managed (using numerous dams and locks) and regulated by the US Army Corps of Engineers (USACE). Primary factors that may influence the availability of these water resources include USACE management of flows, climate (temperature and precipitation), and consumption (by upstream users). A substantial uncertainty is how changes in temperature and precipitation, resulting from climate change, may influence water resources and availability. There is uncertain risk that future flows might be insufficient to meet our cooling water demand. If energy centers were required to be closed prior to the end of their useful lives due to a lack of available water, we could experience stranded costs that may not be recovered through rates, and therefore could lead to an impairment or abandonment of assets. However, in 2018, Ameren conducted and published a Water Resilience Assessment that investigated future projections of water stress and scarcity in regions of our direct operations. The assessment utilized a

variety of tools to look at various climate scenarios through 2030, including the World Resources Institute Aqueduct Water Risk Atlas Tool. The results of the assessment show water stress is projected to be near normal for the Mississippi River basin (through 2030). Therefore, there is low risk that our operations will be disrupted due to water availability. However, we understand much of our energy generation relies heavily on water intensive energy sources, and our long term strategy includes a responsible transition away from these generation technologies. We retired 827 MW of coal-fired generation in 2022 and plan to retire an additional 2,150 MW by 2030. and the remaining 2,372MW of coal-fired generation is scheduled for retirement by 2042. We have plans to invest in 2,800 MW of new, clean, renewable (wind and solar) generation by 2030 and a total of 4,700 MW by 2040, as well as add 800 MW of battery storage by 2040. This is expected to reduce reliance on water-intensive generation. To maintain energy reliability, we also plan for a 1,200 MW combined-cycle energy center to be in service by 2031.

Timeframe

4-6 years

Magnitude of potential impact

Medium-high

Likelihood

Very unlikely

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

Ameren operations are located in the water abundant Mississippi and Missouri river watersheds. In 2018, Ameren completed a Water Resilience Assessment that concluded that the risk of greatly reduced water availability is very low for the foreseeable future. The amount of financial impact cannot be precisely determined due to the high level of uncertainty and variability in cost in the extent and duration of any possible disruptions.

Primary response to risk

Improve monitoring

Description of response

Ameren monitors river basin conditions, and performs periodic water resiliency and risk assessments, including the consideration of climate change. River levels are monitored daily at our energy centers that withdrawal and discharge from those sources.

Cost of response

50,000

Explanation of cost of response

Approximate cost is expected to be in the range of $50,000 per year, including both the embedded cost of river level monitoring and periodic studies.

Country/Area & River basin

United States of America
Mississippi River

Type of risk & Primary risk driver

Acute physical
Flood (coastal, fluvial, pluvial, groundwater)

Primary potential impact

Increased operating costs

Company-specific description

Impacts from flooding are highly dependent on the facility and location, as well as severity of the flooding event. Mitigation costs could range from several hundred thousand dollars to several million dollars. The range of response could require slight temporary adjustment in operations or could lead to total disruption of operations and/or the temporary shutting down of operations. Ameren has robust crisis management strategies at both the operations and corporate levels. We use advance weather systems to monitor and prepare for the severity of impending weather events and mobilize crews and resources to respond effectively. We have published a climate risk report titled: Committed to Clean: Transformational Changes Toward Net-Zero that outlined our potential climate and water-related risks and expectations. Following past flooding events, Ameren implemented more vigilant surveillance and monitoring of local river stages following extreme rainfall or drought conditions. We have also constructed flood walls, upgraded berms, implemented storm water capture and control efforts, and relocated equipment within substation sites susceptible to flooding.

Timeframe

Current up to one year

Magnitude of potential impact

Medium-high

Likelihood

Very likely

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

Severe weather can lead to damages from rising water, lightning and high winds. The impacts of this are highly dependent on the location and type of facility. These impacts can lead to temporarily increased operation and maintenance costs, disruption in personnel transport, or disruptions in plant operations.

Primary response to risk

Develop flood emergency plans

Description of response

Impacts from severe weather events and flooding are highly dependent on the facility and location, as well as severity of the flooding event. Flooding can result in disruption to operations or reduced accessibility to an operating center. Before any potential flooding event, our crisis management teams are constantly monitoring weather patterns, developing crisis response protocols, and predicting impacts so we can mobilize our resources to best respond during an event. Following recent extreme weather events, we have implemented "system hardening" by constructing flood walls, upgrading berms, implementing storm water capture and control efforts, and relocating equipment within substation sites susceptible to flooding. In addition we conducted studies to develop flood emergency plans.

Cost of response

50,000

Explanation of cost of response

Costs from weather events and flooding are highly dependent on the facility and location, as well as severity of the flooding event, and could range from several hundred thousand dollars in mitigation costs to several million dollars in impacts. Our coal-fired energy centers are all located near rivers and at risk for flooding. We developed flood emergency plans as one method of mitigation. The cost to develop the flood emergency plans is estimated to have cost $50,000.

W4.2a

(W4.2a) Provide details of risks identified within your value chain (beyond 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

United States of America

Mississippi River

Stage of value chain

Supply chain

Type of risk & Primary risk driver

Chronic physical

Water stress

Primary potential impact

Supply chain disruption

Company-specific description

We studied the current and future resilience of water resources to understand potential impact on our service area and supply chain, and reported them in our 2018 Water Resiliency Assessment report. This voluntary report shows that, for the time period around 2030, water stress is projected to be near normal for most of the Midwest (our regions of direct operations) but could increase in the Powder River Basin (PRB) in Wyoming, a key portion of our supply chain. A significant amount of our coal supply is from the PRB. In addition, barges are sometimes used in our upstream supply chain to transport coal. We continually monitor our supply chain and are not aware of any water-related risks that cannot be managed. We expect reduced reliance on coal resources in the future as we plan to retire 3,500 MW of fossil-fired generation by 2042 and add 2,800 MW of new, clean, renewable (wind and solar) generation by 2030 and a total of 4,700 MW by 2040, as well as add 800 MW of battery storage by 2040. To maintain energy reliability and resiliency, we also plan for a 1,200 MW combined-cycle energy center to be in service by 2031. These plans thereby would reduce the amount coal coming from the PRB. Risk of potentially increasing risk of water scarcity in the PRB will be monitored and potential impacts to coal supply will be assessed on a periodic basis.

Timeframe

More than 6 years

Magnitude of potential impact

Low

Likelihood

Unlikely

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

Key portions of Ameren's supply chain are located in the Powder River Basin in Wyoming. Our 2018 Water Resiliency Assessment identified that water stress is likely to increase in this area by 2030. The amount of financial impact cannot be precisely determined due to the high level of uncertainty and variability in cost in the extent and duration of any possible disruptions. However, we continually monitor our supply chain and are not aware of any water-related risks that cannot be managed. We expect reduced reliance on coal resources in the future as we plan to retire all but one of our coal-fired energy centers by 2030 and the remaining coal-fired energy center by 2042, and expand renewable generation, thereby reducing the amount of coal required to be procured from the PRB.

Primary response to risk

Direct operations

Increase investment in new technology

Description of response

The 2022 update to Ameren Missouri's 2020 Integrated Resource Plan (IRP) outlines plans to significantly increase our renewable energy portfolio and accelerate the retirement of coal-fired generation, which will decrease our dependence on coal in our supply chain (and mitigate risk to potential disruptions). Ameren Missouri's IRP includes expanding renewable sources by adding 2,800 MW of new, clean, renewable (wind and solar) generation by 2030 and adding 800 MW of battery storage by 2040. To maintain energy reliability and resiliency we also plan for a 1,200 MW combined-cycle energy center to be in service by 2031. These investments in renewable energy generation technologies coupled with the retirement of coal-fired energy centers will reduce reliance on coal coming from the PRB in the future.

Cost of response

0

Explanation of cost of response

Our risk of supply chain disruption due to water scarcity is expected to decrease over time in connection with the transition of our generation resources. Our transition plan, as reflected in Ameren Missouri's IRP, includes significant investment in renewable generation, storage, and a combined cycle gas Energy Center.

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

Ameren has been successful in advocating for legislation that provides for more rapid and widespread infrastructure investment, resulting in the Modernization Action Plan in Ameren Illinois and the Smart Energy Plan in Ameren Missouri. In the past few years, these programs have led to hundreds of millions of dollars in accelerated transmission and distribution investments directed specifically at enhancing reliability, hardening our system and expanding our grid intelligence. We have a vigilant surveillance and monitoring program for local river stages following extreme rainfall or drought conditions. Following recent flooding events, we constructed flood walls, upgraded berms, implemented storm water capture and control efforts, and relocated equipment within substation sites susceptible to flooding, all of which are located in the Mississippi River Basin. To increase resiliency of the electric grid, we bury lines most susceptible to weather-related damage, including those in heavily forested areas and crossing over interstate and multi-lane state highways. For overhead line assets, we increasingly use composite material poles and cross-arms, line post insulators, 360-degree pole guying, and mechanical line dampers. In addition, to mitigate the risk of high wind, extreme weather, or other climatic conditions, a site suitability assessment was conducted for the Atchison and High Prairie wind energy centers, which confirmed the turbines are suitable for use during such extreme conditions. These energy centers are also capable of operating at temperatures lower than the standard envelope for wind turbines of the same type because Ameren Missouri added a low-temperature operating package (down to -30 degrees Celsius) to mitigate the risk of shut down during colder temperatures or freezing water. These resiliency measures are part of our strategy as they decrease the risk of experiencing extended outages ast the result of increasingly severe weather that is projected to increasingly occur as an impact of climate change. Prolonged outages could lead to substantive financial impact and therefore measures to reduce these instances are a priority. These resiliency measure are considered to be best-practices and effective in neutralizing the otherwise destructive effects of wind and moisture. Read more in our Committed to Clean: Transformational Changes Toward Net-Zero report posted on Ameren.com.

Estimated timeframe for realization

4 to 6 years

Magnitude of potential financial impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

3,800,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

Over the next five years (2022-2026) Ameren plans to invest over $3.8 billion in transmission infrastructure improvements, as reflected in our 2023-2027 capital plan.

Type of opportunity

Efficiency

Primary water-related opportunity

Improved water efficiency in operations

Company-specific description & strategy to realize opportunity

Ameren permanently discontinued wet transport of coal ash at 8 of its 10 coal combustion units and as of 2020 has transitioned all units scheduled to operate past 2022 to dry ash handling (this includes our Sioux, Rush Island, and Labadie Energy Centers). The two units that have not been transitioned are located at the Meramec Energy Center, which was retired at the end of 2022. The dry handing of CCR will use significantly lower volumes of water, enhancing the efficiency of water use and further reducing the risk of surface and groundwater contamination, as well as potential increasingly stringent regulatory risk in future. Success in CCR management is measured by our compliance rate with strict regulations. We strive for 100% compliance with relevant regulations. In addition, the wastewater treatment systems at our three coal-fired energy centers have been upgraded, and will use water more efficiently. These measures are part of our strategy in order to remain compliant and mitigate regulatory risks in addition to our commitment to environmental stewardship, through which we strive to use resources efficiently. The water savings through our transition to dry ash handling and upgrades to new wastewater treatment plants have also been incorporated into our water reduction target, which is to reduce water use for thermal generation by 95% by 2045, based on a 2005 baseline, driven by our coal-fired energy center retirement schedule.

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

90,000,000

Potential financial impact figure – maximum (currency)

120,000,000

Explanation of financial impact

On November 3, 2015, the EPA issued a revised rulemaking for steam electric power plant discharges (the Steam Electric Effluent Guidelines Rule). This rule prohibits discharges of ash transport water. As such, Ameren Missouri constructed new or augmented fly ash handling systems and new bottom ash handling systems. Ameren Missouri has also just finished the construction of new wastewater treatment systems to manage discharges from various power plant systems such as demineralizer regenerations, storm water, and other process wastewater. Ameren Missouri estimate that they will need to make capital expenditures of $90 million to $120 million from 2023 through 2027 in order to comply with existing environmental regulations. Additional environmental controls beyond 2027 could be required. This estimate of capital expenditures includes ash pond closure and corrective action measures required by the CCR Rule and potential modifications to cooling water intake structures at existing power plants under Clean Water Act rules. More information is available at Ameren.com/CCRFacts.

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)

Labadie Energy Center

Country/Area & River basin

United States of America

Mississippi River

Latitude
38.56419

Longitude
-90.83728

Located in area with water stress
No

Primary power generation source for your electricity generation at this facility
Coal - hard

Total water withdrawals at this facility (megaliters/year)
1,770,462

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
1,765,115

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
5,344

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
3

Total water discharges at this facility (megaliters/year)
1,766,046

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
1,766,043

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations

3

Total water consumption at this facility (megaliters/year)

4,420

Comparison of total consumption with previous reporting year

About the same

Please explain

"About the same" is used to denote year to year changes being within 0%-10% compared to the previous year. Labadie generated about the same amount of energy in 2022 as compared to 2021 (~1% less) and therefore used about the same volumes of water. Water consumption is estimated monthly for all of our generation sites included in the scope and is calculated based on known generation consumption factors per MWh generated.

Facility reference number

Facility 2

Facility name (optional)

Sioux Energy Center

Country/Area & River basin

United States of America
Mississippi River

Latitude

38.914722

Longitude

-90.29

Located in area with water stress

No

Primary power generation source for your electricity generation at this facility

Coal - hard

Total water withdrawals at this facility (megaliters/year)

884,317

Comparison of total withdrawals with previous reporting year

About the same

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

884,309

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

8

Total water discharges at this facility (megaliters/year)

882,605

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

882,597

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

8

Total water consumption at this facility (megaliters/year)

1,721

Comparison of total consumption with previous reporting year

About the same

Please explain

"About the same" is used to denote year to year changes being within 0%-10% compared to the previous year. Withdrawals,discharge, and consumption were all about the same (within +/- 10%) as Sioux Energy Center generated about the same amount of energy in 2022 as compared to 2021 (~6% less) and therefore used about the same (within +/- 10%) volumes of water.

Water consumption is estimated monthly for all of our generation sites included in the scope and is calculated based on known generation consumption factors per MWh generated.

Facility reference number
Facility 3

Facility name (optional)
Rush Island Energy Center

Country/Area & River basin
United States of America
Mississippi River

Latitude
38.108722

Longitude
-90.258056

Located in area with water stress
No

Primary power generation source for your electricity generation at this facility
Coal - hard

Total water withdrawals at this facility (megaliters/year)
1,166,848

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
1,166,822

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
26

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)
1,165,523

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

1,165,523

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)

1,324

Comparison of total consumption with previous reporting year

Much lower

Please explain

"About the same" is used to denote a change being within 0%-10% compared to the previous year. Water withdrawal was about the same as the previous year. "Much Lower" is used to denote year to year changes greater than 20% lower compared to the previous year. Consumption was much lower as Rush Island generated about 40% less than the previous year due to generation scheduling and operation needs. Water consumption is estimated monthly for all of our generation sites included in the scope and is calculated based on known generation consumption factors per MWh generated.

Facility reference number

Facility 4

Facility name (optional)

Meramec Energy Center

Country/Area & River basin

United States of America
Mississippi River

Latitude

38.401348

Longitude

-90.334862

Located in area with water stress

No

Primary power generation source for your electricity generation at this facility

Coal - hard

Total water withdrawals at this facility (megaliters/year)

290,774

Comparison of total withdrawals with previous reporting year

Lower

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

290,774

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

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)

290,722

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

290,722

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)

52

Comparison of total consumption with previous reporting year

Much lower

Please explain

"Lower" is used to denote year to year changes between 10%- 20% lower compared to the previous year.
Meramec Energy Center retired in 2022, and therefore had been generating steadily less over the more recent years. Generation dropped significantly in 2020 but came back up to pre-2019 levels in 2021. Therefore, as it was retired by the end of 2022, generation continued to decrease (down ~60% compared to 2021), making the comparison of water usage lower in 2022 than previous years.

Facility reference number

Facility 5

Facility name (optional)

Callaway Energy Center

Country/Area & River basin

United States of America
Mississippi River

Latitude

38.761666

Longitude

-91.78

Located in area with water stress

No

Primary power generation source for your electricity generation at this facility

Nuclear

Total water withdrawals at this facility (megaliters/year)

31,848

Comparison of total withdrawals with previous reporting year

Much higher

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

31,551

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

297

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)

9,941

Comparison of total discharges with previous reporting year

Much lower

Discharges to fresh surface water

9,941

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)

21,610

Comparison of total consumption with previous reporting year

Much higher

Please explain

"Much Lower" is defined as more than 20% lower compared to the previous year. "Much Higher" is defined as more than 20% higher compared to the previous year. Withdrawal and consumption were much higher due to refuelling and maintenance outages in 2021 that decreased generation, so increased generation in 2022 brought up withdrawal and consumption llvels. Discharge was much lower than the previous year because when the energy center was offline in 2021, some water is still withdrawn and flows through the system, but less water was evaporated. With the energy center being back online in 2022, discharge decreased on account of increased consumption. Withdrawal and discharge is measured and reported on monthly Discharge Monitoring Reports (DMRs).

Facility reference number

Facility 6

Facility name (optional)

Keokuk Energy Center

Country/Area & River basin

United States of America
Mississippi River

Latitude

40.395833

Longitude

-91.374166

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)

44,537,892

Comparison of total withdrawals with previous reporting year

About the same

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

44,537,890

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

2

Total water discharges at this facility (megaliters/year)

44,537,892

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

44,537,890

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

2

Total water consumption at this facility (megaliters/year)

0

Comparison of total consumption with previous reporting year

About the same

Please explain

"About the same" is used to denote year to year changes being within 0%-10% compared to the previous year.
Withdrawal and discharge volumes were about the same compared to the previous year due to generation that was about the same (only ~3% higher) in 2022 than 2021.

Facility reference number

Facility 7

Facility name (optional)

Osage Energy Center

Country/Area & River basin

United States of America
Mississippi River

Latitude

38.2045

Longitude

-92.623

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)

8,745,604

Comparison of total withdrawals with previous reporting year

Much lower

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

8,745,602

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

2

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)

8,745,604

Comparison of total discharges with previous reporting year

Much lower

Discharges to fresh surface water

8,745,604

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)

0

Comparison of total consumption with previous reporting year

About the same

Please explain

"About the same" is used to denote year to year changes being within 0%-10% compared to the previous year.
"Much Lower" is used to denote year to year changes more than 20% lower compared to the previous year.
Osage generated much less than the previous year (2% less) MWh compared to the previous year, therefore using about the same volumes of water.

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

The verification was undertaken in accordance with the ERM CVS assurance methodology which is aligned with the International Standard for Assurance Engagements ISAE 3000 (Revised) and is a CDP-accepted standard.

Water withdrawals – volume by source

% verified

Not verified

Please explain

We verify the total withdrawals with a third party. During this process, our third party partner does a deep dive on all data and process sourcing for the surface, groundwater, and third party sources of withdrawal, that add up to our total withdrawal volume.

Water withdrawals – quality by standard water quality parameters

% verified

Not verified

Please explain

Water quality standards are managed at the plant level through oversight of applicable permitting requirements.

Water discharges – total volumes

% verified

76-100

Verification standard used

The verification was undertaken in accordance with the ERM CVS assurance methodology which is aligned with the International Standard for Assurance Engagements ISAE 3000 (Revised) and is a CDP-accepted standard.

Water discharges – volume by destination

% verified

Not verified

Please explain

We verify the total discharges with a third party. During this process, our third party partner does a deep dive on all data and process sourcing for the surface, groundwater, and third party sources of discharge, that add up to our total withdrawal volume.

Water discharges – volume by final treatment level

% verified

Not verified

Please explain

Water quality standards are managed at the plant level through oversight of applicable permitting requirements.

Water discharges – quality by standard water quality parameters

% verified

Not verified

Please explain

Water quality standards are managed at the plant level through oversight of applicable permitting requirements.

Water consumption – total volume

% verified

76-100

Verification standard used

The verification was undertaken in accordance with the ERM CVS assurance methodology which is aligned with the International Standard for Assurance Engagements ISAE 3000 (Revised) and is a CDP-accepted standard.

W6. Governance

W6.1

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

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

W6.1a

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

	Scope	Content	Please explain

Row 1	Company-wide	Description of business dependency on water Description of business impact on water Commitment to safely managed Water, Sanitation and Hygiene (WASH) in the workplace Commitment to water stewardship and/or collective action Reference to company water-related targets Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change	Our water policy is company-wide and explains our commitment to conserving and protecting natural resources, including water and water quality. In our policy and website, we acknowledge the business dependencies on large quantities of freshwater from local rivers for generation and cooling purposes, as well as our business impacts on water (~99% of withdrawn water is returned to the environment, and a small fraction is consumed). We publicly post our CDP Water Security response (describing how we deal with other impacts such as sediment loading and various quality items), in order to increase transparency to stakeholders regarding how and why we are using water resources across the entire company. In our policy and website we refer to our company-wide water reduction targets (reduce water used for thermal generation by 95% by 2045; 2005 baseline). We developed targets to show our stakeholders, and coworkers, projected progress towards reducing water use for thermal generation. We explain how our water management is driven by the Clean Water Act , and mapped our business activities to the UN Sustainable Development Goals; specifically our indirect impact driving progress towards goal 6: Clean Water and Sanitation as we provide safely managed water, sanitation and hygiene to our coworkers. It is important to highlight these foundational standards and regulations so it is clear to our company and stakeholders the items we refer to and incorporate into our business activities. In our Human Rights Policy Statement, we acknowledge the importance of providing safe and healthy working conditions for all employees and contractors, which can include access to water and sanitation. Our Water Policy states that we provide co-workers adequate access to water, sanitation, and hygiene facilities in the workplace. We recognize the environmental linkages of water-related impacts as a result of climate change, particularly how some scenario assumptions indicate

			present and continuing patterns of increased variability and severity of weather-related events. Our 2018 Water Resiliency Assessment investigated water risk based on climate scenario analysis. Our Climate Risk Report details system hardening measures designed to help mitigate these risks (i.e. storm and flood related risk). Both of these are posted on our website so our stakeholders can understand what items we are recognizing and how we assess and incorporate water and climate related items into our thinking 1

[1]Ameren_2022-annual-report.pdf

W6.2

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

Yes

W6.2a

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

Position of individual or committee	Responsibilities for water-related issues
Chief Executive Officer (CEO)	Ameren's President and CEO has the highest level of direct responsibility for water-related issues within our organization. The CEO considers water-related issues on an ongoing basis as part of his role in overseeing members of the company's senior leadership who are responsible for the company's management and planning for water-related issues, including the impacts of climate change on the company's water resources and compliance with environmental regulations. These matters are discussed with the CEO in individual meetings, meetings of the Company's Executive Leadership Team, and as part of the process of preparing materials for presentation to the Company's Board of Directors and the Nuclear, Operations and Environmental Sustainability Committee, where management regularly presents information regarding the Company's generation strategy, operational matters that impact water usage, and climate-related disclosures. In 2022 our CEO oversaw and approved Ameren Missouri's Integrated Resource Plan which included the retirement of an additional 1,600 MW of fossil-fired generation by 2030 (3,500 MW total by 2030), as well as adding 2,800 MW of non-water using wind and solar generation capacity to the plan by 2030. Both of these activities will help transition away from dependance on water for generation and

	support our thermal generation water reduction target, which is to achieve a 95% reduction by 2045.

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 - some meetings	Monitoring implementation and performance Overseeing acquisitions, mergers, and divestitures Overseeing major capital expenditures Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding corporate responsibility strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy	We are focused on ensuring that our corporate governance and enterprise risk management practices protect and enhance long-term shareholder value and reflect our environmental stewardship, including water stewardship. In addition to receiving regular reports from each board committee that oversees the various elements impacted by environmental and water-related matters, the full Board of Directors holds an annual strategy session to consider key risks and opportunities for the company, including those posed by climate change and water-related issues. The Board hosts presentations by outside experts who provide perspectives and updates on climate change and related risks and opportunities. The Board and relevant committees also review the Company's significant climate-related disclosures, such as the periodic climate risk reports and annual Sustainability Report. • The Audit and Risk Committee of the Board oversees the Company's overall enterprise risk management program, which includes strategic and operational risks, as well as the processes, guidelines and policies for identifying, assessing, monitoring, and mitigating such risks which includes water-related issues. • The Nuclear, Operations and Environmental Sustainability Committee oversees and reviews our operations, including safety, performance, sustainability and compliance issues, and risks, policies and performance related to environmental sustainability matters, including those related to

			climate change and water resource management. • The Finance Committee oversees and approves major capital expenditures relating to environmental compliance measures, such as programs to comply with coal combustion residual management plans and the acquisition of renewable generation facilities. Example: During 2022, the Board of Directors and the Nuclear, Operations and Environmental Committee of the Board provided oversight of the June 2022 update to the 2020 IRP, including the planned acceleration of coal-fired energy centers and significant increase in renewable generation resources reflected in the updated IRP. The changes reflected in the 2022 update to the IRP will contribute to a decreased reliance on water resources by Ameren's generation portfolio over time.

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	Several members of the Ameren Board of Directors have qualifications and experiences that create competence on water-related issues. These include extensive executive management and leadership experience at companies with significant environmental compliance and sustainability initiatives, including in the utilities, global security and aerospace, and manufacturing industries.

W6.3

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

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

Chief Executive Officer (CEO)

Water-related responsibilities of this position

Managing water-related risks and opportunities
Monitoring progress against water-related corporate targets
Managing annual budgets relating to water security

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

The CEO regularly reviews and evaluates (including financial budgeting) on water-related items from internal and external subject matter expertswater-related issues and monitoring our water-related targets, and associated financial budgeting for mitigation projects regularly as part of overall business strategy and long-term financial planning, driven by our commitment to environmental stewardship and compliance regulations. A dedicated Water Quality Group continually monitors regulatory change and risks/opportunities, and reports to multiple teams including the CEO. This along with our reports that asses climate change scenarios and long-term water availability/resiliency, help inform our overall business strategy, including our Integrated Resource Plan (IRP). . i.e. the CEO and other levels of executive leadership review and provide input on the IRP, including information on the transition to dry-ash handling and wastewater treatment system upgrades are our coal energy centers.

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	No, and we do not plan to introduce them in the next two years	

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, direct engagement with policy makers
Yes, trade associations
Yes, funding research organizations

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?

Ameren Missouri Environmental Services and Ameren Corporate Environmental staff jointly develop plans and engage with internal and external stakeholders, including state and federal regulatory agencies, advisory groups such as the Missouri River Recovery Implementation Committee, the Missouri Water Protection Forum, and the Illinois Environmental Regulatory

Group, and the public. Ameren's government affairs groups ensure consistency with water policy and regulatory requirements. These Ameren departments are responsible for processes and commitments that ensure coordination with and consistent adherence to Ameren's water policy and to implement corrective actions when inconsistencies are found.

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)

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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	Our current and future water-related strategy is informed by ongoing regulatory compliance requirements and climate-related assessments, and is integrated into our overall business strategy and Ameren Missouri Integrated Resource Plan (IRP). Water-related risks and opportunities are largely driven by regulatory compliance, resilience to future climactic events, and our carbon emission targets which support the expansion of our renewable portfolio. Water-related action includes the upgrading of wastewater treatment facilities, ash pond closings, and groundwater monitoring system upgrades at our coal-fired energy centers. In addition, we have established a goal to reduce water consumption by approximately 11 billion gallons annually by converting to dry handling of coal combustion residuals. As set forth in the 2022 update to the IRP, we plan to retire 3,500 MW of fossil-fired generation and add 2,800 MW of new renewable generation by 2030 and a total of 4,700 MW by 2040, as well as add 800 MW of battery storage by 2040, which collectively will reducing reliance on water-intensive generation. To enhance resilience to future extreme

			water-related events, Ameren is continuing to investigate system hardening measures that include construction of flood walls, berm upgrades, and the implementation of storm water capture and control efforts around at-risk facilities. These implementations were integrated into the IRP which incorporates a 20 year forecasting horizon (i.e. 16-20 years)
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	16-20	Our current and future water-related strategy is informed by ongoing regulatory compliance requirements and climate-related assessments, and is integrated into our overall business strategy and Ameren Missouri Integrated Resource Plan (IRP). Water-related risks and opportunities are largely driven by regulatory compliance, resilience to future climactic events, and our carbon emission targets which support the expansion of our renewable portfolio. Water-related action includes the upgrading of wastewater treatment facilities, ash pond closings, and groundwater monitoring system upgrades at our coal-fired energy centers. In addition, we have established a goal to reduce water consumption by approximately 11 billion gallons annually by converting to dry handling of coal combustion residuals. As set forth in the 2022 update to the IRP, we plan to retire 3,500 MW of fossil-fired generation and add 2,800 MW of new renewable generation by 2030, as well as add 800 MW of battery storage by 2040, which collectively will reducing reliance on water-intensive generation. To enhance resilience to future extreme water-related events, Ameren is continuing to investigate system hardening measures that include construction of flood walls, berm upgrades, and the implementation of storm water capture and control efforts around at-risk facilities. These implementations were integrated into the IRP which incorporates a 20 year forecasting horizon (i.e. why 16-20 years was chosen).
Financial planning	Yes, water-related issues are integrated	16-20	As part of our commitment to environmental stewardship and regulatory compliance on a long-term planning horizon, Ameren's budgeting process incorporates responses to compliance and climate related risks and opportunities. The largest financial resources allocated to water-related risks are the closing of ash ponds at all four coal-fired energy centers, as well as the conversion to dry-ash handling and upgrading of wastewater treatment plants. Ameren

			Missouri is in the process of closing surface impoundments at three facilities and is scheduled to complete the last of such closures in 2024. Ongoing groundwater monitoring and remediation programs have also been included. The planned retirement of all coal-fired energy centers will reduce long-term reliance on water-intensive generation and associated water-related financial risks. Decreased generation from water-intensive coal-fired energy centers over the next 5-10 years is expected to be offset by the expansion of our renewable energy portfolio and multiple energy efficiency program offerings. The Water Resiliency Assessment conducted in 2018 included water-related climate scenarios and indicated while future water-scarcity is a low risk in our areas of operations, increasing intensity of weather and flood events may occur. Therefore investments in system hardening are being made i.e. the construction of flood walls, berm upgrades, and the implementation of storm water capture and control efforts around at-risk facilities.

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)

-29

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

27

Water-related OPEX (+/- % change)

-46

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

35

Please explain

CAPEX expenditures include wastewater treatment system upgrades, ash pond closures, dry ash handling transitions, groundwater improvement and monitoring systems and 316(b) compliance measures. These expenditures decreased (-29%) from 2021 to 2022 as some ash pond closure projects finished construction and entered operation (O&M costs). CAPEX spending is expected to increase through 2024

(average of 27%) due to ongoing additional ash pond closures and 316(b) compliance projects.
OPEX spending includes operation of wastewater treatment, groundwater monitoring and improvement systems, 316(b) compliance projects and ash pond closure maintenance. These have decreased 46% compared to the previous year as ash pond and wastewater operation expenses decreased (decreasing O&M costs). OPEX is expected to increase 35% on average through 2024 due to increasing ash pond O&M as projects finish and additional O&M cost maintenance of closed ash ponds and implementation of 316(b) compliance measures

W7.3

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

	Use of scenario analysis	Comment
Row 1	Yes	The EPRI study "Grounding Decisions: A Scientific Foundation for Companies Considering Global Climate Scenarios and Greenhouse Gas Goals," summarized 1,000+ climate scenarios from the IPCC and others (updated April 2020). We used this study to assess the resilience of Ameren Missouri's IRP against potential future climate policies and associated emissions requirements. These studies helped inform our company-wide goal to achieve net-zero carbon emissions by 2045, with interim carbon reduction goals of 60% by 2030 and 85% by 2040 (baseline 2005). Our goals are consistent with the Paris Agreement and limiting the temperature rise to 1.5°C. In addition, these helped develop our 2021 Committed to Clean climate risk report. We also conducted and published a Water Resilience Assessment that used climate scenario analysis to assess current and future availability of water resources across our areas of operation and identify areas of water stress/risk in some areas our supply chain.

W7.3a

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

	Type of scenario analysis used	Parameters, assumptions, analytical choices	Description of possible water-related outcomes	Influence on business strategy
Row 1	Water-related Climate-related	Water-related (Water Resiliency Assessment) - When considering factors that may influence water resources, the primary factors include	A study area was defined for this report to include the Upper Mississippi and the Lower Missouri Water Resources Region, which represents Ameren's	Our climate and water-related studies indicated the potential for increased variability of precipitation and flood events in our service territory, and

		temperature and precipitation, which both influence snowmelt, as well as water consumption from upstream users. This report focuses solely on natural factors and how changes in temperature and precipitation as a result of climate change may influence water resources and water availability. The report does not consider how future consumption from other water users in the region may affect Ameren's access to water resources, as such information is not known or otherwise publicly available. Potential climate change impacts across the study area may vary due to the wide range of topographies and geographies. For this section, four climate factors are considered: temperature, precipitation, extreme events, and drought/water availability. Each of these factors can impact regional water resources, and therefore affect consistent and reliable water availability. Climate- Related (Climate Risk Report: Committed to Clean) - To help us assess the resilience of Ameren Missouri's 2020 IRP against potential future climate policies and	service area, as well as specific portions of the Powder River Basin in Wyoming, which represents a key portion of Ameren's supply chain. Water stress is projected to be near normal for most areas within Ameren's service area in the time period around 2030. With precipitation projected to see a slight increase, the Upper Mississippi and the lower portion of Missouri Regions are anticipated to see an increasing trend for maximum monthly flow and flooding events. Precipitation is also expected to have seasonal variability, with specific increases seen in the spring. However, the projected increase in temperature and evaporation and potentially lower streamflow in the summer is anticipated to outweigh a projected increase in average annual precipitation, and contribute to an increase in drought events by midcentury, particularly in summer months. The Powder River Basin, already considered an arid region, may experience increased water stress. The potentially higher temperatures, higher evaporation and lower summer stream flows are likely to contribute to a potential future increase in	potential increased drought in the Powder River Basin, a key portion of our supply chain. Our actions include: • Response to physical risks: For future flooding, we have implemented more vigilant monitoring of local river stages following extreme rainfall or drought conditions. We have constructed flood walls, upgraded berms, implemented storm water capture and control efforts, and relocated equipment within substation sites susceptible to flooding. We are burying lines most susceptible to weather-related damage. For overhead line assets, we increasingly use composite material poles and cross-arms, line post insulators, 360-degree pole guying, and mechanical line dampers. All are effective in neutralizing the otherwise destructive effects of wind and moisture. Timeframe: Significant portions of these upgrades are set to be completed in 2024. • Response to water conservation: While our Water Resilience Assessment indicated low water scarcity risk in our service territory we are implementing water-saving measures: transitioning to dry ash

		associated emissions requirements, we leveraged the Electric Power Research Institute (EPRI) study “Grounding Decisions: A Scientific Foundation for Companies Considering Global Climate Scenarios and Greenhouse Gas Goals,” which summarized over 1,000 climate scenarios from the IPCC and others. The study was updated in April 2020. From the combined data sets of IPCC reports, 78 scenarios were placed into one of three categories according to their probabilities of limiting increases in global average temperature to no more than 1.5°C. Each category includes a range of emissions pathways, which represent projected global annual CO2 emissions levels over a given period of time, along with a range of probabilities of staying below 1.5°C. To provide proper context for a review of Ameren Missouri’s most recent IRP, we calculated Ameren’s pro-rata share of emissions for the global electric sector scenarios from the EPRI analysis using Ameren’s share of 2005 emissions. This allowed us to compare the emission reductions associated with our plan to the emissions pathways represented in	drought severity and frequency. The projections for the future flooding trend are mixed as the historical instantaneous peak flows in this area has been steadily decreasing, while projected maximum monthly flow is shown to increase in the future.	handling, investment in renewable technologies, energy efficiency measures, and smart grids to facilitate continues incorporation of non-water-intensive generation. Timeframe: These majority of water efficiency upgrades completed in 2021, and remaining is scheduled to complete in 2024.

		the scenario analysis data used by EPRI.		

W7.4

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

Row 1

Does your company use an internal price on water?

No, and we do not anticipate doing so within the next two years

Please explain

Ameren has not implemented an internal price on water.

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	Low water impact is defined as having little to no impact on the environment. Impact is defined by either removing and not returning water, or significantly reducing the quality of water returned.	We plan to add 2,800 MW of additional new, clean, renewable (wind and solar) generation by 2030 and a total of 4,700 MW by 2040. These technologies will help us to generate electricity without the use of water and are therefore considered low-water-impact technologies that produce electricity. Currently, 93% of the water we withdraw is for our hydroelectric operations, an emissions-free source of generation. For our overall operations, 99% of water withdrawn is returned to the environment.

W8. Targets

W8.1

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

Yes

W8.1a

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

	Target set in this category	Please explain
Water pollution	No, and we do not plan to within the next two years	We maintain current National Pollutant Discharge Elimination System (NPDES) permits and comply with applicable state water quality standards. The NPDES process follows the pollutant list found in the Code of Federal Regulations at 40 CFR 401.15. The state permitting agency and Ameren work together to determine the applicable industrial processes present. We identify potential water pollutants that may include: hydrocarbons, coal combustion residuals (CCR), radiation, thermal discharges, and additional pollutants included on the federal Clean Water Act (CWA), and monitor these for compliance in association with our operations. We transitioned our coal-fired energy centers to dry ash handling, significantly reducing water contact with CCR, as well as are responsibly closing our ash pond basins (set to complete in 2024). This includes extensive investment in groundwater monitoring and treatment systems to ensure impacts from the basins do not affect human or environmental health.
Water withdrawals	Yes	
Water, Sanitation, and Hygiene (WASH) services	No, and we do not plan to within the next two years	Clean and safe potable water is already available for WASH services at all Ameren facilities for personnel use. The potable water is either provided by commercial or public water systems, or produced at one of our facilities. Potable water produced at our facilities is monitored at least daily using various sensors and sampling equipment at some sites to ensure its quality.
Other		

W8.1b

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

Target reference number

Target 3

Category of target

Water withdrawals

Target coverage

Company-wide (direct operations only)

Quantitative metric

Reduction of water withdrawals from surface water

Year target was set

2020

Base year

2005

Base year figure

4,746,390

Target year

2045

Target year figure

227,100

Reporting year figure

4,138,572

% of target achieved relative to base year

13.4494135141

Target status in reporting year

Underway

Please explain

of the water we use (~93%) is used in hydroelectric generation. However this only makes up about ~4% of our overall electricity generation. The majority of generation is from thermal energy centers (i.e., our coal and nuclear energy centers), which rely on large volumes of fresh surface water for cooling purposes during operation. As we seek to transition our generation resources to cleaner and more diverse generation portfolio, including the planned closure of three of our four coal-fired energy centers by 2030 and the remaining coal-fired energy center by 2042, we are targeting corresponding reductions in surface water withdrawal for thermal generation by 95% by 2045 according to a 2005 baseline. Interim targets include a 40% reduction by 2030 and 75% by 2040. The % of target achieved is determined by calculating the percent reduction of total surface water withdrawal for thermal generation in the current year as compared to the baseline. The projected reductions are based on averaged withdrawal volumes of past years of operation.

W9. Verification

W9.1

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

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

W10. Plastics

W10.1

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

	Plastics mapping	Please explain
Row 1	Not mapped – and we do not plan to within the next two years	Our prim ary products and business is generating and providing electricity and delivering natural gas to our customers. These processes do not produce plastics, but some plastics are used in packaging in our direct operations and supply chain. We have a waste management policy that includes intentions to reduce or eliminate waste (including medium and high density plastic), and the directive to work with suppliers to optimize materials and packaging to reduce waste when purchasing materials and equipment. We have implemented some measures to reduce plastic in some instances (i.e. using reusable bins instead of single-use packaging), and Ameren is developing a waste minimization program to reduce the quantity of waste generated by company operations. An inter-departmental team is working to better capture waste data and develop relevant reduction solution targets.

W10.2

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

	Impact assessment	Please explain
Row 1	Not assessed – and we do not plan to within the next two years	Our prim ary products and business is generating and providing electricity and delivering natural gas to our customers. These processes do not produce plastics, but some plastics are used in packaging in our direct operations and supply chain. We have a waste management policy that includes intentions to reduce or eliminate waste (including medium and high density plastic), and the directive to work with suppliers to optimize materials and packaging to

		reduce waste when purchasing materials and equipment. We have implemented some measures to reduce plastic in some instances (i.e. using reusable bins instead of single-use packaging), and Ameren is developing a waste minimization program to reduce the quantity of waste generated by company operations. An inter-departmental team is working to better capture waste data and develop relevant reduction solution targets.

W10.3

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

	Risk exposure	Please explain
Row 1	Not assessed – and we do not plan to within the next two years	Our prim ary products and business is generating and providing electricity and delivering natural gas to our customers. These processes do not produce plastics, but some plastics are used in packaging in our direct operations and supply chain. We have a waste management policy that includes intentions to reduce or eliminate waste (including medium and high density plastic), and the directive to work with suppliers to optimize materials and packaging to reduce waste when purchasing materials and equipment. We have implemented some measures to reduce plastic in some instances (i.e. using reusable bins instead of single-use packaging), and Ameren is developing a waste minimization program to reduce the quantity of waste generated by company operations. An inter-departmental team is working to better capture waste data and develop relevant reduction solution targets.

W10.4

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

	Targets in place	Please explain
Row 1	No – but we plan to within the next two years	We have a Waste Management Policy which describes our approach including implementing measures to avoid waste generation, recycling and reusing materials, and properly disposing of wastes that cannot be recycled. We have a Waste Minimization program which is working to better track waste materials at the enterprise level and investigate possible circular or reduction solutions for reducing waste, including plastic. The future goal of the program is to set waste minimization targets that will target specific materials in our operations and value chain. This could include

		a specific plastics-related target.

W10.5

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

	Activity applies	Comment
Production of plastic polymers	No	Our primary products and business is generating and providing electricity and delivering natural gas to our customers, which are not plastic-producing products.
Production of durable plastic components	No	Our primary products and business is generating and providing electricity and delivering natural gas to our customers, which are not plastic-producing products.
Production / commercialization of durable plastic goods (including mixed materials)	No	Our primary products and business is generating and providing electricity and delivering natural gas to our customers, which are not plastic-producing products.
Production / commercialization of plastic packaging	No	Our primary products and business is generating and providing electricity and delivering natural gas to our customers, which are not plastic-producing products.
Production of goods packaged in plastics	No	Our primary products and business is generating and providing electricity and delivering natural gas to our customers, which are not plastic-producing products.
Provision / commercialization of services or goods that use plastic packaging (e.g., retail and food services)	No	Our primary products and business is generating and providing electricity and delivering natural gas to our customers, which are not plastic-producing products.

W11. Sign off

W-FI

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

The 2018 Water Resiliency Assessment and our TCFD Climate Report are attached as they arereference in our CDP response.

Our assurance statement for 2022 water data verification is also attached to support our assurance described in W5.1a.

Climate-Report-TCFD.pdf

ERM CVS - Assurance Report for Ameren CDP Water 2023 Jul22 final.pdf

Ameren Water Resiliency Report.pdf

W11.1

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

	Job title	Corresponding job category
Row 1	Vice President, Chief Sustainability, Diversity and Philanthropy Officer	Chief Sustainability Officer (CSO)

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

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

No

Please confirm below

I have read and accept the applicable Terms

Independent Limited Assurance Report to Ameren Corporation

ERM Certification & Verification Services Incorporated ("ERM CVS") was engaged by Ameren Corporation ("Ameren") to provide limited assurance in relation to the selected information set out below and presented in the Ameren 2023 CDP Water Security Questionnaire.

Engagement summary	
Scope of our assurance engagement	Whether the data for the following selected disclosures listed below are fairly presented in the 2023 CDP Water Security Questionnaire, in all material respects, in accordance with the reporting criteria. • **Total water withdrawal** [megaliters] • **Total water discharged** [megaliters] • **Total water consumption** [megaliters] Our assurance engagement does not extend to information in respect of earlier periods or to any other information included in the 2023 CDP Water Security Questionnaire.
Reporting period	1 January 2022 – 31 December 2022
Reporting criteria	Ameren's internal reporting criteria and definitions with consideration of CDP water-related definitions
Assurance standard and level of assurance	We performed a limited assurance engagement, in accordance with the International Standard on Assurance Engagements ISAE 3000 (Revised) 'Assurance Engagements other than Audits or Reviews of Historical Financial Information' issued by the International Auditing and Standards Board. The procedures performed in a limited assurance engagement vary in nature and timing from and are less in extent than for a reasonable assurance engagement and consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.
Respective responsibilities	Ameren is responsible for preparing the 2023 CDP Water Security Questionnaire and for the collection and presentation of the information within it, and for the designing, implementing and maintaining of internal controls relevant to the preparation and presentation of the Selected Information. ERM CVS' responsibility is to provide conclusions to Ameren on the agreed scope based on our engagement terms with Ameren, the assurance activities performed and exercising our professional judgement. We accept no responsibility, and deny any liability, to any party other than Ameren for the conclusions we have reached.

Our conclusion

Based on our activities, as described overleaf, nothing has come to our attention to indicate that the 2022 data and information for the disclosures listed under 'Scope' above are fairly presented in the 2023 CDP Water Security Questionnaire, in all material respects, in accordance with the reporting criteria.

Total water withdrawal:	57,433,761 megaliters
Total water discharged:	57,404,430 megaliters
Total water consumption:	29,331 megaliters

Our assurance activities

Considering the level of assurance and our assessment of the risk of material misstatement of the Selected Information a multi-disciplinary team of sustainability and assurance specialists performed a range of procedures that included, but was not restricted to, the following:

- Evaluating the appropriateness of the reporting criteria for selected information.
- Performing an analysis of the external environment, including a media search, to identify sustainability risks and issues in the reporting period that may be relevant to the assurance scope.
- Interviews with management representatives responsible for managing the selected issues.
- Interviews with relevant staff to understand and evaluate the management systems and processes (including internal review and control processes) used for collecting and reporting the selected disclosures.
- A review at corporate level of a sample of qualitative and quantitative evidence supporting the reported information.
- An analytical review of the year-end data submitted by all locations included in the consolidated 2022 group data for the selected disclosures which included testing the completeness and mathematical accuracy of conversions and calculations, and consolidation in line with the stated reporting boundary.
- Focused calls with two of Ameren's facilities in the U.S.A. in addition to calls with subject matter experts to review source data and local reporting systems and controls.
- Assessing the conversion and emission factors and assumptions used.
- Reviewing the presentation of information relevant to the scope of our work in the 2023 CDP Water Security Questionnaire to ensure consistency with our findings.

The limitations of our engagement

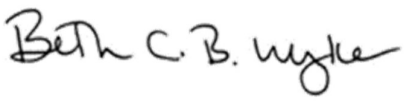
The reliability of the assured information is subject to inherent uncertainties, given the available methods for determining, calculating or estimating the underlying information. It is important to understand our assurance conclusions in this context.

Our independence, integrity and quality control

ERM CVS is an independent certification and verification body accredited by UKAS to ISO 17021:2015. Accordingly, we maintain a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements. Our quality management system is at least as demanding as the relevant sections of ISQM-1 and ISQM-2 (2022).

ERM CVS applies a Code of Conduct and related policies to ensure that its employees maintain integrity, objectivity, professional competence and high ethical standards in their work. Our processes are designed and implemented to ensure that the work we undertake is objective, impartial and free from bias and conflict of interest. Our certified management system covers independence and ethical requirements that are at least as demanding as the relevant sections of the IESBA Code relating to assurance engagements.

ERM CVS has extensive experience in conducting assurance on environmental, social, ethical and health and safety information, systems and processes, and provides no consultancy related services to Ameren in any respect.



Beth Wyke
Head of Corporate Assurance Services
Malvern, PA

July 22, 2023

ERM Certification & Verification Services Incorporated
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